

## **INTEGRATED ANTENNA CHARACTERIZATION AND OPTIMIZATION FOR BREADCRUMB MODULE**

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This project considers the optimization of antenna locations. The final antenna locations will be optimized to provide the best antenna coverage. The work consists of two parts. The first task will be the electrical characterization of the selected commercial antennas on a large ground plane. This establishes a baseline measurement and confirms the manufacturers published data. The second task will be the antenna electrical characterization integrated in the breadcrumb unit. This task will optimize the antenna coverage and performance integrated in the intended operational unit. All measurements will be performed in the Villanova Antenna Anechoic Chamber. The Villanova Certified Chamber provides a controlled electromagnetic environment which provides repeatable calibrated antenna characterization data.