MediaTek 2Q23 Earnings Call

Friday, July 28, 2023, 3:00pm Taiwan Time

PREPARED REMARKS

Jessie Wang, IR Deputy Director

Good afternoon, everyone. Joining us today are Dr. Rick Tsai, MediaTek CEO and Mr. David Ku, MediaTek CFO. Mr. Ku will report our second quarter results and then Dr. Tsai will provide our prepared remarks. After that, we will open for Q&A.

As a reminder: Today's presentation will provide forward looking statements based on our current expectations. The statements are subject to various risks and factors which may cause actual results to be materially different from the statements. The presentation materials supplement Non-TIFRS financial measures. Earnings distribution will be made in accordance with financial statements based on TIFRS. For details, please refer to the safe harbor statement in our presentation slides.

In addition, all contents provided in this teleconference are for your reference only, not intended for investment advice. Neither MediaTek nor any of independent providers is responsible for any actions taken in reliance on contents provided in today's call.

Now I would like to turn the call to our CFO, Mr. David Ku, for the second quarter financial results.

David Ku, Chief Financial Officer

Good afternoon, everyone. Now let's start with the 2023 second quarter financial results. The currency here are all NT dollar. Revenue for the quarter was NT$98.1 billion dollars, up 2.6% sequentially, and down 37% year-over-year.

Gross margin for the quarter was 47.5%, down 0.5 percentage point from the previous quarter, and 1.8 percentage points year-over-year.

Operating expenses for the quarter were NT$31.9 billion dollars, compared with NT$31.5 billion dollars in the previous quarter and NT$37.6 billion dollars in the year-ago quarter.

Operating income for the quarter was NT$14.8 billion dollars, up 2.7% sequentially and down 62.4% year over year. Non-TIFRS operating income for the quarter was NT$15.4 billion dollars.

Operating margin for the quarter was 15%, the same as the previous quarter and down 10.2 percentage points year-over-year. Non-TIFRS operating margin for the quarter was 15.7%.

Net income for the quarter was NT$16 billion, down 5.2% sequentially and 55% year-over-year. Non-TIFRS net income for the quarter was NT$16.6 billion dollars.

Net profit margin for the quarter was 16.3%, decreased 1.4 percentage points from the previous quarter and 6.6 percentage points year-over-year. Non-TIFRS net profit margin for the quarter was 16.9%.

EPS for the quarter was NT$10.07 dollars, down from NT$10.64 dollars in the previous quarter and NT$22.39 dollars in the year-ago quarter. Non-TIFRS EPS for the quarter was NT$10.42 dollars.

A reconciliation table for our TIFRS and Non-TIFRS financial measures is attached in our press release for your information.

That concludes my comments. Thank you.

Jessie Wang, IR Deputy Director

Thank you, David. And now I would like to turn the call to our CEO, Dr. Rick Tsai for prepared remarks.

Dr. Rick Tsai, Chief Executive Officer

Good afternoon, everyone.

MediaTek's second quarter revenue and gross margin both were above the midpoint of our guidance ranges with three revenue groups growing sequentially.

In the first half of the year, the semiconductor industry, including MediaTek, was affected by weak global demand which led to a lengthened inventory digestion cycle. Recently, we observed that customer and channel inventories across major applications have gradually reduced to a relatively normal level. Recent demand from our customers has shown certain level of stabilization. However, our customers are still managing their inventory cautiously as global consumer electronics end market demand remains soft.

For the near-term, we expect our business to gradually improve in the second half of the year, and I will discuss each of our three revenue groups business outlook in a moment.

Before that, I'd like to say a few words about some of our recent developments and industry trends that will fuel MediaTek's mid- to long-term growth.

We're very excited about the recently announced partnership between MediaTek and NVIDIA to develop a full-scale product roadmap for the automotive industry. In MediaTek Dimensity Auto platform, we will integrate NVIDIA's new GPU chiplet, its AI and graphics IP into our SoC to expand to the premium Smart Cabin segment. This collaboration will enable MediaTek to offer an entire spectrum of Smart Cabin and cockpit functions with cutting-edge graphics, AI, safety and security features. In addition to the full range of Smart Cabin solutions, our Dimensity Auto platform also include connectivity, auto drive and components. We have recently received heightened interests from automotive customers since the partnership announcement 2 months ago.

We believe our industry-leading low-power processors and 5G, WiFi connectivity solutions, combined with NVIDIA's strong capability in software and AI cloud, will help us become highly competitive in the future connected software-defined vehicles market and shorten our time to market to accelerate our growth. Given the long design cycle of the automotive industry, we anticipate a more significant revenue contribution from 2026.

Another example of the digital transformation trend is the increasing popularity of Generative AI. Today, the majority of the Generative AI processing is only performed by cloud computing. However, we believe that there will be a trend towards distributing Generative AI inference workloads to edge devices like smartphones and IoTs for better privacy, lower latency, and lower operation cost. By doing so, edge devices can perform Generative AI on devices for seamless AI capability. They also connect larger Generative AI models in the cloud by prompting more complicated AI functionalities. Therefore, edge device makers will need to adopt high computing, low-power AI processors and faster, more reliable connectivity to enhance computing capabilities and lower connection latency.

As a leader in various edge devices, MediaTek powers approximately 2 billon connected edge devices in the market every year. Our leading product portfolios, investment in advance nodes, as well as next generation connectivity, position MediaTek well to capture this increasing trend as a key enabler and beneficiary of Edge AI.

With that, now let me talk about the recent business of our three revenue groups.

Mobile Phone accounted for 46% of total revenue in the second quarter and grew 3% quarter-over-quarter. The result was slightly better than our prior expectation as customers' demand for 5G SoC improved during the quarter. With relatively normal customer and channel inventory levels, we anticipate the growth to continue in the third quarter.

On the product side, we recently announced a mainstream 5G SoC, Dimensity 6100+, which belongs to a new 5G segment with more affordable price points to cater to global 5G demand transitioning from 4G models. Smartphones incorporating Dimensity 6100+ will begin to ramp up starting from the third quarter.

For the flagship segment, we are on track to increase our shipment and revenue this year. Multiple Dimensity 9200+ smartphones have been well-received by the market and contributing robust revenue in the third quarter. Our next generation flagship SoC, to be introduced in the upcoming months, will further advance the overall performance, and integrate our latest APU with the capability to perform Generative AI features on the device. We have been closely working with our customers for design-ins and expect smartphones powered by our next generation flagship SoC to hit the market by the end of the year.

In fact, not only the flagship SoC, but all the 5G smartphone SoCs across all tiers we're shipping today are equipped with MediaTek APU to perform various AI features. The trend of more complex AI instructions is likely to be a catalyst for smartphone replacement demand, which will enhance our product mix and support pricing trend.

Now let me move on to Smart Edge Platforms, this group grew 2% sequentially in the second quarter and accounted for 47% of revenue.

Connectivity demand was stable in the second quarter and will improve moderately in the third quarter. Notably, MediaTek WiFi 7 solutions have been adopted across various platforms. For example, high-end retail routers utilizing our WiFi 7 have been available in the market since the second quarter. Premium notebooks and broadband devices are scheduled for release in the third and the fourth quarter, respectively, with a stronger ramp up in 2024.

For TV, due to customers' inventory pre-build to take advantage of more favorable panel prices in the first half, the demand in the third quarter has slowed down.

As for ASIC, we recently see growing enterprise ASIC business opportunities in AI and datacenter markets. With our strong IP and SoC integration capabilities, we aim to continue to grow this business in the future.

Overall, as most of the consumer electronics demand remains soft, we anticipate Smart Edge Platforms business to remain flattish in the third quarter.

Now moving on to Power IC, which accounted for 7% of total revenue in the second quarter and grew 4% quarter over quarter. We expect power IC demand in smartphone to improve in the third quarter.

In summary, as we stated in the beginning of the call, we expect our business to gradually improve in the second half of the year.

For the third quarter, we expect revenue to improve in smartphone, connectivity, and PMIC, offsetting the decline in TV and other consumer products. During this demand cycle, we continue to execute our strategy of balancing among market share, revenue, and profitability.

With that, we expect our third quarter revenue to be in the range of NT$102.1 billion dollars to NT$108.9 billion dollars, up 4% to 11% sequentially, and down 23% to 28% year-over-year at a forecasted exchange rate of 30.7 NT dollars to 1 US dollar. Gross margin is forecasted at 47%, plus or minus 1.5 percentage points. Quarterly operating expense ratio to be at 32%, plus or minus 2 percentage points. We are on track to reduce the full-year total operating expenses by mid-single digit percentages year over year while maintaining the investments in the key technologies and key projects for the mid- to long-term growth.

This concludes my prepared comments, thank you.

[Q&A]

Q - Randy Abrams, Credit Suisse
I want to ask the first question, just with all the attention on AI, two parts to it. First, I want to see if you can give an update if you're seeing potential upside yet to the content per device from that AI engine, both in smartphone and smart edge. And if you could also talk on the ASIC, I think in the

prepared remarks you talked about some opportunity on AI and ASIC, so if you could give a bit more update, if you're seeing more breakthroughs that could make this a more meaningful contributor, and how you feel your IP around AI, SerDes, networking switch to get some of the larger hyperscale sockets.

A – David Ku, CFO

Okay, Randy, why don't I talk about edge device AI first? Because your question basically talks about edge device AI and also the ASIC opportunity. Actually, in reality, right now, most of our, all of our smartphones, especially for our flagship smartphone, we have actually the Generative AI capability in there already. Basically, that's the transformer model. And there're a few functions or features already landing in our previous generation flagship. And for the coming third generation flagship, I think we will just basically put on more function on that. And we will have some demo, basically, in the coming months. So we're going to update you guys more about that trend.

But your question specifically asking about the dollar content, so far, it's actually really just part of the function. I think in terms of the dollars, it's not a huge content increase yet. But our view is actually, going forward, when more and more distributed AI being performed on the smartphone, I think the requirement for more computation power on AI will increase. But so far, we probably won't be able to provide any sort of dollar content on that, but trend is definitely positive. So that's the point one.

A - Dr. Rick Tsai, CEO

I might add, Randy, other than smartphone, well, basically the OEMs, the customers, are really also working very diligently to implement the various models to, I would say, explore the applications in their edge devices, should they be the smartphone or, for instance, automotive, the EV. I think we have seen some demonstrations by some of our customers, which as David just said, will induce much higher interest from the end users. I think that's the key. And then I think we are in a virtual cycle that will induce demand and the short-term replacement cycle.

As to the ASIC opportunities, I cannot be very specific, but what I can say is that it is quite obvious and quite natural for all the hyperscaler guys, data centers, to accelerate their chip development for the Generative AI enablement. So we are seeing, certainly, heightened activity levels, and we have all the IP portfolio available. For instance, the high-speed SerDes 224G. We have, obviously, a very advanced node design capability and the packaging capability. So, we are in deep discussion with people. And we'll see how it goes, hopefully, positively in the future.

Q - Randy Abrams, Credit Suisse

Good luck on that. And I'll just have one quick follow-up on that part. The ASIC traction, is it enterprise? I think that's in the prepared remarks, or are you seeing traction with the cloud providers on their ASIC?

A - Dr. Rick Tsai, CEO

I think for enterprise, we continue, because we have certain ASIC products, which are enterprise customers' mostly switching ASIC. But for the new opportunities, those mostly rely with the hyperscalers.

Q - Randy Abrams, Credit Suisse

Great. The second question, the margin outlook has remained very resilient, and I think that's how you've been trying to guide it, balancing share and pricing. If you look ahead at the margins, do you think as we go through continued slow environment, some of your competitors have inventory. How do you see margin range, if you think these levels continue to hold from what you can see, and do you see any help coming through from input supply pricing, or is that still inflationary?

A – David Ku, CFO

Randy, first of all, I think before we're commenting about the growth margin, maybe we can probably provide some color about the current competitive landscape or competitive situations out there. Well, first of all, the long story short, we didn't really see any material change about the competition landscape right now. And on the other hand, as you can see, both from our second quarter gross margin, which is reported already, and also our guidance for 47% plus minus 1.5%, they're all showing a stabilizing, I'll say the balance, a dedicated balance, actually, if that's what you're aiming for among revenue, margin, and market share.

And also, another, I would say, the good news from a margin perspective is both from the channel side, the customer side, and also from the vendor side, I think their all inventory level is coming down to a pretty healthy level. So you won't see any players trying to rush out the inventory by taking aggressive pricing. So with that, I guess the guidance we give out for the third quarter, even though we cannot provide a guidance for fourth quarter, but most likely, I think that should be a good reference for the fourth quarter's gross margin heads-up as well.

Q - Randy Abrams, Credit Suisse

And supply side, how's the inflation or deflation? Like foundry and back end and some of your cost structure.

A – David Ku, CFO

Well, I think next year's foundry cost actually is still in discussion. But overall, given the market situation, we are seeing probably, hopefully it's going to be flat or slightly up. In general, actually, it's a manageable situation. So it won't be a big swing factor so far.

Q – Laura Chen, Citi

Good afternoon. Thank you for taking my question. My first question is also about the AI-related opportunity in the ASIC business. I'm just wondering that other than current consumer-related applications, I think Rick already mentioned that you're progressing in the enterprise side.

So I'm just wondering that other than that proprietary IP and also the advanced node design capability, can MediaTek also provide CoWoS design service for the AI ASIC project. As we see that, actually, for this kind of AI ASIC chip, probably the advanced packaging together with a lot of like interface or high bandwidth memory is also quite important. That's my first question. Thank you.

A - Dr. Rick Tsai, CEO

Yes, we do. We are in deep discussion with potential customer. Of course, includes the advanced packaging capability such as CoWoS And also all the -- inter, how should I say, inter-IT, interconnect capability. As I said earlier, we have a very complete IP portfolio and we have the advanced node and advanced packaging capabilities, of course, through working with our key supplier. Yes, so the answer is affirmative to your question.

Q – Laura Chen, Citi
Yes, so following that, we know that TSMC also provides quite comprehensive like IP pool for that kind of advanced packaging. So for MediaTek's current potential project, will you leverage that kind of open IP or you will tend to focus more on your proprietary solution?

A - Dr. Rick Tsai, CEO
We, actually, we work most closely with TSMC's, but we also look at alternative sources when they are technically competent.

Q – Laura Chen, Citi
Got it. Any idea like when we will see that, probably more mature or this kind of a project to start to bear fruit?

A - Dr. Rick Tsai, CEO
Usually, this kind of project takes at least 1.5 to 2 years.

Q – Laura Chen, Citi
Okay, thank you very much. And also, my second question is also about the edge AI. We know that for current our smartphone SoC solution, we already embedded like APU or neural engine. So, do we need to see that OS provider like Google to really enable the application to see that edge AI getting more mature or any other trigger you are on a close watch?

A – David Ku, CFO
Yeah, Laura, actually in addition to our own APU, I think right now, especially for the GAI or LLM models, it's very important, we actually pull in some of the open AI model on our smartphone. I think currently we've been talking about, for example, Meta's Llama 2 model, Stanford's Alpaca model, Berkeley's Open AI Llama, Open Llama, and also Stable Diffusion. I think that all is up and running, actually is importable on our edge device. I'm sure, actually, there will be more modeling running.

So overall, I think the cycle is actually we have the hardware capability, we make sure the appropriate model can be run properly and smoothly on our device. Then we provide that together with our development tool to our customers, so they can develop the feature and function they are looking for, for the Generative AI.

Right now, actually, it's again, like I said, for the third generation flagship, we've been in serious discussion with our customer, trying to have some landing features, GAI landing feature on the phone. But before that, we will definitely demo few possible ideas in, I think, October, November timeframe.

Q - Gokul Hariharan, JPMorgan

My first question goes back to smartphone. Could you talk a little bit about what is the demand sentiment among your customers? Is there any improvement on China's smartphone demand? And do we feel that China's smartphone market is likely to remain at these depressed levels, given there's not really been any major recovery, or do we think that next year we will see a better China smartphone market? What are you hearing from your customers and what is your own read?

And on that also, seems like Huawei is kind of like the one brand which is kind of coming back and growing quite nicely in China. My understanding is that MediaTek currently doesn't have a license to sell to Huawei. Do you think that is something that could change over the near to medium term, given Huawei seems to be gaining a reasonably big share of the high-end market in the recent quarters? That's my first question, thank you.

A - Dr. Rick Tsai, CEO

On the demand for the smartphone, I think we stated our remarks. Basically, we're seeing, I would say, a good improvement in the shipment of the smartphone. Well, the inventory lowered, I think. Actually, inventory is going down pretty well in the second quarter, and we believe that inventory reduction will continue into the third quarter at a very healthy pace. As such, the reordering of the SoCs has moved up in its pace also.

The end market demand, I think, still remains cautious. We also believe that's the case. However, we don't believe the end demand is going to get worse. It probably will grow, but grow at a moderate rate going forward. So that's how we view the smartphone outlook.

As to the impact of the Huawei, I want to be very clear that we do not have a license to ship to Huawei of smartphone SoCs. And the impact of Huawei in the market, I think the most important part is to look at the segments they are playing in. And most importantly, in the very, very high-end, their Mate and their P series, very high-end. And so, I think we believe the competition directly against our chips remains very far apart. We do not see a major impact from Huawei from that point of view.

Q - Gokul Hariharan, JPMorgan

Okay. That's very clear. Thank you. My second question, could you talk a little bit more detail on the NVIDIA partnership in auto? What will be the structure of this partnership? Is it going to be like a JV structure, or you would be selling the chips, but you will be paying some kind of IP or a royalty fee to NVIDIA for the IP and the chiplets that you use from NVIDIA?

Also, NVIDIA already has their own standalone auto business with a fair number of autonomous drive and some ADAS related design-wins. So in those areas, how does MediaTek enter? Like, does it mean that MediaTek doesn't really participate in that autonomous drive market or is that structure also going to change for NVIDIA as well that they will kind of partner with you for many of their future autonomous drive and ADAS related design-wins also?

A - Dr. Rick Tsai, CEO

Okay, there's no joint venture structure. I want to say that clearly. It is a partnership structure. By that, we mean at first, from a technology point of view, as you just said, we integrate the IPs, the key IPs,

such as GPUs, such as their AI capability, and their software technology into our SoCs. We provide the other computing capabilities and the multimedia functions or the interconnects. The chips made this way will be marketed by MediaTek.

We know, NVIDIA has already their product portfolio and their customer base already, so we work basically in a partnership manner to go to the customers. Because in that way, together we can provide a full spectrum of automotive in-cabin solutions from the very high end to the mid-entry end for our potential customer base.

Of course, in addition, we provide other connectivity capabilities such as 5G, Wi-Fi, and some other component capabilities for a full portfolio. ADAS, I think that's one area we will work together on, but right now, the first thing is to have a very successful, very competitive in-cabin solution for the market as soon as we possibly can.

Q - Charlie Chan, Morgan Stanley
Thank you. Good afternoon, gentlemen, and Jessie. So, my first question is also about the AI on the phone. So, first of all, do you envision that Generative AI can be a killer app on the phone, or is it just nice to have a feature? Can I get some insights from the management?

A – David Ku, CFO
Yeah, Charlie, I think developers actually right now are still in the early stage of the GAI, but we already see how powerful it is. But long story short, we do believe that could be, I won't use the word killer application, I think there will be really nice features, which could either increase the dollar content of the semiconductor or, to the minimum, shorten the replacement cycle. There, actually, so there're lots of useful functions out there.

But I think the key word here is not really GAI only on a smartphone. It's something we call the distributed AI. If for a certain function, for example, right now, for Stable Diffusion, you can do some photoshop on your phone with the natural language on the edge. So sometimes, due to privacy issues, you don't really want to send all your pictures, which you want to do some photoshop alike activity on that, all to the cloud, and someone process, finish it, and comes back. So that's actually one example. Another example is actually when we're talking to our phone customer, they're talking about some sort of phone assistant to help you navigate through different applications. And actually, it's not as powerful as ChatGPT, probably not even in the same league, but it's become a very handy personal assistant.

So the key word, truly, going forward is the distributed AI model. So the phone maker, and also we actually provide a tool, we will figure out what's the right functionality which will be performed on the edge, and for certain functionality, will be performed on the cloud, and it will be seamlessly connected. And with that, we do believe, actually, there will be a very key driver to either increase the semiconductor content, or to the minimum, that's a new feature that will shorten the replacement cycle.

A - Dr. Rick Tsai, CEO

I've been thinking about that part, of course, not meaning I'm working on that, I have talked to quite a few people. The feeling is this Generative AI through cloud and the edge devices, be they a smartphone or PC or automotive, they provide another platform. It's not the same, but the nature being kind of similar to the 4G era, which I mean, which provide this platform and enable and excite a lot of the developers and entrepreneurs to come up with new applications and new business models.

Of course, I think, if you think about 4G, 4G was launched back in about 2011, time frame. And then, one obvious example being, for instance, TikTok. It just came out of nowhere and it became a huge success. I cannot say, there will be a TikTok, but I think GAI provides such a powerful capability that many entrepreneurs will take advantage of that and come with applications. That's just my thought.

Q - Charlie Chan, Morgan Stanley

So, I believe the MediaTek has a success in phone market probably before the 4G era. I remember you kind of enabled those emerging markets, a lot of interesting features.

So, based on the comments you just made, Rick and David. So two realistic questions, right? First of all, for the emerging market, especially China markets, do you think the policy control is kind of a restriction to your future application developments? And also to David's point, I really appreciate that distributed AI computing, but who should be this, kind of, location of computing? You said the MediaTek or the platformer to decide what kind of computing will be done by cloud, what should be done by phone, or it should be AI developers or OEM makers. Can you give us some color? Thank you.

A – David Ku, CFO

Sure, Charlie, I think most likely it will be a combination of all those parties you mentioned. For example, when we talk about Stable Diffusion, some of our phone customers are talking about some function provided by phone OEM. In that case, they probably don't really need to work with a cloud guy. They can consider that's actually just on your phone. And for certain internet players, of course, they have the cloud capability, but they are also talking about whether or not they can offload some of their computation on the phone.

Bear in mind that every AI calculation on the cloud, the cloud guys or internet guys need to pay for their own expense. But if they can somehow distribute part of that on the phone, then they'll be free from the service provider perspective. So, there are also some incentives, even from the cloud service or Generative AI cloud service guy. And so, to answer your question directly, it will be a combination of all those parties you mentioned.

A - Dr. Rick Tsai, CEO

It also really depends on the edge, what we call edge device. I think here is a spectrum of edge devices, not just smartphones. Smartphone actually being probably the smallest form factor one. Despite the power that smartphone has, smartphone does have its limitation in form factor. And there's also some limitation in the memory size the phone can carry. But then you if you move to automotive, the memory size, for instance, can go up quite drastically. And the size of the model that can be implemented in that kind of device is much different from, let's say, 7 billion kind of a model.

So, again, this thing is so new. I remember, ChatGPT came up in November last year, and it's already amazing how much work has been already done, both at the cloud and the edge devices. I think people are working to try to find that balance or equilibrium from different devices. That's my -- again my thoughts.

Your question on government, I think that's, of course, out of our league. We cannot comment really directly. Hopefully, the government will also, the successes, you mentioned China, so we use China, the successes that China had with their internet economy provides good guidance for them and the GAI will prosper all over in the world.

Q - Charlie Chan, Morgan Stanley
Okay, thanks. Let me switch gears to the second topic, if that's okay. It's about the smartphone replacement cycle because the company just introduced your mainstream 5G SoC. Do you think that can bring down the price points of smartphones to the sweet spots? Do you think that the replacement cycle will restart anytime soon? Because the replacement has been still for almost two years.

And the last point is really about the second-hand market, right? Do you think the new phones from your mainstream 5G SoC can compete with the second-hand phone in terms of the pricing points? Thank you.

A – David Ku, CFO
Charlie, actually, I think earlier this year, we kind of provided our view for the global smartphone shipment. It's actually coming down from, in the past, roughly $1.4 billion to $1.2 billion. I think part of the reason, I would say a big part of the reason, is actually the refurbished phone. So when we talk about $1.2 billion, it's already been taken into consideration of the refurbished phone, especially for maybe the iOS system. For the Android side, actually, we didn't really see a big impact on the refurbished phone at that point.

On the replacement cycle of the phone, on the other hand, in general, in the past, roughly was 18 months. But this time, actually, the cycle extends to almost two years. We do believe, actually, that at a certain point of time, people are still trying to get a new phone. So, most likely, next year, we feel, in terms of the replacement cycle, it should be on the positive side, and actually, we're still waiting on that.

Q - Sunny Lin, UBS
Good afternoon. So, my first question is on a long-term outlook. It's been a while since the last time the company provided the addressable market forecast by segments. So, I wonder if now is a good time that the management could provide your latest expectation on the long-term addressable market by mobile, ASIC, automotive, and the others?

A – David Ku, CFO
Sunny, actually, we probably normally provide that, the long-term, like in the yearend. So maybe we delay that question to the fourth quarter. Normally in the year-end, when we do the annual planning,

we will take a look about the long-term addressable market. So why don't we delay that to the next quarter's conference?

Q - Sunny Lin, UBS

Got it. No problem. Well, so perhaps if I may, given lots of investor interests in your collaboration with NVIDIA, and automotive does have lots of potential in terms of the market opportunities, you mentioned revenue will become more significant from 2026. So I think If you have any visibility at this point, that maybe in four to five-year timeframe, how many automotive account for your total revenue?

A – David Ku, CFO

I think total revenue this year for automotive, we are looking for US$200 to US$300 million, ballpark range, depending on how it goes in the end of this year. I think in absolute scale, I think it's still sizable, but the relative scale is still small. Currently, we don't have, we didn't really provide the forecast guidance, but another way we can come to talk about is for the design pipeline, design pipeline revenue right now is over US$1 billion.

Q - Sunny Lin, UBS

Got it. And that will start to be realized after 2026?

A – David Ku, CFO

Yes, it will be beyond 2026, yes. Normally, the design-in, design-win, also what we call the SOP cycle will be probably 2 plus years.

Q - Sunny Lin, UBS

My second question is on smartphone. How should we think about the product mix over the next maybe 12 to 18 months? I think on one hand, China's smartphone could start to see a bit of improvement on the volume side, but to drive that volume, I think some people wonder if that could be coming from lower end. But I think on the other hand, if we look at the new product launch by smartphone makers in China, I think there's increasing focus on high end as they pursue better profitability. And so based on your engagement with China's smartphone makers, how should we think about your 5G product mix maybe in second half of this year and into 2024?

A – David Ku, CFO

Probably the better way to think about that is to think about 4G smartphones as a total, which includes 4G and 5G. We are actually right now promoting pretty heavily for transforms or convert from 4G to 5G entry smartphones. So, that's why actually earlier I think the other analysts were asking about the new entry level 5G. So on a blended basis, actually, when you think about the product portfolio or segmentation as a whole, 4G's in the bottom, you actually see 4G being converted or upgraded into 5G entry. I think that's point number one. So when you look at the totality of the smartphone, it should be getting better.

If we're only looking at 5G, I think we normally separate flagship, high-end, and mainstream. I think for high-end, probably it'll stay over there. And right now, we are making good progress on the flagship.

Currently for this year, I think our market share on the flagship, we focus to be 20% plus. And that one actually with our new portfolio and also getting more and more market traction, we believe actually the market share, our own contribution from the flagship should be increasing. On the high end right now, it's actually we see it's been stabilizing. So I think for the segmentation perspective, I would say it's actually, on the like for like is stabilizing, and 4G conversion to 5G entry, that should be positive to the overall smartphone product mix.

Q – Brad Lin, BofAML

I have two questions. One is on AI and another is on the automotive. So while we learn the comments on the AI proliferation beyond server AI, also by many other supply chain partners like TSMC and Intel. So, for near term, would you please share the current contribution and what are the current offerings? And how fast do you expect it to grow for MediaTek, maybe in the next two years? And should we expect the ASIC to come earlier than, well, smartphone AI? Thank you.

A – David Ku, CFO

Okay. Like we explained earlier, so far for the smartphone AI, it's really just a part of a smartphone. We deal with a separate AI chip. It's part of the die, part of a function. We do believe, actually, that going forward, the contribution of the die area, which is equivalent to the semiconductor content, should be increasing. So, we didn't really have a separate contribution or analysis about AI contribution. The only way we can separate that will be on our ASIC business.

Basically, for the ASIC business, if the end customer is AI, we can somehow categorize it as AI revenue. But like we explained earlier, right now, there are several projects that are ongoing. It normally takes one to 1.5 years to ramp. So far, there's no revenue, no direct revenue from AI. We only have indirect revenue from AI.

Q – Brad Lin, BofAML

Got it. Thank you very much. So, do you have an estimate on when the edge AI will take off?

A – David Ku, CFO

We don't have a fixed plan, but probably the better way to think about that is actually that all products right now have the AI function in there. And even though we're only taking smartphone for example, we talked about we've been supporting a lot of the open AI model on the smartphone. It's actually, we are doing something similar on other platforms as well.

So I think probably the better way to think about that, because after all, we are not just on the cloud training side. So, if you're thinking about it's a separate dedicate chip only for AI, probably not the best way to take a look about our revenue or our revenue contribution from AI. The AI is truly the driver for demand and driver for more computation for our AP in general. So probably that's the better way to look at that.

Q – Brad Lin, BofAML

Thank you very much. So my second question will be on automotive. So I was glad enough to be able to attend MediaTek and NVIDIA's press conference during the Computex. And I was pretty encouraged to learn the partnership.

So may we follow up the progress of the development? And also I remember the firm say that the partnership will target every single chip in an automotive and provide one-stop shopping platform for clients. So, would you please share with the target markets how the target market will expand? Should we also expect our power management IC also penetrate into some of the automotive as well in the next few years too?

And well, maybe a slight follow up is on the, I know we are not going to build a JV. So, and then that will be marketed by MediaTek. So, well, how would the partnership work with NVIDIA? Thank you.

A – David Ku, CFO
Okay. Well, first of all, actually, like we explained during the Computex, the first project is a cooperation between MediaTek and NVIDIA. It's ongoing as well. To be precise, I think that product will be carrying MediaTek's brand name, and MediaTek will sell that product. And within that product, we are getting GPU chiplet from NVIDIA, but the whole thing will be MediaTek's revenue. I think we are targeting to have the first set of revenue somewhere toward the end of 2025. That'll be the first product. And there'll be few more product right now is under planning and kicking off. So overall, I guess for the revenue through this partnership probably will start to ramp in 2025. I think that's point number one, mainly on the cabin side.

In addition to that, like our CEO explained, we'll also leverage and partnership, work together on NVIDIA's existing business portfolio. For example, they have ADAS, they have a high-end cabin, and all those solutions or platforms will have MediaTek's socket opportunity. For example, it could be 5G Telematics, it could be connectivity, it could be PMIC, it could be something else, for example, even for display related. So we will also trying to realize those synergies as well.

So overall, like we explained during the Computex, I think this partnership is very synergetic and complimentary and both from technology and product portfolio. So either way you can think of the cabin is one product, but for other part, we will not be joint product portfolio or joint product development, but we'll be joint go-to-market and joint business platform. I think that's probably the better way to think about that.

Q – Brad Lin, BofAML
Thank you very much, that's very clear. Just one slight follow-up is that, should we expect some potential collaboration opportunity beyond automotive with NVIDIA, say AI, in the long run? Thank you.

A - Dr. Rick Tsai, CEO
By now, we're focusing on getting this in-cabin chip out and selling. We are also working on the next ones for complete portfolio roadmap. So, I cannot say we don't collaborate further, but yeah, by now, we just want to make sure this automotive part works. We need that success.

Q - Brett Simpson, Arete Research

Okay, great. Rick, I wanted to just come back on the AI side, the smartphone AI strategy. Can you talk about what size and model MediaTek can support with their APU next year? And I guess when I sit back and look at this whole strategy for MediaTek, developers that can offload AI workloads onto the phone, they save a lot of money not having to run their application in the cloud. So, how does MediaTek get paid for enabling these models to run locally on your APU, on your software stack? Is this something you can monetize beyond selling a chip? Thank you.

A - Dr. Rick Tsai, CEO

Well, the models, actually I think David brought it up earlier, usually it's 6 billion, 7 billion parameters models, such as Llama 2, Alpaca, Stable Diffusion, et cetera, et cetera, for the smartphone. And as I said, I believe a larger model, a larger-sized model will be implemented into PC and automotive. I think right now, to tell the truth, Brett, again, this is very new, and we are all just working very hard to enable the Generative AI to work well with the edge devices, without which, I think it's just very, very shaky.

So I must say we haven't, what we believe, at least first order, is once people, once the users and some of the probably what you call KOLs, once they find out how to use Generated AI for new applications and to appeal to the general public, I think the most important is the replacement cycle being shortened. And then the TAM will get back to a more better growth pattern. That's the first order thinking that we have. I hope I'm answering your question.

Q - Brett Simpson, Arete Research

Yes, that helps a lot. And I guess maybe just to follow on from that, can you give us your perspective on how APUs drive up silicon content in phones? I guess it's difficult for us to understand the extent to which this drives up your ASPs in smartphones. But I mean, are we talking about this going up 50%, 100%, 10%? Any sense as to how you think AI contributes to your ASP expansion over the next one, two, three years? Thank you.

A - Dr. Rick Tsai, CEO

This is a very good question. And again, Brett, you have to bear in mind any of the smartphone chip that we're discussing here, today, for this year and for next year, I don't, I mean, it's not just us, other people too, are already in design. Actually, this year, we have silicon out already, and next year is very much in design. And it was planned just about a year ago when Generative AI was not very prominent in people's minds at all. So, anything that you hear right now is because we already put in quite powerful APUs in our SoC, and we're certainly still working with our customers trying to implement Generative AI with these already defined, I should say, APUs.

I mean, my feeling is that for the generation, may be 2025 phone chips, there will be a more, another hierarchy of the processor's architecture. You see here, there's CPU, GPU, and APU, and the proportion of which should be implemented in order to optimize the GAI applications I think needs some work. We have to make that work so that both we have the capability and computing power for the GAI applications, while we do not unnecessarily increase the cost by too much. Any of those silicon space

takes money. So, distribution of the silicon area among CPU, GPU, and APU is a very difficult subject, but that's what we're working on now. But one thing is quite sure, APU as the size of the silicon will increase by quite a bit.

-End of Q&A session-