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Analysis of Universal Mobile Telecommunications Service (UMTS) Planning Using High Altitude Platform Station (HAPS)

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Abstract : The enable technology fills up needs of high-speed data service is Universal Mobile Telecommunications Service (UMTS). UMTS has a data rate up to 2Mbps.UMTS terrestrial system has a coverage area about 1-2km. High Altitude Platform Station (HAPS) can be built by a macro cell that is able to serve the wider area. Design method of UMTS using HAPS is planning base on coverage and capacity. The planning method is simulated with 2.8.1 Atoll's software. Determination of radius of the cell based on the coverage uses free space loss propagation model. While the capacity planning to determine the average cell through put is available with the Offered Bit Quantity (OBQ).

Keywords : UMTS, HAPS, coverage planning, capacity planning, signal level, Ec/Io, overlapping zone, throughput
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