ANATECH ELECTRONICS INC

AT THE CENTER FREQUENCY

An e-Newsletter from Anatech Electronics

April 2024

What's News...

Space Force to Launch 160 Small Satellites

The Space Development Agency, which functions within the U.S. Space Force and is dedicated to deploying disruptive space technology, aims to deploy hundreds of small satellites into low Earth orbit to enhance communications and increase data rate as part of the Proliferated Warfighter Space Architecture program. The agency has already launched 27 satellites and plans to launch a second wave later this year and to have 160 when the mission is completed. They are designed to provide global coverage, with more than 24 of the satellites dedicated to missile warning systems and others assigned to missile control operations.

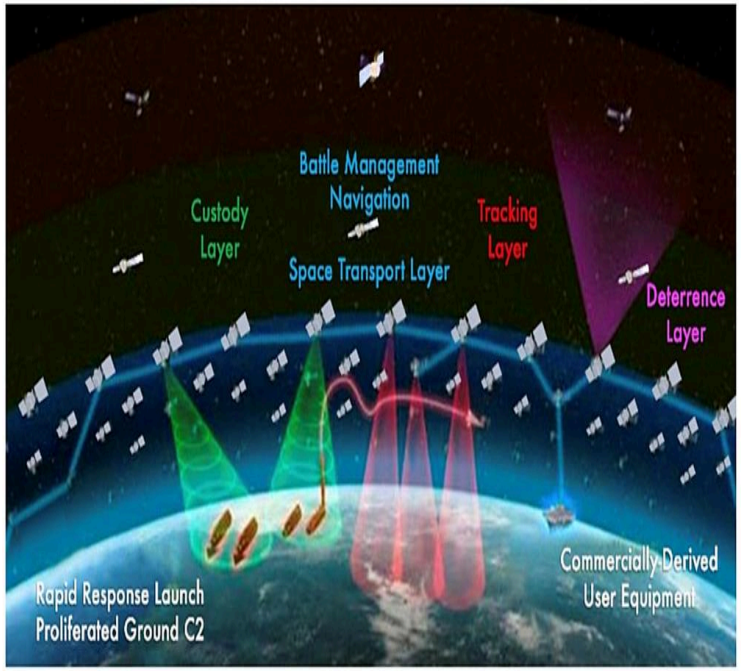
A Word from Sam Benzacar

Expanding IoT Networks Pose Increased Security Risk

By Sam Benzacar

Not too long ago, IoT was merely an acronym, symbolizing the potential of small, connected devices across numerous applications. Like most emerging technologies (with AI being a notable exception), IoT experienced a slow start. One contributing factor was the multiple connectivity options available, ranging from Thread to ZigBee, Bluetooth, Wi-Fi, and, eventually, 5G. It took considerable time for a dominant technology to emerge, but now IoT has become a formidable force, serving hundreds of applications. However, this growth has brought about a significant concern: security.

There are at least 20 billion active IoT devices worldwide, with projections indicating an increase to 27 billion connected devices by



Source: Space Development Agency

FCC Increases What It Considers Broadband To Be

The FCC has raised the bar for acceptable broadband internet speeds, setting new benchmarks at 100 Mb/s for downloads and 20 MB/s for uploads. This marks a significant increase from the previous standards of 25 Mb/s down and 3 Mb/s up, which had been in place since 2015. The decision to redefine these standards has elicited various reactions from stakeholders in the telecommunications industry, reflecting the diverse technologies and business models employed by internet service providers (ISPs) across the U.S. Providers offering fiber-to-the-home (FTTH) services, known for their symmetrical upload and download speeds, argued against the asymmetrical standard. They suggested that it could prioritize entertainment over productivity applications, which often require greater upload bandwidth. On the other hand, the Wireless Internet Service Providers Association (WISPA), whose members primarily serve rural communities with fixed wireless access technologies, and Starlink, SpaceX's satellite internet service, expressed support for the FCC's updated definition of broadband.

2025. Consequently, cybersecurity has become an unavoidable issue as IoT devices typically have limited processing power and memory, leaving them vulnerable to hacking. Once compromised, an IoT device can serve as a gateway for attackers to infiltrate an entire network, potentially accessing sensitive data or disrupting critical systems. The absence of standardization in IoT security protocols and the widespread use of default passwords worsen these risks. IoT devices also rely on firmware rather than dedicated software for their operating systems, and as they are seldom updated, security vulnerabilities in the firmware are easily exploited by attackers.

According to the Nokia Threat Intelligence Report from June 2023, the number of IoT devices involved in botnet-driven Distributed Denial of Service (DDoS) attacks has surged from about 200,000 to about 1 million devices a year. These findings, based on data aggregated from monitoring network traffic on over 200 million devices worldwide where the Nokia NetGuard Endpoint Security product is deployed, underscore the severity of the issue.

A 2022 report by the FBI identified many vulnerabilities created by unpatched medical devices running on outdated software and lacking adequate security features. Cyber threat actors can exploit these vulnerabilities to significantly impact healthcare facilities, compromising operational functions, patient safety, data confidentiality, and integrity.

Addressing security in IoT networks, starting at the device level, must be prioritized from the design phase through deployment and throughout the device lifecycle, so the future of IoT security rests heavily on the decisions of device manufacturers. If they prioritize security over short-term profits, the overall security posture of IoT ecosystems will improve. However, if manufacturers ignore these issues, hoping nothing "bad" happens, the situation may worsen, leaving users and critical infrastructure vulnerable to an evolving landscape of cyber threats.

Source: FCC

A Time Zone for the Moon?

The Biden administration has tasked NASA with creating a new time zone for the moon by the end of 2026. The initiative to create a lunar time zone comes amid growing global interest in establishing a long-term presence on the moon in the coming years, which is a priority of NASA's Artemis program. The new lunar standard, called "Coordinated Lunar Time (LTC)," is part of a broader effort to "establish time standards at and around celestial bodies other than Earth," according to a memo from the White House Office of Science and Technology Policy (OSTP). It was not immediately clear whether the moon would have multiple time zones.

Source:Open-AI - DALL-E

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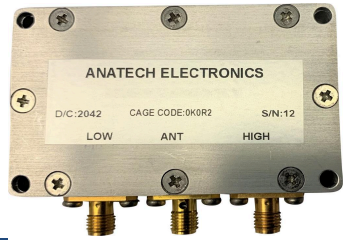

RF Exposure Studies: The U.S. Calls It Quits

According to Microwave News, an authority on RF radiation effects for more than 40 years, the U.S. National Toxicology Program (NTP), a federal interagency program headquartered at the National Institute of Environmental Health Sciences (NIEHS), has terminated its research program investigating the potential health impacts of RF radiation exposure from wireless communication technologies. This decision effectively ends more than 50 years of research by U.S. civilian agencies into the biological effects of non-ionizing electromagnetic radiation. The NTP's decision to terminate its RF research program comes at a time of rapidly expanding deployment of 5G cellular networks and increasing public concern regarding the potential health ramifications of ubiquitous exposure to millimeter-wave radiation, which had not been comprehensively studied in the NTP's previous toxicology assessments.

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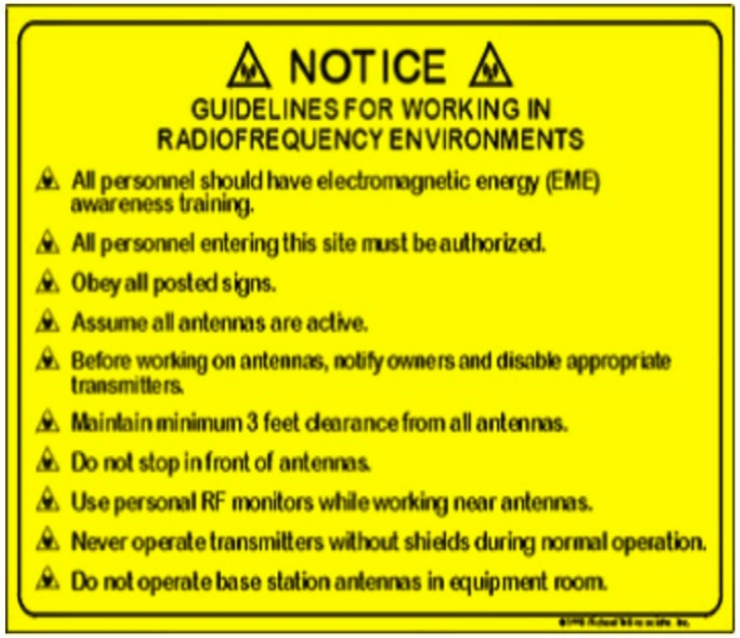

Source:FCC

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