

## **Executive Statement:**

An innovative, cost-effective antenna design for enhanced satellite communication with superior performance.

## **Technology Overview:**

Developed by Zhenchao Yang and Karl F. Warnick at Brigham Young University, this Ku band receive-only dual circular polarization feed antenna leverages advanced printed circuit board (PCB) techniques for satellite communications. It features a multilayer structure with copper layers and a sophisticated feed network, aimed at delivering high axial ratio, quality illumination patterns, and exceptional radiation efficiency.

## **Key Advantages:**

- Low manufacturing cost through the use of high-volume PCB methods
- High axial ratio and radiation efficiency for superior communication quality
- Enhanced isolation and suppression of unwanted radiation
- Optimized performance metrics including directivity and illumination patterns

## **Problems Addressed:**

- Cost and complexity of producing high-efficiency antennas for satellite communications
- Issues with axial ratio and directivity in existing antenna designs
- Unwanted radiation and interference in dual circular polarization antennas

## **Market Applications:**

- Satellite communication systems
- Telecommunication infrastructure
- Spacecraft and satellite payload systems
- Advanced research and development in communications technology