By Maxwell Murphy

There's nothing nano about NVE Corp.'s (NVEC) market capitalization.

The tiny microelectronics company is hoping to make big waves with licensed patents on what it believes is breakthrough memory technology for semiconductors. It says nanotechnology was used to develop this product and as we know, nanotech's pretty hot.

So far, NVE has earned next to nothing on any of its licenses. Its revenue is on the rise, and sales of non-MRAM products relating to data sensing and transmission have almost overtaken the money it gets for government research and development contracts, but revenue for the December quarter was just $3.1 million, compared to its current market cap of nearly $230 million.

To believe NVE deserves such a valuation you pretty much have to believe a patent-licensing agreement with Motorola Inc. (MOT) will lead to heaps of revenue.

But if Motorola's so keen on NVE's patents, and is using them in the magneto-resistive random-access memory, or MRAM, semiconductors that it recently started sampling to customers, it didn't show any love for NVE's prospects by dumping its whole NVE stake early this year. Looked at another way, why would Motorola unload NVE, a stock that could potentially move higher if Motorola made the decision to use NVE's technology?

Maybe there's more to it than just the Motorola story. Perhaps Wall Street believes MRAM chips using NVE patents will someday replace widely used dynamic random-access memory (DRAM) across all realms of technology.

But wait, it's not only Motorola which has unloaded over the past nine months. So have NVE's founder, its top executive, its largest holder, other insiders and another high-profile licensee, Cypress Semiconductor Corp. (CY). Nonetheless, shares are up more than 700% from a low of $5.75 late last May. The ultra-volatile stock, which changed hands recently at $46.97, hit an all-time high of $69.69 in late January.

Even before Motorola sold all of its 350,000 shares, Cypress sold its 686,849 shares last summer. Cypress, which said the sale would help fund delays in its MRAM development, still owns warrants to purchase 400,000 shares at $15 apiece. A Cypress spokesman says Cypress has "no impulse" to sell its remaining NVE stake.

A small concern whose main revenue source has been those government R&D grants, NVE's product sales are growing and it's on pace to crack $10 million in annual revenue for the first time in the fiscal year ending this month. With sales rising, albeit on a small scale, it's debt free and has been profitable with positive cash flow from operations for several straight quarters.

Still, it's nowhere near deserving current valuation, let alone a $337-million one it carried in January.
Hopes for NVE are mainly pinned on Motorola deal, but also lay with Cypress. The Cypress deal is a non-royalty-bearing sharing of intellectual property, and Cypress would have to make MRAM chips for NVE to resell for NVE to see any scratch. NVE President and Chief Executive Daniel Baker concedes this would be a big shift in NVE's business model and says the likeliest way to reap rewards would be to sell Cypress MRAM chips to niche markets.

A press release from NVE last week said Cypress has made MRAM chips using NVE intellectual property, and cited a Cypress executive saying Cypress feels "very confident that (it is) close to having a production-ready product." The head of a Cypress unit created to further MRAM development joined NVE's board shortly after Cypress and NVE partnered - and Cypress invested - in 2002.

Motorola Hopes Keep NVE Rollin'

Now, it's the Motorola pact that seems to have NVE buyers salivating. In the release, NVE also said Motorola expects to begin MRAM production by late 2004, but NVE would only say it "believes" the MRAMs that Motorola publicly described use NVE intellectual property and NVE "expects" to reap royalties if that's the case.

Isn't it disheartening at all that Motorola won't even tell NVE whether NVE patents are used or not, let alone after Motorola dumped its NVE entire stake? A Motorola spokesman confirmed the licensing deal between Motorola and NVE is still in effect, but wouldn't comment on why it sold all its NVE stock or on why not even NVE knows if NVE patents were used in Motorola's MRAM chip.

So it's easy to see why buyers aren't the only ones licking their chops. Short sellers are massing, their views most vocally posited by Manuel Asensio and his oft-publicized firm, Asensio & Co. In all, just over one million shares of NVE were being sold short on March 15, meaning a hefty 20% of NVE's 4.8 million diluted shares were being bet against. Short interest is up from 786,183 in mid-February and is triple mid-January levels.

In a series of recent releases, Asensio details his myriad problems with NVE, including a belief NVE isn't a nanotech company at all, and he advises investors sell and, moreover, sell NVE short.

What exactly constitutes nanotechnology is often disputed, NVE's Baker concedes, but he maintains some NVE patents for MRAM have processes measured in nanometers and fractions of nanometers, so it qualifies.

NVE only began calling its work nanotech during the past several months, formerly calling its spintronics technology microelectronics. The Forbes/Wolfe Nanotech Report newsletter, co-published by a unit of media company Forbes Inc., last summer began touting NVE as an attractive nanotech play, helping drive shares skyward.

Baker and Josh Wolfe, co-author of the newsletter, say no consulting fees changed hands. Wolfe says no conflicts of interest exist and he owns no NVE stock. Wolfe's firm, Lux Capital, makes venture capital investments in private companies with nanotech bents.

Even NVE lovers should wonder about the stock sales by not only two companies with intimate knowledge of NVE technology, but also NVE insiders and its top holder.

CEO Baker says he exercised and sold half his options, and still holds 70,000 options and just under 8,000 common shares. Founder James Daughton, who's 67, says he sold over 70% of his almost 526,000 shares as estate planning. He says his health isn't very bad, but it's not great, so after 15 years of work on NVE he wanted to provide himself a
safety net if his health takes a turn for the worse. Baker says former largest investor, Norwest Venture Partners, redistributed its shares because its sizable stake made NVE violate rules for being a small business, jeopardizing its ability to continue to receive government contracts. NVE quickly regained compliance with the Norwest sale.

Another way to look at the stock sales is that parties who owned upwards of 80% of NVE stock in May now own less than 20% of NVE stock 10 months later. On a side note, NVE went public through the back door. It found a defunct public company with some cash on its books and did a reverse merger in 2000. A five-for-one reverse stock split in late 2002 paved the way for listing on the Nasdaq SmallCap Market in January 2003.

If NVE patents are critical to MRAM, which even NVE can't promise, investors may be rewarded for a pricey bet on its stock. But if NVE gets beaten or passed over - lots of tech giants are clambering to perfect MRAM - its small government contracts and non-MRAM product sales won't justify shares trading far above NVE's book value of $1.90 a share, of which only 28 cents is in cash.

Regardless, you need a strong stomach to invest in NVE, long or short. Leading risk tracker Barra Inc. predicts NVE will be riskier, or more volatile, than 90% of the nearly 6,900 stocks it tracks.