

Inside TRACK

with
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NF: MACOM has been growing increasingly active in the gallium-nitride (GaN) market. Now, with the acquisition of Nitronex, the company will obviously have a bigger footprint in the GaN market. How does this acquisition amplify what Macom has to offer in terms of GaN?

SR: In July 2013, MACOM announced the establishment of the industry's first dual-source supply for 0.5-, 0.25-, and 0.15- μm GaN-on-silicon-carbide (GaN-on-SiC) technology. We believe that this step unlocked one of the remaining barriers to the mainstream adoption of GaN by providing a secure supply chain. With the addition of Nitronex to the MACOM portfolio, we have further expanded our GaN technology and product breadth with GaN-on-silicon (GaN-on-Si). MACOM's heritage in RF power drives a keen understanding of application requirements and the need for a secure supply chain that can support critical programs for decades. As a key element of MACOM's supply-chain strategy for multi-decade GaN support, the addition of Nitronex augments MACOM's GaN product portfolio to what we believe is the industry's largest offering of pulsed-power and continuous-wave (CW) applications. In addition, with Nitronex, MACOM can now offer customers the technology choice of GaN-on-SiC and GaN-on-Si, enabling an optimized solution for their application.

NF: What benefits does MACOM gain in terms of R&D?

SR: The addition of Nitronex to the MACOM umbrella has two primary effects on R&D. It expands the engineering base focused on RF power devices. In addition, it establishes an expert design presence in North Carolina for MACOM. We are very excited about establishing this presence and intend to grow this location over time.

NF: Can you share a little about the company's plans for GaN for the next two to three years?



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SR: GaN has the potential to revolutionize many aspects of the RF industry. The basic properties of GaN as manifested through bandwidth, power, efficiency, and robustness have not been fully realized. MACOM is focused on device design and process technology to ensure that the potential of GaN benefits its customers across a broad array of RF functions.

NF: Most people in the RF and microwave industry are now confident in the benefits GaN can offer. In what applications is GaN overkill today?

SR: MACOM supports the industry with a broad base of RF technologies spanning two and three terminal devices based on silicon and III-V semiconductors. We recognize that a single technology, like GaN, may not be ideal for all functions and all applications. Using our deep product and technology “tool kit,” we support our customers in the right technology choices for their application.

NF: What new applications do you think GaN will most impact in the next two to five years? Anything beyond five years?

SR: Looking back, GaN has had the largest impact in the military sector by helping to keep our soldiers safe with advanced jammers and military-communications systems. Over the next several years, GaN will begin to have a profound impact on the commercial sector, gaining traction in the largest RF power market segment: cellular infrastructure.

NF: MACOM has been quite a big spender lately, acquiring Mindspeed Technologies shortly before this Nitronex acquisition. Mindspeed is known for its small-cell products. How does MACOM plan to leverage Mindspeed’s intellectual property (IP) and products?

SR: The acquisition of Mindspeed diversifies the end markets served by MACOM to include enterprise networking applications while enabling MACOM to strengthen its core RF and microwave position with silicon-germanium (SiGe) technology. Mindspeed positions MACOM as a leading global provider of 100G optical solutions as a critical step in its growth strategy for commercial communications markets.

NF: MACOM traces its roots back to Microwave Associates, a company that made history in the microwave industry. Given the two recent acquisitions and other changes it has made in the last few years, in what ways do you think it is still recognizable as that company?

SR: The foundation of Microwave Associates was the exploitation of semiconductor technologies to enable industry-leading RF solutions. This remains at the core of MACOM’s mission today. From diode prod-

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ucts—which lead the industry in power handling and low loss—to the emergence of both GaN and SiGe, MACOM remains focused upon using its decades-long, deep applications knowledge coupled with its product and technology engine to provide compelling applications solutions for the RF industry.

NF: Microwave Associates primarily served the defense industry, yet MACOM now targets such a range of industries. Where do you expect the most growth?

SR: Certainly, Microwave Associates’ initial focus was on the defense market. Over the years, however, as MACOM has grown and evolved, it has applied its resources and expanded into multiple markets. Today, it remains committed to the defense market, but we see growth potential in commercial communications, which is driven by ever-expanding bandwidth requirements. This underlying trend influences the company’s strategies in CATV, point-to-point communications, very-small-aperture-terminal (VSAT), cellular base station, and enterprise. The commercial communications market segment will continue to drive the company.

NF: Are you still playing in the automotive market? I remember MACOM being involved in Ford’s “Sync” design. What evolution and growth do you see in the telematics market?

SR: MACOM continues to support the automotive market where its RF expertise brings value to its customers. MACOM is a major supplier to the Ford Sync platform. We see growth potential in the automotive sector; telematics is driving increased RF content in vehicular applications. With end applications as divergent as driver assist for safety to Internet access and cloud computing on the move, the automotive landscape is changing. MACOM continues to play an important role.

NF: Does MACOM have any near-term plans to make more acquisitions?

SR: MACOM continues to invest in its core growth strategies through both organic development and inorganic acquisition opportunities. 