

ELECTRONIC SPECTRUM MANAGEMENT

BLUF TITLE	BLUF STATEMENT
Astrapi Corporation	<p>There is a finite amount of communications spectrum. Existing communication channels are capacity and signal power constrained and susceptible to increasing interference and sometimes operating in contested environments. Consumers and Warfighters need more bandwidth. COVID-19 has added stress due to video conferencing, remote learning, advanced gaming, HD entertainment, telemedicine and other uses. Astrapi introduces Spiral Modulation that provide higher data throughput, reduced required signal power (>2X) and reduced latency. Spiral Modulation is licensed into the modems, radios, smart devices and sensors that serve those defense and commercial networks that are bandwidth constrained.</p>
<p>NEW PROTECTION SOLUTIONS FOR CURRENT AND NEXT-GENERATION ELECTROMAGNETIC THREATS</p>	<p>Controlling and protecting wireless signals across the electromagnetic spectrum is critical to modern systems and paramount for today's warfighter. Emerging threats and system vulnerabilities mean that communications and electronic systems are perpetually at risk. The Conductive Group develops and fields new technologies that provide game-changing solutions for electromagnetic protection. Essentially, we have invented papers, plastics, paints, and composites that protect from signal intrusion and/or emanation while still having the fundamental physical and economic advantages of non-metallics. Extensive federal and private development and manufacturing investments have led to advanced TRL and MRL levels. critical to modern systems and paramount for today's warfighter. Emerging threats and system vulnerabilities mean that communications and electronic systems are perpetually at risk. The Conductive Group develops and fields new technologies that provide game-changing solutions for electromagnetic protection. Essentially, we have invented papers, plastics, paints, and composites that protect from signal intrusion and/or emanation while still having the fundamental physical and economic advantages of non-metallics. Extensive federal and private development and manufacturing investments have led to advanced TRL levels.</p>

<p>High-speed digital communication in nearly zero bandwidth</p>	<p>From cell phones to satellites to weapon controls to monitoring sensors to materials and personnel management, demand for high-speed digital communication is outpacing bandwidth availability and capability. Currently, high-speed digital communication relies on compression or filtering technology, which trades speed for capability and, as result, limits potential for growth of satisfactory yet high-speed digital communication. ZBW's patented phase-reversal technology - as opposed to filtering or compression - will permit high-speed digital communication in nearly-zero bandwidth, resulting in exponentially increased capability. For example, 100 or 1,000 communications could take place in bandwidth now occupied by 1.</p>
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