

# **SIMULATION OF 13 PANELS PHASED ARRAY ANTENNA BY USING STK TOOL**

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## **ABSTRACT**

In order to receive signal from GPS Satellites, a Phased Array Antenna geometry has been considered with 13 panels and Visibility Gap Analysis has been carried out. The Geometry of PAA is hemispherical with the 8 panels on the base forms a octagonal shape and rest of the 5 panels on the top forms Pentagonal shape with minimum gap over Bangalore. Further it has been analyzed that after passing a constellation of 24 GPS Satellites over hemispherical geometry of PAA minimum 5 GPS satellites and maximum 11 GPS satellites are visible at a time for two days Satellite Tool Kit has been used for the analysis where we have considered Sensor Objects instead of Panels, with azimuth of 45 degree separated for base panels and 60 degree for the top so that it covers entire 360°.The satellite tool kit software is utilized to determine the coverage patterns for the satellites and the software is employed to visualize the satellite orbits around the Earth.

**KEYWORDS:** Global Position System (GPS), Medium Earth Orbit, Phased Array Antenna (PAA), Satellite Tool Kit (STK), Two Line Elements (TLE)