

Everspin Technologies

First Quarter Financial Results

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CORPORATE PARTICIPANTS

Dave Allen – *Investor Relations*

Phill LoPresti – *Chief Executive Officer*

Jeff Winzeler – *Chief Financial Officer*

PRESENTATION

Operator

Hello and welcome to the Everspin Technologies First Quarter Financial Results conference call. All participants will be in listen-only mode. Should you need assistance, please signal a conference specialist by pressing the star key followed by zero. After today's presentation, there will be an opportunity to ask questions. To ask a question you may press star then one on your telephone keypad. To withdraw your question, please press star then two. Please note this event is being recorded.

I would now like to turn the conference over to Dave Allen. Mr. Allen, please go ahead.

Dave Allen

Thank you, Keith, and thanks to all of you for joining Everspin's First Quarter 2017 Financial Results conference call.

Before we begin the call, I want to remind you that this conference call contains forward looking statements regarding future events, including, but not limited to, our expectations for Everspin's future business, financial performance, and goals; customer and industry adoption of MRAM technology; and successfully bringing to market and manufacturing products in Everspin's design pipeline; and the execution of its business plan and delivering stockholders an attractive opportunity with a long-term growth model and healthy profits.

These forward-looking statements are based on estimates, judgments, current trends, and market conditions that involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements.

I would encourage you to review our SEC filings, including Everspin's financial results press release issued on May 12, 2017, Everspin's Annual Report on Form 10-K filed with the SEC on March 29, 2017, and other SEC filings made from time to time in which we may discuss risk factors associated with investing in Everspin. All forward-looking statements are made as of the date of this call, and, except as required by law, we do not intend to update this information.

In today's call, we will be referencing GAAP and adjusted EBITDA numbers. Adjusted EBITDA numbers are provided to enhance the investors' understanding of Everspin's operating performance as it primarily excludes certain non-cash charges for depreciation and amortization, stock-based compensation expense, and compensation expense related to the vesting of common stock held by GLOBALFOUNDRIES, resulting from our joint development agreement. The use of adjusted EBITDA is not meant to be a substitute for the results presented in accordance with GAAP but, rather, should be evaluated in conjunction with GAAP.

This conference call will be available for audio replay in the Investor Relations section of Everspin's website, www.everspin.com.

Joining me today are Everspin's CEO, Phill LoPresti; and CFO, Jeff Winzeler. I'd like to turn the call over to Phill. Phill?

Phill LoPresti

Good morning, everyone. For those of you who might not have seen our financial results press release, you can find the press release and an updated investor slide deck on our website. Before I

ask Jeff to discuss our Q1 results in detail and provide our Q2 guidance, I would like to quickly make a few comments about our first quarter results as well as other recent activities crucial to our future business.

First and foremost, I am encouraged by the product development execution by the Everspin team and the solid Q1 bookings for our Gen 1 Toggle products. Our design activity for both our Gen 1 Toggle and Gen 3 Spin Torque MRAM solutions continue to gain traction as we prepared for the production launch of our 256 Mb Spin Torque product.

Revenue for Q1 was \$7.9 million, ahead of our guidance of \$7.3 million to \$7.6 million and up from \$7.1 million in the prior quarter. Q1 revenue was driven by a mix of Gen1 Toggle MRAM shipments, legacy products and non-recurring engineering or NRE services. Our gross profit was \$4.2 million, resulting in a gross margin of 54%. Our EPS loss of \$0.49 per share was in line with our guidance.

Design activity for our Gen1 Toggle MRAM products remained robust with the continued strength in higher density, higher ASP industrial applications. We also saw follow-on business with our enterprise storage and automotive customers for our Toggle solutions. The expected dollar value of our Q1 design wins was 34% higher than the prior quarter.

Our next Gen 3 Spin Torque 256 Mb and 1 Gb MRAM product development work continued to proceed on schedule. Last quarter we reported three design-ins, including one with a major OEM for a flash array product. I am pleased to report that this project has recently progressed to the design-win stage and we recorded an additional design-in during the quarter with another flash array manufacturer. I am also pleased to report that we expect our 1 Gb Spin Torque product to start sampling later this quarter as in-house testing continues to show good progress.

Our nvNITRO accelerator cards, which use our 256 Mb Spin Torque chips, are currently sampling with several potential customers including storage OEMs and companies that provide hardware for financial trading systems for use by Wall Street firms. With industry-leading speed and very low latency these cards provide customers with an easy path to adopt MRAM in high performance computing, server cluster, storage networking and data center applications.

The focus of Everspin's sales and marketing team is squarely on converting our Spin Torque opportunities into design-ins and then into design-wins. We are also working hand-in-hand with these customers to establish their production requirements for Spin Torque.

We are encouraged by the progress we have made to date and with the design activity we are seeing in the short amount of time since launching our 256 Mb product into production in early March.

On our last call, I discussed steps we have taken to expand our addressable markets, build a stronger company and expand our MRAM ready ecosystem. Since our earnings call on March 10th, we strengthened our board of directors with the addition of Kevin Conley, former CTO of SanDisk, Corp.; and Mike Gustafson, former Chairman and CEO of Virident Systems. We also hired Annie Flaig as Senior Vice President of Worldwide Sales. Annie will be responsible for all aspects of direct and indirect sales, as well as overseeing Everspin's channel ecosystem. Annie brings a combination of enterprise server, storage and flash memory technical expertise and experience from her leadership roles at SanDisk, Hitachi Global Storage Technologies, and AMD.

And lastly, we joined three important consortiums: Gen Z, NVMe Working Group and OpenCAPI. Together with the Open Power Foundation in which we've been involved, these groups are focused on addressing the challenges that current computer architectures face in delivering high efficiency, high

bandwidth, and low latency. We believe our MRAM solutions can play a key role in reducing the bottlenecks inherent in accessing, managing and storing data as legacy solutions are increasingly being taxed by new applications and increasing network communication speeds.

After Jeff's financial commentary, I will come back and share some additional thoughts on our business progress and market opportunity before opening the call to questions. Jeff?

Jeff Winzeler

Thank you, Phill, and good morning, everyone. First let's review our Q1 2017 income statement. Revenue in the first quarter was \$7.9 million, with product sales representing 92% of total revenue, or \$7.2 million, while licensing, NRE and royalty contributed \$660,000 in the quarter. Our Q1 2017 revenue at \$7.9 million was up \$816,000 or 12% higher than our revenue in Q4 2016. Looking at product sales alone, our revenue was \$7.2 million compared to \$6.9 million in product sales in Q4 2016.

Gen 1 Toggle sales, which were down \$174,000 or 3% from Q4 2016, were offset by our legacy products, which increased by \$488,000, or 43% when compared to the prior quarter.

Our gross profit for Q1 2017 was \$4.2 million, an increase of \$984,000 or 30% over Q4 2016. The resulting gross margin for Q1 2017 was 54%, versus 46% in the prior quarter. Our gross margin expansion in Q1 2017, when compared to the prior quarter, was the result of better yields and lower costs of our Gen 1 MRAM products, coupled with additional licensing, NRE and royalty revenues in Q1.

Our Q1 2017 operating expenses were \$10.1 million, compared to \$8.5 million in Q4 2016, an increase of \$1.6 million.

Research and development expenses in Q1 were \$6.4 million vs. \$4.9 million in Q4 of 2016. The increase in Q1 2017 R&D expenses were the result of variable costs associated with our joint development efforts on Spin Torque process technology.

SG&A spending for Q1 2017 was \$3.7 million compared to \$3.6 million in the previous quarter. The \$100,000 increase was due to professional fees related to our year-end audit. Interest expenses for Q1 2017 were \$230,000 compared to \$365,000 in Q4 2016. Other income was \$19,000 in Q1 2017 vs. \$346,000 in the previous quarter.

Our GAAP net loss for Q1 2017 was \$6.1 million compared to a \$5.3 million net loss in the previous quarter. Our Q1 GAAP loss per share was \$0.49 compared to a \$0.48 loss per share in the previous quarter.

At this time, I would like to discuss our year-over-year financial results. Total revenue increased by \$1.7 million or 27%, from \$6.2 million during the first quarter, 2016, to \$7.9 million during the first quarter, 2017. Product sales increased by \$1.1 million or 18%, from \$6.1 million during the first quarter, 2016, to \$7.2 million during the first quarter, 2017. The increase was primarily due to \$500,000 increased sales in our first-generation Toggle MRAM products and \$600,000 increase in revenue due to our legacy products.

Licensing and royalty revenue is a highly variable revenue item characterized by a small number of transactions annually with revenues based on size and terms of each transaction. Licensing and royalty revenue increased by \$600,000, from \$81,000 during the first quarter 2016, to \$700,000 during the first quarter 2017. The increase was due to revenues from a milestone payment for non-recurring engineering or NRE services delivered in the first quarter.

Gross profit from the first quarter of 2017 was \$4.2 million, an increase of \$555,000 or 15% from the same quarter last year. Gross margin decreased from 59% during the first quarter 2016, to 54% during the first quarter 2017. The decrease in gross margin was due to product mix in our Gen 1 Toggle MRAM products, but remains within our long-term target model range of 48% to 52%.

Looking at operational spending, research and development expenses increased by \$1.3 million or 24%, from \$5.1 million during the first quarter of 2016, to \$6.4 million during the first quarter of 2017. The increase was primarily due to \$1 million in higher expenses incurred in our joint development agreement with GLOBALFOUNDRIES and a \$500,000 increase in supplies, offset by a decrease of \$300,000 in the amount attributable to the vesting of shares of common stock issued to GLOBALFOUNDRIES.

SG&A increased by \$1.2 million or 45%, from \$2.5 million during the first quarter 2016, to \$3.7 million during the first quarter 2017. The increase was primarily due to fees associated with the 2016 annual audit, and expenses associated with being a public company including accounting, legal, insurance, board-related expenses, and investor relations.

Interest expense decreased by \$200,000 or 51%, from \$500,000 during the first quarter 2016, to \$200,000 during the first quarter 2017. The company's GAAP net loss for the first quarter of 2017 was \$6.1 million compared to \$4.5 million in the same quarter last year. On an adjusted EBITDA basis, the loss for the first quarter of 2017 was \$4.9 million compared to \$3.2 million in the same quarter last year.

Turning to the balance sheet, our cash and cash equivalents were \$24.5 million at the end of the first quarter of 2017, compared to \$29.7 million at the end of 2016. Total assets at the end of the first quarter were \$37.6 million compared to \$41.5 million at the end of 2016.

Subsequent to the end of the quarter, on May 5th, we entered into a \$12 million term loan with Silicon Valley Bank which replaced our existing \$8 million term and \$4 million revolving line of credit. Through this transaction, we were able to increase our available cash by \$5.7 million, and lower our debt service payments by \$3 million over the next 12 months.

Total liabilities were \$16.1 million at the end of the first quarter 2017, compared to \$14.6 million at the end of 2016, an increase of \$1.5 million. Accounts payable balances and accrued liabilities were the primary reasons for the increase. Stockholders' equity was \$21.5 million at the end of the first quarter 2017, compared to \$26.9 million at the end of 2016. Capital spending for the first quarter was \$1.4 million.

Looking ahead to the second quarter of 2017, we expect revenue to range between \$8.6 million and \$8.9 million. We expect the resulting GAAP loss per share will range between a loss of \$0.39 and \$0.37 per share based on average weighted shares of 12,378,000.

I will now turn the call back to Phill for additional comments about our business. Phill?

Phill LoPresti

Thank you, Jeff. Overall, I am pleased with our business performance; demand, as measured by our book-to-bill metric, continues to be strong; and execution of our business plan continues to remain on track.

Key to our future success, our Gen 3 Spin Torque 256 Mb and 1 Gb MRAM product development work continues to proceed, and, we believe, can significantly expand our addressable markets starting in the

second half of this year.

Our design win momentum continues in our targeted market areas. Our Gen 1 Toggle products, which target persistent SRAM applications with memory densities ranging from 128 Kb, up to 16 Mb, remains the bulk of our business. As I mentioned in my introductory remarks, we continue to see steady design win activity in this area including an increase of 16 Mb design wins in the industrial space that will gradually shift the unit mix to higher ASP products. In fact, nearly three-quarters of our Q1 design wins were industrial while enterprise and automotive accounted for the balance of Toggle design wins in the quarter.

Let me share with you a recent industrial design win example with a major factory automation supplier that serves a variety of end markets from aerospace to woodworking. Our Gen 1 Toggle MRAM is being used by this customer to store critical manufacturing and machine setup information in their computerized numerical controller for high precision machining of molds, tools and dies. With our non-volatile MRAM attributes, this customer now has a battery free solution which improves reliability, system uptime and total cost of ownership. This design win will begin ramping later this year and we expect will remain in production for several years.

Another important Toggle win in the first quarter was with a major auto manufacturer who will use our MRAM in a new emergency call system and high-end AVN, or AudioVisual Navigation, platforms. Everspin is already shipping to the customer on previous programs and we are excited to continue to expand our business with these new design wins.

As I mentioned in my opening remarks, we are continuing to move ahead with our Spin Torque design activity. We expect to begin initial product builds with a major OEM's flash array program that we announced on our Q4 call as this customer's program has converted from a design-in to a design-win. And we recently secured another design-in with another flash array manufacturer.

All flash array storage arrays are getting pushed into smaller footprints, higher reliability, and faster throughput. Our Spin Torque MRAM is attractive in these systems because it can increase usable space by eliminating Supercaps, and improve write performance, endurance and latency. A second design-in that we discussed during the Q4 call has now moved to production status and the third continues on track to move to a design win status later this quarter.

To push the adoption of our Gen 3 Spin Torque MRAM we introduced in the March quarter our nvNITRO line of storage accelerators, which deliver extremely fast read and write times with ultra-low latency. These nvNITRO accelerators operate at an industry leading 1.5 million IOPs, with a 6 microsecond end-to-end latency for enterprise storage system applications, with initial capacities of 1 GB and 2 GB of Spin Torque MRAM today and then growing to 16 GB later in the year using our 1 Gb DDR4 products.

We are currently sampling our nvNITRO cards. We've had encouraging feedback from those involved in evaluating our technology solutions for high frequency traders at Wall Street firms. We expect general availability of the cards later this quarter and are targeting high performance computing, server cluster, storage networking and data center applications.

As the market for memory continues to evolve and the demand for a true storage class memory continues, it is essential that we leverage our MRAM technology leadership position and production experience we've gained with our Toggle solutions and our Spin Torque 256 Mb and 1 Gb chips that we are developing. In addition to being members of OpenPower, we recently joined three important industry consortiums: Gen Z, NVMe Working Group and OpenCAPI, to advance our MRAM technology

as a key enabling memory solution.

The revenue for higher density Spin Torque designs that we are targeting in enterprise storage applications are considerably larger than those afforded by our existing Toggle designs. Customer adoption of our Spin Torque MRAM, we believe, provides us an opportunity to quadruple our existing addressable market over time to \$1.7 billion.

In conclusion, we remain focused on our business plan and believe Everspin can deliver its stockholders an attractive opportunity with a long-term growth model and healthy profits.

As I did in our last earnings call, before moving into the Q&A portion of the call, I want to again thank our employees, our ecosystem and manufacturing partners and suppliers who have given us a significant time to market, first-mover advantage over potential MRAM competitors, and, finally, to our customers and investors, without whose support we would not exist.

Now we will open the call up for questions. Operator?

QUESTIONS AND ANSWERS

Operator

Yes, thank you. We will now begin the question and answer session. To ask a question, you may press star then one on your touchtone phone. If you are using a speakerphone, please pick up your handset before pressing the keys. To withdraw your question, please press star then two. At this time, we will pause momentarily to assemble the roster.

Today's first question comes from Kevin Cassidy with Stifel.

Kevin Cassidy

Thank you, congratulations on the good results, and also congratulations on hiring Annie, and putting on the two new board of directors.

Phill LoPresti

Thank you, Kevin.

Jeff Winzeler

Thank you.

Kevin Cassidy

Yes, in your revenue guidance for the second quarter, can you give a little description of what the mix would be in products, legacy Gen 1 versus Gen 3?

Phill LoPresti

Yes, well it's continued growth in our Gen 1 MRAM that's driving the majority of where we're going to see our product revenue grow. Legacy will continue to run at about the same levels it's been running over the last couple of quarters. We're expecting that we'll also have some additional revenue in the royalty and NRE lines like we did in this quarter. So, in general I think the growth comes primarily from our Gen 1 MRAM product, and then I think our legacy and our NRE revenues will remain relatively flat.

Kevin Cassidy

Okay, and are you expecting some of these design wins would ramp into production in the third or fourth quarter? You don't have to give exact numbers, but is that the trend we should be seeing?

Phill LoPresti

Well, yes. Any design win that we get in Q1 we would expect to start ramping into production in Q2 and Q3, certainly.

Kevin Cassidy

Okay, and one other question, on the R&D spending being up, can you give a little more description of what that joint development costs were, and are they expected to extend into the third and fourth quarter, or just the second quarter?

Jeff Winzeler

Yes, the big variable spending in the joint development agreement, it's all consumable spending. So, the major drivers in that are test wafers that we run for shaking out the process as well as additional mass sets whenever we do a rev of the product. In Q1 specifically, we had a couple of revs of mass sets, which are relatively expensive, and that's really what drove the Q1 number up from what we saw in Q4.

Phill LoPresti

Kevin, this is Phill, if I may add as well, in the effort of expediting our 1 Gb development, as we have customers that are very excited to get that sample in hand, we are obviously doing more work in a compressed amount of time to get the part out quicker so that we can start that sampling process, and that dovetails into the answer that Jeff just gave you.

Kevin Cassidy

Okay great, thanks. I'll get back in the queue.

Operator

Thank you. And the next question comes from Logan Bender with Canaccord Genuity.

Please go ahead, your line is live.

Matt Ramsay

Hi, guys, I don't know if you can hear me. This is Matt Ramsay from—

Phill LoPresti

Hi, Matt.

Jeff Winzeler

Hi, Matt.

Matt Ramsay

Hi, guys. Good morning, and congratulations from myself and my team as well. I was encouraged, Phill, to hear about another storage design win that you guys announced here on the call. And I know that we've been through some of these details in the past, but it would be I think really helpful for us to understand a little bit more the market opportunity regardless of exactly which quarter in the next few that some of these design wins ramp into revenue, and each of the larger customers will go at their own pace, but just to understand as these are fully ramped design wins, and three, four quarters from now what the potential is in terms of revenue for these storage design wins that we're talking about here, whether it's number of units, price per MRAM cell, those kind of metrics just to help frame some of these opportunities. I know it's hard to do exactly, but just to get an idea of magnitude would be really helpful for us. Thank you.

Phill LoPresti

Sure, Matt. So, the two design wins that we've framed out with flash array storage providers are actually really pivotal from our perspective. These are use cases that we specifically optimized our product to address, and obviously we've been working alongside with many of these storage companies over the course of the past year or so, some of them sampling our 256 in the very early days, in August of 2016. What I can say is the typical architecture for these flash arrays are that they would use let's say a U.2 form factor drive, and these drives are typically put into a chassis. Many of them can go up to 24 of these drives in the chassis.

The use of our Spin Torque MRAM would be as a buffer or cache for each of the U.2 drives, and in most cases we're expecting to have at least five of our MRAMs per U.2 drive. In some cases, depending on the customer's configuration, it could have as many as nine of our MRAMs in that U.2 form factor. So, to give perspective, if they populate the chassis with 24 of the U.2 drives you would multiply 5 or 9 times the 24, and that would give you a perspective of how many MRAM units can go out with a particular chassis from one of these suppliers.

Obviously, the unit volume of the chassis that they ship are going to vary with the performance rating and the density of the specific flash array products, but you can frame up those types of volumes by looking at the leaders that are out there today and what they typically ship per quarter or per year. Obviously, being designed into these two with pretty significant players with advantages, and now having MRAM as another advantage, we're hoping and expecting that they'll get very good traction for these products.

Again, the predictability of the launch dates is always really up to the customer, but the fact that we quickly went into a design-in with a major OEM and that very quickly has moved to design win, and they're placing orders now for initial builds and testing, is very good progress that this company wants to move fairly quickly. And of course getting a follow-on is also significant for us because again, it proves the value proposition of our solution.

Matt Ramsay

No, thanks Phill, that's really helpful. And just a couple more questions for me, I think one is how shall we think about the revenue inflection of the nvNITRO cards. You talked about some traction with some of the high frequency trading applications, and I can imagine some other applications that might have similar application dynamics. My understanding is that we should see some revenue here relatively quickly, and I'm just trying to get a gauge of how big of an opportunity that could be, and the timing of it relative to some of the longer-term design wins you just discussed. Thanks.

Phill LoPresti

Sure, so nvNITRO offers an opportunity to accelerate the MRAM product into the market because our focus is to have a prequalified board or module, in this case it's a PCIE card. In the future we're looking at M.2 and U.2 options, which we discussed at the last call.

The process you have to go through, there are two particular channels that we're focusing on. One is with the providers to these high frequency traders that integrate the systems together, and that are commonly supporting them.

So, the cards that we're having evaluated are going into some of the channel that supports that effort, and they're obviously doing performance metrics. They're comparing workloads, different workload situations to identify the use cases that are specifically get an advantage by using our nvNITRO, and all the data so far has been very encouraging. There are several interest points, and we expect that that's

going to expand over time. It's hard to quantify that ramp and the particular number because we really don't have a clear definition of where it's going to go yet, although the interest level is extremely high.

The second path would be with a major server OEM, for example. Many of them provide an option card program so that, typically, if you go to one of these big server or storage providers, you can build a system to your needs. And Everspin is in the process now of working with a couple of these big server storage providers to enter and get our nvNITRO cards qualified into that option program which would then enable people that go to that OEM's website to configure a system and select a qualified nvNITRO card into that server.

So again, that is the first step, you have to get into the program, get on the website, but once we're in that then obviously it opens it up and it's hard to again, define what that actual number can be. The first step is enabling in both of these cases, and that's what we're doing through the sampling right now.

Matt Ramsay

Got it, Phill, that's really helpful. And then just lastly if you'll indulge me, the question that I get most often from investors is obviously a breakthrough new memory technology, and you guys are on your commercializing your third generation now, but there are some competitors in the landscape. We continue to need to hear a little bit about MRAM work that's going on at some of the other foundries in addition to your partner, GLOBALFOUNDRIES.

Maybe you could walk us through briefly, if you could, how far you guys are, feel like you are ahead of competitors in productizing and manufacturing MRAM at scale, and how we should think about the competitive landscape over the next number of years. But really appreciate it, and congrats again, thanks.

Phill LoPresti

Sure, thank you, Matt. So, obviously our competitors don't communicate their roadmap, and their schedules, and their plans in any length of detail, so I really can't comment specifically on where they're positioned. But I can say from our perspective, having our partner, GLOBALFOUNDRIES, up, we've been working with them since late 2014, we transferred an already work-in-process to their line, upgraded to 300 mm tools. We then optimized that process, and were able to implement our process on our 40 nm 256 Mb chip, and actually bring it into production ahead of the schedule that we were projecting by qualifying it in early March.

So from that perspective, I think that gives our foundry partner, GLOBALFOUNDRIES, an advantage because they're already qualifying a production process on their line, and we're clearly going to be starting material to address not only sampling requirements for 256 and potential production requirements, but we're also now moving our 28 nm 1 Gb through that process and getting that qualified as well.

The announcements that we understand to date that are out there are from foundries that compete with GLOBALFOUNDRIES. And their target, at least what we can get from the press releases that have been published is that they're planning to use the MRAM technology they're developing in-house for embedded memory solutions that they provide to their foundry customers. So, this is what we believe completely validates what we have been targeting from the very beginning, and why GLOBALFOUNDRIES is working with us is that there is a big advantage to having MRAM as an embedded solution in these small geometry processes where it's very difficult to scale flash technology. And so, as you see process nodes of 28 and below, you don't commonly see embedded flash available.

And so, we believe that gives an advantage, and thus it's only logical that GLOBALFOUNDRIES' competitors are going to try to move to compete with them since they have that advantage from us being the only company that has brought any MRAM to production, and the fact that we're already going into production on their line. So, I think there's an advantage there; it's hard to quantify it because we don't know where the others are, but it doesn't come as any surprise to us that the GLOBALFOUNDRIES' competitors are moving to try to compete in that space.

Matt Ramsay

Thanks very much.

Operator

Thank you. And the next question comes from Rajvindra Gill with Needham and Company.

Rajvindra Gill

Yes, thank you, and congratulations as well; great progress on all fronts. Just a point of clarification just so I have it, so coming into the quarter you had three design-ins, and one of which is now transitioning to a design win going into production, and then you added another design-in. So, in total you have four design-ins, one of which is going into a design win phase, and I think you mentioned about the other two design-ins. Can you just clarify that as well for me?

Phill LoPresti

Yes, so from what I can get from what you said, I think you got it correct. In total there have been four design-ins, two are with the flash array architectures that we've talked about; one was with an M.2, we talked about that last quarter, and the other is with a U.2 SSD. One of them has moved from design-in to design win, and what that means of us is to register it as a win it means they're buying or they've placed orders now for product quantities to allow them to start doing test evaluation and finalize their product. So, that's what one of these, and in this case it's the flash array solution.

Also, out of the previous three that we announced, one of them has actually moved into the production phase, which means they've already put parts in, they've qualified a product, and we're now waiting for them to place their initial production builds. And the other one that we announced last quarter is now preparing to do the same thing, place orders to start their initial MPI builds, for example.

Rajvindra Gill

And can you give us a rough timeline from design-in to production phase to design win? I know it's going to vary by customer, but—

Phill LoPresti

Yes, Raji, it varies quite significantly. You could see in this case that in March, when we had our earnings call, we were able to register an in, and in a very short amount of time that customer has already moved to the point where it's a win, and that happened in let's say less than two months. What we typically see is that this could be a three- or four-month cycle for these conversions, but we believe this is something that we've communicated during our roadshow. Because we've been seeding the market with samples all the way back into August of 2016, a lot of the customers we're engaged with have already been preparing, testing, evaluating. In some cases they had their production board already laid out, and they were just waiting for us to provide the green light that the part was going to go into production.

And so, some of those are actually in a position to move really quickly. Whether they choose to do that or not is not necessarily in our control, but I'm hoping, and we feel that some of these other companies we're engaged with will move as quickly as the two or three that we've talked about, and hopefully we

can move them into production status in the next quarter.

Rajvindra Gill

And you gave a very excellent example of trying to frame the opportunity with respect to this U.2 form factor, where there could be 24 U.2 drives using MRAM, either 5 MRAMs up to 9 MRAMS per U.2 drive. So, just to quantify it a little bit further, if we're talking about five to nine MRAM per U.2 drive, I believe the ASPs you had mentioned were in the range of \$5 to \$10, they might be a bit higher for the ST MRAM, but if I just assume \$5 to \$10, we're talking about \$600 to \$2,200 per system. Is that the—I'm just doing the basic math, and I'm looking at nearly \$600 to \$2,200 per system of MRAM content.

Phill LoPresti

Yes. So, I believe your \$5 to \$10 range is off. It's going to be higher than that for the initial launch of our product, and so I would say that that's definitely lower than what we're going to see based on our pricing today. So yes, I think that model of \$5 to \$10 is off. It's going to be at least two times or somewhere in that range higher than that.

Rajvindra Gill

Okay, so we're looking at then something closer to \$1,200 to \$1,800 or even up to \$2,000 per device.

Phill LoPresti

Per chassis, if the chassis is populated with five or nine, and they have—

Rajvindra Gill

Twenty-four drives.

Phill LoPresti

Right, 24 drives, right.

Rajvindra Gill

So, actually it could be \$1,800 to \$3,200 per chassis?

Phill LoPresti

That's correct.

Rajvindra Gill

Okay, got it, all right. That's helpful to frame that. The next question I had was on the ADAS, the Advanced Drive Assistance System, representing a key growth area of the 256 Mb product. I know you had mentioned that you were expanding your scope with one of your large automotive OEMs with plans to offer additional Gen 1, but also Gen 2 MRAM products. Can you talk a little bit about your view of the Gen 3 product? How fast is it gaining traction to support ADAS, Advanced Drive Assistance Systems? What are some of the applications that are conducive for an MRAM memory architecture?

Phill LoPresti

Sure, so today we're selling into the automotive space our Toggle Gen 1 product. Its primary function is a data logger. It's collecting data real time from various sensors in the car system or accumulating data for decisions being made by the micro controllers. There are upwards of 60 micro controllers in vehicles these days, and that's growing. So, we continue to see in some of these use cases where the density requirement really doesn't exceed our Toggle densities, which go up to 16 Mb, and so in some of these applications they can continue to use the Gen 1.

However, some of the new features that are being discussed, and obviously they're in test stages and

expected to grow, maybe launch in vehicles in 2019 or 2020 and beyond. These vehicles are now, in addition to increasing processors, increasing the number of sensors that they're using, they're also increasing the number of cameras that are either external or internal to the vehicle for tracking various types of information. Now, depending on who you talk to, or the way they want to craft the product, they may want to record. Some manufacturers are thinking of recording 30 seconds to one minute of video and refreshing that real time so that you're rewriting into a memory that often while the vehicle is in use, and so collecting that, they obviously need a high bandwidth interface, perhaps DDR type of performance. It could be a high-speed interface like a quad spy or octal spy. Those interfaces, again, are available for our product, and there are other applications where I'm reading that they might even want to record and store that up to an hour's worth of information.

So, the requirements vary quite a bit, but the advantage that we offer them is this high bandwidth, fast write, non-volatile solution that's protected when an event occurs and power is removed. So, if you try to use DRAM in these applications you run into the problem where you have to do exactly what an SSD does. You have to scramble the data to a non-volatile memory like flash, and you have all kinds of complexities there where you perhaps can lose critical data. Using flash, you have limitations on how many times you can write, and the over-provisioning, again, very similar kind of problems that SSD companies have, where you have to put more NAND in your drive, sometimes upwards of 30% more NAND goes into a drive to address endurance and performance issues that the NAND has.

So in those cases, by moving to a Spin Torque based solution there, you get the high frequency rights, you have the high bandwidth interface, you have the non-volatility, you have the data retention and you can rewrite it as often as you want for the life of the vehicle, and so that's where we see some acceleration in interest. We're working with virtually all of the players in this market from the traditional automobile manufacturers directly, to the tier one suppliers, and of course all the up and coming ADAS type of companies that are out there, and we're trying to understand how to define maybe a more application-specific version of our part to really be optimized for what they want. And obviously, our goal would be to try to enable them with our current products and then transition them to an application-specific memory that's really optimized for the use case. And because it's up and new coming approaches, and some of them vary, we're trying to collect all data and fine tune our product development.

Rajvindra Gill

And just last question, in terms of how long you're going to record the data, the video data, is that decision going to be made by the insurance companies, by the OEMs? What's been your finding so far?

Phill LoPresti

Yes, so there is no standard right now, so it's somewhat of a free for all. But, I have been reading that obviously insurance companies or various agencies that are going to mandate these, let's call them for now like black boxes, they're going to have to set some kind of standards as to how much data, and how long it has to retain it. But as I said, right now it's across the map today. We even have some applications that they're taking snapshots, like literally photos, and storing them, as opposed to real time video. Even though it's a camera, they just take photos and snapshot, and they can do that in like let's say a 16 Mb Gen 1 part.

And others are looking at really high definition, high quality video for some of these ADAS systems where that increases the memory requirement significantly, and then obviously, they have trade-offs to do that. If they want a higher definition video they have to put more memory in there, and perhaps they may only store a shorter amount of video time as opposed to taking lower quality video and taking a longer snapshot, minutes or even longer. So again, no standard, everyone has different opinions and

different approaches, and we're trying to work with all of them to see how we can address the need.

Rajvindra Gill

All right, great. Thank you. Congratulations as well.

Phill LoPresti

Thank you, Raji.

Operator

Thank you. And the next question comes from Richard Shannon with Craig-Hallum Capital Group.

Richard Shannon

Oh hi, Phill and Jeff. Thanks for taking my questions as well. Listen, maybe I'll ask a question on the revenue guidance for the second quarter. I just want to verify here, it sounds like most of the growth you're seeing sequentially is coming from Gen 1. Is there any material amount of Gen 3 revenues in there even from a sampling of pre-production phase there?

Jeff Winzeler

Yes, so I think we've been pretty consistent that from a ramp perspective we just introduced our Gen 3 product for production at the end of Q1. That's going to take some time for people to design it into their systems and start selling it. And then obviously on nvNITRO, which would be the other Gen 3 product that we would see revenue on, that product again, is not going to be productized until the end of this quarter. So, the opportunity to see significant Gen 3 MRAM revenues in Q2 is pretty slight.

Richard Shannon

Okay, that's what I thought.

Phill LoPresti

Yes, Richard, just to add to this, the designs that we have quantified today and in previous calls are just going to production status, or just going to the design win status. You can imagine that that doesn't really define any significant number. We are pretty consistent that we believe these will start moving in the second half, Q3 and Q4, and so at least these four are progressing at the rate that we feel that that's still obtainable.

Richard Shannon

Okay, great, that's what I thought, just want to make sure. So, the growth we're seeing from the Gen 1 products, I wonder if you can help us understand the drivers here. You talked about a few design wins. It sounded like they'll probably start hitting after this quarter, so I'm wondering by end market or breadth of the increase you're seeing in the second quarter would be great to hear as well, please.

Phill LoPresti

Yes, so the Gen 1 product, we've highlighted and characterized the automotive opportunities where our existing customer in that space has adopted our part in more vehicle types. These platforms that they have could have various different models, and different levels of their audio/visual navigation systems. And so, what we're seeing is them converting from an existing solution more and more of those platforms and specific models to an MRAM-based solution, which is great for us. So, we're seeing that increase in the automotive side.

As Jeff highlighted, the mix impact, based on projections that we had from this particular manufacturer, they're running ahead of the numbers we initially expected because of this adoption into more platforms. So, I would say the automotive is driving some of the strength in the units, but also we've

had design wins in the industrial space that they take a little time to gestate in the industrial space, but they last quite a long time. And even when you move Gen 1 industrial design win into production, it could take them three, six, even nine months before they get to any appreciable volume. So, some of the design wins and ramp to production that started last year, we're now seeing those higher density 16 Mb ramping harder and into higher volumes, and that's driving some of the growth as well.

Richard Shannon

Okay great, I appreciate that characterization, great to see. So, I want to ask you about Gen 3 engagements with the storage and flash array market. You talked about few design-ins and design wins. I'm curious if you could give us a broader view on that environment here. There are obviously a number of OEMS, both large ones as well as some startups out there that are targeting flash array market. I wonder if you can characterize the breadth of your engagements, the extent to which you're seeing it across the market there. Why wouldn't someone want to use your device, as opposed to more a mainstream historical usage of backups they've used in the past?

Phill LoPresti

Sure, so we're obviously heavily and actively engaged with virtually all of them, whether they're established players or some of the new startups that continue to pop up with various different advantages. But, one of the clear trends—and this isn't new to the electronics industry—is that in form factors are getting smaller or definitely not getting larger, but at the same time they're trying to pack more density into these form factors. And what happens in a lot of these cases, it's like in a U.2 form factor that goes into a flash array chassis, just think about that U.2 form factor, it's an enclosed form factor, the size is fixed, it has to plug into the chassis, so you can't expand it. And you're now packing more and more NAND in there because some of these U.2 drives are going to 10 Tb and some manufacturers are talking even two or three times that density in a U.2 drive.

Obviously, along with the higher density, they have to deliver better performance. So when you put more into that form factor, and you run your controller at a higher performance, some of them are using FPGAs, and some of them are dedicated ASICS, the heat that's generated and the power that's generated to service that inside that form factor is rapidly increasing. And with that, if you choose to use Supercaps, or capacitors, you actually have a double-whammy of a problem. One, the capacitors take up space in that small form factor, which negates your ability to add more NAND and increase density; but even worse, if you do have the caps in there, you have a thermal problem that you have to contend with because these caps and Supercaps, as we all know, their life expectancy is decreased as the thermals go up, so that means you want to keep them cool. And they also, if they're not kept cool, besides the life expectancy, the charge amount becomes dubious as to whether or not you have enough to perform the function you want.

So, these manufacturers are now trying to say, "Well how do I squeeze more and not have to manage the thermal issue?" And so what they're looking at is MRAM is the perfect replacement here. It right away allows you to remove the Supercaps or capacitors because they're no longer needed for the power failsafe because writing straight into our MRAM, it's write-protected. And while they're able to remove the Supercaps, that gives them more space to make a more competitive, higher density drive. And from a cost point of view, they don't have to contend or worry about the thermals as much in managing them in the chassis or within the drive. So, all of that we believe as these flash array companies start migrating to higher density form factors, they're going to all run into these similar types of situations, where the obvious solution is to put MRAM into the drive to solve the buffer problem.

Richard Shannon

Okay great, that's a great characterization, Phill, thanks for that. My last question, I know you mentioned the timeframe for sampling, I missed that, and maybe, Phill, if you can expand on that topic

of the 1 Gb developments here. I wonder if you can repeat the time frame you expect to first sample the device, and then what's the earliest time frame you'd expect the customers to start getting into that design-in process?

Phill LoPresti

So, we're aggressively working right now, as we characterize some of the Q1 expenses were higher because we're doing more work in parallel to try to get the cycles of learnings and get our 1 Gb in a position where we can start sampling it. There are various stages of sampling, one is an engineering sample level, and other one is a commercial sample level, which means it's getting ready to transition to production. So, at this point we're trying to at least get some of our customers' parts late, before the end of this first half, let's say, perhaps early in the second half of this year so that they can start planning out their systems, laying out their boards, and evaluating the 1 Gb.

So, this is fairly consistent with what we were expecting to do. Obviously, getting it into production is going to take a little bit more time, so we're expecting that to happen later in the year, but we're making good progress in-house. We've obviously brought in various different material grades, and the testing in-house is going well, and we hope to get those samples into some of these customers maybe late this half, early next half.

Richard Shannon

Okay, excellent, I appreciate that update. That's all the questions from me, guys. Congratulations, and keep up the good progress.

Jeff Winzeler

Thank you.

Phill LoPresti

Thank you, Richard.

CONCLUSION

Operator

Thank you. And that's all the time we've allotted for questions this morning, so at this time, I would like to return the call to Dave Allen for any closing comments.

Dave Allen

Thank you, Keith. Everspin will be participating in two investment conferences this quarter: the Stifel 2017 Technology Internet and Media Conference on Monday, June 5 in San Francisco; and Needham's Inaugural Automotive Tech Day, on Tuesday, June 6th in New York City. We look forward to seeing many of you at these events. Details for these conferences will be available on the Investor Relations section of Everspin.com.

Thank you for your interest in Everspin, and goodbye for now.

Operator

Thank you. The conference is now concluded. Thank you for attending today's presentation. You may now disconnect.