

User equipment antennas for broadband NGSO satellite communications systems

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The demand for high speed information delivery direct to the home has led to proposal(s) to construct a constellation of Ka band satellites operating in nongeostationary orbit. This type of constellation can provide high elevation angle (>40 degrees) service to the user, low time delay and high spectrum efficiency, i.e. a large number of frequency reuses. The NGSO system, however, imposes the requirement that the User Equipment (UE) terminal must be capable of tracking the satellite and performing handover from one satellite to another. In addition, the UE terminal must have a low profile, preferably have no moving parts, have an aesthetically pleasing appearance and be affordable. In this presentation, the Ka band NGSO UE terminal design is addressed in the light of these requirements. The discussion focuses on the antenna portion of the terminal since the antenna is the critical element of the UE.

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