



HOW TECHNOLOGY FUELS THE "BUGGING NIGHTMARE"

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"Modern technology and society's constant connection to the Internet allows more creativity in business than ever before – including the black market. Criminals are carefully discovering new ways to tap the most sensitive networks in the world.

New technology is being released every day. More times than not, new gadgets have some form of Internet access but no plan for security. This presents a very serious risk – each unsecured connection means vulnerability. The rapid development of technology is a testament to innovators, however in most instances, security is always left behind.

Emerging technologies like the ones below are interesting. They could be used for illegal eavesdropping in the future. Combining the first two could produce a wireless bug that never has to have its batteries replaced. It could also be incredibly small, and incredibly difficult to detect with the naked eye.

Ultra-Low-Power WiFi Radio Enables IoT Devices

Housed in a chip smaller than a grain of rice, a new ultra-low-power WiFi radio enables Internet of Things (IoT) devices to communicate with existing WiFi networks using 5,000 times less power than today's WiFi radios.



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It consumes just 28 micro-watts of power and does so while transmitting data at a rate of 2 megabits per second (a connection fast enough to stream music and most YouTube videos) over a range of up to 21 meters.



A set of ultra-low-power WiFi radios integrated in small chips, each measuring 1.5 square millimetre

Housed in a chip, it lets IoT devices communicate with existing WiFi networks, with the chip smaller than a grain of rice. The radio could last for years on a single coin cell battery. It consumes just 28 micro-watts of power and does so while transmitting data at a rate of 2 megabits per second (a connection fast enough to stream music and most YouTube videos) over a range of up to 21 meters.



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Ultra-Low-Power WiFi Radio Enables IoT Devices

The laboratories of electrical engineer Jun Yao and microbiologist Derek Lovley at UMass Amherst have created a device they call an "Air-gen." or air-powered generator, with electrically conductive protein nanowires produced by the microbe Geobacter.

The Air-gen connects electrodes to the protein nanowires in such a way that electrical current is generated from the water vapor naturally present in the atmosphere. "We are literally making electricity out of thin air," says Yao.



The current Air-gen device can power small devices.





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Some people say, "the bad guys are always one step ahead of us". We say, "do your homework and you will be one step ahead of them."

ACS in conjunction with Dynamdre can assist you with our proactive risk assessment services:

1. [TSCM / "Debugging" Sweeps / Assessments](#) - Skilled TSCM / "Debugging" assessments need to be conducted on a regular basis, at least once a month.
2. [Vulnerability Assessments](#) - Vulnerability assessments across all your devices, preferably every second month.
3. [Remediation Planning and Reporting](#) - Vulnerabilities, uncovered during these assessments, should be classified in accordance to their severity, and fixed accordingly.
4. [If you are unsure, or need guidance, contact the specialists](#) - our expertise is but a phone call away. Contact us today and find out how we can assist you in improving your information security posture, and safeguard your intellectual property.



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