ANATECH ELECTRONICS INC

AT THE CENTER FREQUENCY

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What's News...

More flaws revealed in 5G security

Researchers from Purdue University and the University of Iowa have detailed 11 design issues in 5G protocols that could expose your location, downgrade service to old mobile data networks, run up wireless bills, or even track when people make calls, text, or browse the web. They also found five additional 5G vulnerabilities carried over from 3G and 4G. All these vulnerabilities were with a tool called 5GReasoner.

5GReasoner also found issues with how the 5G standard governs initial device registration, deregistration, and paging. Depending on how a carrier implements the standard, attackers could mount "replay" attacks to run up a target's mobile bill by repeatedly sending the same message or command. It's an instance of vague wording in the 5G standard that could cause carriers to implement it weakly, according to the researchers.

A new competitor for home broadband

Common Networks, a company founded by ex-Square employees, has designed a technology that can challenge providers in the telecommunications market. For about $50 a month, Common Networks is offering 300 Mb/s too 1Gb/s download speeds for households around Silicon Valley. The company uses unlicensed 5G microwave and millimeter-wave spectrum an antennas installed on rooftops, and using open-source software and hardware, the company developed so “graph-based technology” that delivers high-speed broadband for what it

A Word from Sam Benzacar

Is 5G safe for humans? No one knows.

By Sam Benzacar

For more than three decades, the scientific community has been trying to determine whether ionizing (i.e., electromagnetic) energy radiated by mobile phones and base stations is hazardous to humans. There’s no question about whether, at sufficient levels, it causes burns and damage to the eyes; that connection was established a very long time ago, for a simple reason: It’s obvious. What’s not obvious is if RF energy has other effects ranging from changes to DNA, brain cancer, and other diseases

It could be argued that as we’re not dropping like flies, there is either no connection or one that is minimal at best. But how would we really know? It’s almost impossible to determine without long-term, well-controlled studies in humans that have been thoroughly reviewed and replicated to produce a consensus, good or bad. So, even after 30 years of cellular technology and hundreds of studies throughout the world, there remains no such consensus.

Another argument is that even if some connection was established, it wouldn’t stop people from using wireless technology, and the entire wireless industry would throw every nickel they have into maintaining the status quo. There’s a solid case to be made for this argument, because without absolute, irrefutable proof of causation and an overwhelming public outcry, effective action is unlikely, at best. In short, rolling back wireless communications of every kind at every frequency is simply not going to happen.

That said, even though there is no agreement on this issue, governments throughout the world have long had limits on exposure to non-ionizing radiation and what specific device can radiate, and manufacturers of end-user products must have each product tested to ensure they meet these standards. Even without a consensus, some studies proving harm have never been entirely refuted.

claims is about one-tenth what telecom companies typically pay.

DoD making EW a high priority

When the Department of Defense sends Congress an updated electronic warfare strategy this month, it will make rebuilding DoD's EW capabilities a priority, according to C4ISR.net. The Pentagon requested more than $10.2 billion for electronic warfare programs throughout DoD in the FY20 budget request, according to a Congressional Research Service report, much of which is dedicated the Army, whose EW capabilities were neglected since the end of the Cold War.

The Army is worried about GPS jamming on the battlefield and is currently replacing its 300,000 defense advanced GPS receivers with terminals that support a more jam-resistant signal called M-Code. Army leaders also want to invest in long endurance, unmanned airborne EW systems as well as more significant training for soldiers related to electronic warfare, according to CSR.net.

Russians testing U.S. stealth capability in Middle East

Russian forces have been jamming GPS systems in the Middle East to see how much it can disrupt and confuse America's stealth fighters, according to The National Interest. The Times of Israel has reported that GPS systems there have displayed the wrong location or stopped working entirely. The signal that has been disrupting satellite navigation for planes flying through Israeli airspace in recent weeks originates inside a Russian air base inside Syria, according to data collected by a U.S. researcher. The Air Force deployed F-22 and F-35 to Qatar and the United Arab Emirates as it increases force levels after President Donald Trump's withdrew the U.S. from the agreement limiting Iran's nuclear program.

Which brings us to 5G, a totally different electromagnetic paradigm in which frequencies above 6 GHz, well into the millimeter-wave region, will be used by the wireless industry for the first time. And as propagation distance at these frequencies is measured in meters rather than miles, small-cell base stations will be much closer to people, instead of utility poles and towers.

These facts haven't been lost on people in the U.S and Europe, where people are protesting the installation of small cells. The FCC and carriers have urged municipalities to stop dragging their feet on 5G deployment and respect laws that 25 states have already enacted to ensure that they do. When they don't, carriers are using litigation as a last resort. In the long term, all these anti-cell-site protests will achieve is to delay rather than prevent 5G from moving forward. After all, no one really knows if RF energy is dangerous.

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ANATECH ELECTRONICS INC
RF & Microwave Filters & Products

(973) 772-4242

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