



## NEW JAMMING RULES MAY BE NEEDED

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Signal interference is the bane of every wireless network operator, although most understand that accidental interference emissions occasionally are generated in an ever-changing RF landscape that can lead to time-consuming, and often expensive, resolutions. Given this, it is little wonder that simply mentioning notion of purposeful interference — better known as jamming — quickly raises the ire of RF engineers.

This sentiment also is supported by law, which is clear on the matter. Federal agencies are allowed to jam radio signals, but no one else is.

Today, the wisdom of the law is being questioned by officials representing state and local correctional institutions, which are being plagued by inmates' use of contraband cell phones to coordinate activities outside the institutions, including extortion and witness harassment. As a result, the public is at risk, and correctional officers must take sometimes-dangerous measures to try to rid their facilities of the communications devices, said Howard Melamed, CEO of CellAntenna, during a session during the International Wireless Communications Expo (IWCE) this month.

Of course, inmates are not supposed to have cell phones, just like they are not supposed to have guns or knives. But the bottom line is that inmates are gaining access to cell phones in "pandemic proportion," Melamed said. Of the 2.5 million inmates, 20% to 30% have cell phones and about 75% have access to cell phones, he said.

How is this happening? Inmates have a lot of time on their hands and have created very resourceful methods to get cell phones, Melamed said. Some involve intricate plans to reassemble devices smuggled into the facility to beat traditional security measures in myriad innovative ways; a few are simply able to find a guard who is willing to make remarkable profits by illegally selling pre-paid phones to inmates — a \$50 cell phone can be sold to inmates for \$1,500 to \$2,000, he said.

"It's the new cash," Melamed said.

But the value of cell phones in correctional facilities can be undermined with a jamming solution that renders a cell phone useless. Melamed said such jamming generally would not inhibit legitimate cell-phone usage, because cell-phone calls from inside correctional facilities are illegal — not just calls by inmates, but calls from visitors and institutional personnel — in 39 of 50 states.

The self-described "poster boy of jamming," Melamed heads a company that uses a distributed antenna system to jam signals within a correctional facility but not outside the facility, which has been a major concern of wireless carriers and RF engineers. CellAntenna currently provides jamming solutions to federal facilities and would like to sell to state and local correctional institutions, he said.

One of the most outspoken critics of jamming has been Jack Daniel, an expert in the field of in-building wireless signals. Daniel participated in the same IWCE session as Melamed, and many attendees anticipated fireworks between the two.

And there was a notable different in the perception of the role wireless carriers play in the proliferation of cell phones in correctional facilities. Melamed said carriers oppose jamming deployments because cell-phone usage in correctional institutions generates \$10 billion annually for the industry and noted examples of carriers pointing antennas directly at prison facilities that supposedly have no users.

Daniel criticized Melamed for trying to "demonize" the carriers, noting that potential revenues from inmates would only be a "drop in the bucket" for such large communications companies.

For the most part, however, Melamed and Daniel found a great deal of common ground. Both agreed that properly engineered jamming systems — such as those installed by CellAntenna — can be a useful tool to combat the cell-phone problem in correctional facilities. Both were highly critical of cell-jamming devices that are being sold online illegally in the U.S. and often are being deployed by people with little or no engineering background. And both advocated a regulatory framework designed to ensure that cell jamming is done properly.

“We should never have consumer cell jammers,” Melamed said. “We should have a professional electrical engineer be responsible for any system where jamming is going to be put into place. You put it in the hands of the professionals; the amateurs are not allowed to have it.”

Daniel went a step further, saying that rules should dictate that even RF engineers should have to be certified in jamming technology before being allowed to deploy such solutions. Meanwhile, he echoed Melamed’s sentiment about the need to stop the deployment of illegal jamming by anyone other than certified engineers.

“It all falls back to control; we cannot have uncontrolled distribution of jammers of any kind — FCC-approved or not,” Daniel said.

Properly crafted, rules calling for such certified jamming are something the FCC and Congress should consider. Jamming privileges should not be extended to other sectors — no matter how much movie theatres and churches may covet them — but state and local correctional facilities should be able to use certified jamming solutions in the same manner as federal institutions are allowed to do today.