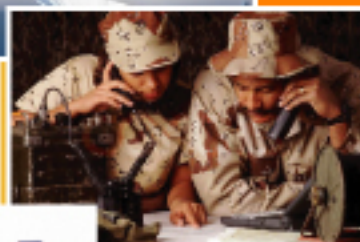


Pseudo-random Polarization Hopping (PPH)

Wireless networks are always exposed to a variety of security risks as the frequencies at which they operate are usually open for a clever eavesdropper to tap into. For wireless networks to be truly invulnerable, a system that offers low probability of exploitation (LPE) and anti-jamming (AJ) features is required.

Existing conventional communication systems that offer LPE and AJ features occupy a very wide spectrum and are not suitable for broadband data transmissions. As the data of commercial and tactical networks go beyond 10 Mbps, many of the existing systems are unsuitable due to their large spectral requirement.

The Pseudo-random Polarization Hopping (PPH) modulation system innovatively occupies a narrow spectrum and offers a high level of LPE and AJ security for wireless linkage. The PPH modulation system is ideal for commercial and tactical networks as large quantities of data is able to be transferred using a very secure system and yet the process can be fairly inexpensive.



Unique Features of PPH

The PPH modulation system offers several innovative technological breakthroughs:

- First narrowband modulation with low probability of exploitation and anti-jamming capability
- High bandwidth efficiency
- Introduces multiple levels of randomness to enhance security
- Invulnerable to jamming by adaptive polarization nulling algorithm
- Highly efficient ML-XPIC algorithm at receiver based on MIMO processing
- Innovative polarization agile antenna with DSP based feed network



Products

Polarizone offers the following products that adopt the PPH unique and innovative modulation system

- Tac-LAN : A high data rate WLAN solution for an invulnerable wireless local area network
- Cryptowave : Extremely secure and high data rate network for mobile commerce applications.
- Tunnelwave : A point to point secure Broadband wireless link for corporate, defense, police and other security critical organizations.

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