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What's News...

UC Berkeley Unveils 3D Printing for Advanced Antenna Design

UC Berkeley researchers have developed a revolutionary 3D printing technology called charge-programmed deposition (CPD) multi-material printing. This platform offers exceptional flexibility for antenna design and rapid production of complex antenna structures. CPD serves as a universal system for creating virtually any 3D antenna system. It can pattern highly conductive metals onto various dielectric materials across three-dimensional structures. Like conventional 3D printing enables previously impossible shapes, CPD can produce RF devices that couldn't be fabricated through traditional methods. The technology is particularly valuable for antennas requiring two essential components: a conductive "metal phase" and a non-conductive "dielectric phase." According to the researchers, CPD is the first technology capable of directly patterning or synthesizing both conductor and dielectric materials together in a single process.



Source: University of California Berkeley

Reelables Launches 5G Cellular Label for Precise Temperature Monitoring

Reelables has introduced a new 5G Cellular Label for temperature monitoring to its smart shipping label lineup. This innovation gives logistics providers, cargo forwarders, manufacturers, and retailers reliable temperature-controlled visibility for individual perishable items throughout the supply chain. The new label accurately measures temperatures between -10 and 60 degrees Celsius with pharmaceutical-grade precision ($\pm 0.5^{\circ}\text{C}$). It automatically transmits data to an app or management system via API, generating alerts to prevent spoilage and help meet FDA and other regulatory requirements. The system combines the Cellular label's measurements with shipment and flight data to create efficient alert logic. These temperature logging labels also document inventory movement and environmental conditions, ensuring accountability for food safety and pharmaceutical integrity.



Source: Reelables

T-Mobile to Launch 5G-Advanced Nationwide

T-Mobile's networking chief Ulf Ewaldsson announced plans for a nationwide 5G-Advanced deployment. This upgrade includes three key features: a standalone 5G core with carrier aggregation, RedCap technology for simpler low-power devices, and L4S to address buffer bloat issues. This development builds on T-Mobile's influential "5G layer cake" concept introduced in 2018, which helped shape the industry's understanding of complex 5G spectrum technologies.



Source: Android Authority

A Word from Sam Benzacar

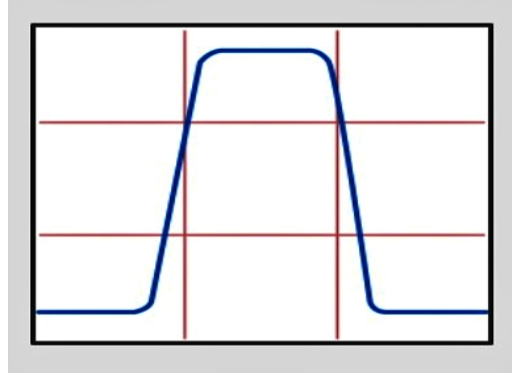


The Importance of RF and Microwave Filters in Defense

RF and microwave filters have long been essential components in defense applications like radar, electronic warfare, and communications. Their importance has grown dramatically as the electromagnetic spectrum has become a contested battlespace alongside traditional domains. With interference threats multiplying, filters remain the most effective technology for maintaining signal integrity.

Commercial demand increasingly encroaches on spectrum bands previously reserved for military use, creating a cluttered electromagnetic environment in which defense systems must operate. Modern military equipment requires highly selective filters to extract critical signals from this electromagnetic noise, preserving operational capabilities despite spectrum congestion. Effective spectrum management is vital in today's warfare, which is dominated by electronic systems. Without advanced filtering technology, military communications become vulnerable to adversarial electronic countermeasures such as jamming and interception. The stakes are high—clear, secure transmissions between pilots and command centers or between intelligence assets and ground troops directly affect mission outcomes and survival.

Filter quality directly influences operational success in contested environments. High-performance filters enable commanders to maintain clear communication channels for coordinating complex operations and ensure protected data links deliver reliable intelligence to field forces, preserving tactical advantages in fluid combat situations. Radar systems mainly depend on sophisticated filtering.



Source: Anatech Electronics



Anatech Electronics, Inc. focuses on the design and manufacturing of RF and microwave filters and related products.

Anatech Microwave, Inc. focuses on supplying quality RF and microwave products.



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