

## **Sophic Capital Interview with Spectra7 Microsystems CEO Raouf Halim**

On September 26, 2016, Spectra7 Microsystems ([SEV:TSX](#), [SPVNF:OTCMKTS](#)) [announced](#) the appointment of CEO Raouf Halim. We had a chance to sit down with Mr. Halim to discuss his background, his experience, and why he decided to join Spectra7. He also shared some of his insights about Spectra7's target markets, and where he thinks the Company can be in the next 5 years.

***SC: Thank you for taking the time to speak with us, Raouf, and congratulations on your new role.***

RH: You're welcome, Sean, and thank you.

***SC: What attracted you to analog semiconductor design, and when did you start your career?***

RH: My attraction to analog semiconductor design was sparked by my interest in being able to interface different physical media to digital electronics. Radio frequency signals, cable signals, other natural analog signals fascinated me, and my fascination culminated with a Master's Degree in Analog Design from Georgia Tech in 1985. I started my career upon my graduation.

***SC: Can you give us a brief background of the companies you have worked at and your role at each?***

RH: I began my analog design career with a startup called Hayes Modem, the leading supplier of dial-up modems. Their modems allowed computers to connect to each other over telephone lines. I was employee number 11, and became the Director of Advanced IC Technology as the company grew quickly, driven by high consumer adoption of PC communications. Hayes drove their product into this market, and when I left in 1991, there were 1,500 employees.

From there, I moved to Rockwell International, a U.S. Fortune 50 company that was a fabless supplier of communications ICs (integrated circuits). I joined Rockwell's analog IC group in Newport Beach, California as the Director of Analog IC Design, and we grew rapidly, delivering billions in revenues from the sales of analog and mixed-signal ICs. In 1999, Rockwell International spun off the IC division as a public company called Conexant, which was the largest semiconductor IPO in history. At the time I was a Senior VP and General Manager and later spun-out one of Conexant's divisions, called Mindspeed, which focused on analog semiconductors and Voice-over-IP, and took it public on the NASDAQ in 2003. I was the CEO of Mindspeed for over a decade, raised over \$100 million in the public markets and sold it in 2013 in a 3-party transaction. Intel acquired Mindspeed's mobile chip products, and the rest of the company merged with analog semi company M/A Com for almost \$300 million.

***SC: Can you tell us a little bit about your experience in the Datacom and telecom markets and the type of products you have been involved with?***

RH: I've spent the bulk of my career in the communications markets. Data center, Datacom, telecom, and mobile infrastructure are what I know best. With the advent of the Internet, I focused on telecom early and expanding my knowledge with industry's evolution – solutions that allow people and enterprises to connect to the Internet such as: T1/E1 analog transceivers, SONET solutions, and optical analog transceivers. From there, I diversified into enterprise Datacom, then data centers where I grew with 10Gbps, 100Gbps, and 200Gbps analog interfaces for data center backplanes, inter-rack backplane connectivity, and rack-to-rack-datacenter. I find all communications technology fascinating.

***SC: You've had several successes turning small analog semiconductor companies into big ones with billions of dollars of annual revenue. What did you do to achieve scale?***

RH: There are a few key criteria. We need to serve our end markets and outperform competitors. Today, we are well positioned not only in augmented reality (AR) and virtual reality (VR) but also HDMI, USB, and entering data centers. We also need to continue executing and ignore the lumps which are typical of early market adoption. Our focus is on execution; execution and market share.

***SC: When did you first learn about Spectra7 and what did you think about the vision and the products?***

RH: I've been aware of Spectra7 for the last few years. They've always had an industry reputation as an innovator and leader in high-speed signal conditioning. I knew Tony Stelliga, Spectra7's prior CEO, and was always impressed by his vision and aggressive products. Tony's vision was correct, and after completing a bit of homework about Spectra7, my decision to come aboard was easy.

***SC: Given your expertise in the analog semiconductor market, how would you rate Spectra7's technology and intellectual property?***

RH: Spectra7 has best-of class technology in the markets that we address. Our serial, ultra-high bandwidth communications solutions and our heavily patented tech portfolio are what attracted me to the Company.

***SC: One of the big market opportunities for Spectra7 is in the VR and AR market. Are you familiar with these markets and how do you see them developing over the next several years?***

RH: I am very intimate with the AR and VR markets and am the Chairman of icClarity, a company competing in the AR/VR market. These markets will be exciting for the next decade with ramping volumes driven by numerous business-to-business and business-to-consumer applications. For example, service and field technicians could work remotely and have an augmented reality application assist a repair. The real estate industry can benefit by allowing people to virtually experience homes they're considering purchasing before construction begins. The consumer cycle will drive most of the hockey stick growth ahead of us, and I think VR will really ramp in a year or two. The AR market will be bigger than VR, possibly 5 or 10 times larger. Devices today are the first and second generations that will continue to evolve to reduce power consumption, decrease headset weights and form factors, and leverage faster processors, for example. Incremental changes like these will drive a lot of the market adoption.

**SC: You mentioned icClarity. Tell us about it?**

RH: icClarity is an AR/VR company that I co-founded in 2014. It's developing a 3D sensor system for AR and VR. It has the first single chip, 3D sensor for depth and integrated 2D vision that's in a single sensor for AR and VR.

**SC: Does Spectra7 and icClarity sell into the same customer base?**

RH: Yes, they do.

**SC: Going forward, how much of your time will be devoted to icClarity?**

RH: Less than 10%. Although I remain icClarity's Chairman, I'm completely redevoting myself to Spectra7.

**SC: You're considered an industry expert, and as far as you know, is anyone else designing products similar to Spectra7's?**

RH: We have no direct competitor with equivalent product functionality across any of our verticals.

**SC: What are the most important lessons learned from Mindspeed that you're bringing to Spectra7?**

RH: Number 1 – focus; number 2 – focus; number 3 – focus. You have to pick the right markets and never take your focus off of them. Spectra7 is fortunate in that we've picked attractive, high-margin, analog end markets to compete in. And we're well-positioned with Tier 1 OEMs in those markets. We have to continue executing to capture the opportunity so that we can improve cash flow and earnings and deliver value to our shareholders.

**SC: You have created a lot of value for several companies. Is there anything you would like to say to the existing Spectra7 shareholders about how you see the Company developing over the next 3 to 5 years?**

RH: I'm attracted to Spectra7 because of the large opportunity ahead of us. We have to execute to this opportunity, and I expect that we will see top and bottom line expansion over the next three to five years.

**SC: Is there anything else we should ask you that you think we have missed?**

RH: You got it all, Sean.

***SC: Thank you very much for taking the time to speak with us, Raouf. We wish you the best as you take over at Spectra7.***

RH: Thank you, Sean. It was my pleasure.