

Performance of low altitude air-to-ground MIMO communications

Author(s) - Institution(s):

Tricia J. Willink, CRC

Chris C. Squires, CRC

Geoffrey W.K. Colman, CRC

Corresponding author email: Geoff.Colman@crc.gc.ca

Corresponding WG group: WG1, WG2

Abstract:

To support the development of high-capacity air-to-ground links for range extension, measurements of the low-altitude air-to-ground channel were made at 915-MHz. Two transmit antennas were mounted on a UAV, which was flown in loops at an altitude of approximately 200-m above ground level. The received signals were recorded at each of eight antenna elements mounted on a van, at locations outside and inside the flight loop. Analysis of the measurements shows that an airborne platform could provide a viable relay or broadcast node for high capacity communications using MIMO