

**NEW US PATENT FOR POWER EFFICIENT RADIO TRANSMISSION  
REDUCES COSTS OF RADIO COMPONENTS  
WHILE IMPROVING SIGNAL QUALITY AND BATTERY LIFE**

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**Highlights:**

- New patent granted for innovative use of spreading codes for Orthogonal Frequency Division Multiplexing (OFDM) enabling more power efficient radio transmissions: US Patent No. 9485063.
- Represents a substantial IP licensing opportunity and competitive advantage for D13
- D13 now has 13 granted patents and 22 patent applications in its IP portfolio.

**Perth, WA and Columbia, Maryland USA: Department 13, (ASX: D13 or “the Company”)** is pleased to announce the issuance of U.S. Patent No. 9485063 related to power-efficient broadband data transmissions. The patent covers spreading codes for Orthogonal Frequency Division Multiplexing (OFDM) that reduces the cost of radio components and improves the signal quality and power efficiency of radio transmissions. This proprietary technology is applicable to a broad range of markets where battery-powered radios transmit broadband data.

D13 CEO Jonathan Hunter said, “This latest patent continues the Company’s commitment to build a robust intellectual property portfolio. The application of this patent can help deliver substantial cost savings and battery life improvements in devices such as smartphones, camera drone and remote controls and represents a potentially lucrative licensing opportunity across a broad range of market segments. Our patent initiative is a cornerstone of D13’s long-term growth strategy and provides the Company significant competitive advantage.”

Many radio standards, including WiFi and cellular (3GPP LTE) rely on OFDM as a mechanism for robust, spectrally efficient, high data rate transmissions. OFDM typically employs hundreds of subcarrier signals causing it to suffer from high peak-to-average power ratio, thus requiring a more robust power amplifier (PA). The PA is often one of the most significant cost components in a device, such as a smartphone, camera drone, or drone controller. The PA cost, as well as other components, such as heat sinks and fans, can rise sharply as the output power of PA is increased.

The spreading codes covered in this patent help shape the OFDM transmission to appear like a single-carrier signal with low peak-to-average power ratio, enabling low-cost, low-power PAs to amplify signals without distortion. This is critically important for Counter-UAS where battery-powered sensors and airborne platforms need to transmit high-bandwidth data streams. Additionally, this technology has broad applications across many industries wherever battery-powered radio devices are used. It offers substantial cost savings in the smartphone market, which has over 344 million shipments per year, and improves the user experience by increasing battery life.

# department 13

The new US Patent 9485063 has been licensed to D13 by GenghisComm Holdings, the IP holding company of D13's Chief Science Officer (CSO), Steve Shattil, under the terms of the existing exclusive License with D13.

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## About Department 13

Department 13 (D13) was founded in Virginia in 2010 by a team of former military operators, scientists and engineers who apply proprietary innovative advanced technology to emerging requirements.

D13 is developing cutting edge software and communication systems that have the potential to transform the networking and communication fields as well as current applications in drone defense, mobile phone IT security and secure enhanced android phone systems.

D13 is engaged with multiple counter UAS projects to provide strategic solutions for civil, military and commercial security requirements.

D13 has 13 patents and 22 patent applications in the development of wireless protocol manipulation and communication networking software with applications in:

- Drone defense;
- Local area and wide area cellular communications and networking;
- Enhanced data bandwidth for all digital communications;
- Cyber security for mobile devices;
- Sophisticated RF technology applications (Radiometrics).

For more information about D13, follow us on Twitter (@D13ASX), LinkedIn and YouTube.