

ABSTRACT

Mobile phones usage has become part of the world community. Mobile network makes it easy for the user to be able to stay mobile. One of the main problems with the old cellular network is there are no guarantee of reliable communication, or the presence of path loss. The problem is apparent when a user is in a room. Femtocell is one of the main answers to improve the quality and capacity of the network. In addition to cheap and can be directly accessed by the mobile users, femtocells also does not require a large power, can even be installed by the user. Support for these technologies cannot be separated from a device called an antenna.

Thus it is expected that the antenna can work on GSM frequencies and can be used / installed in space within a building or office. On this project, a microstrip antenna which is applied to the femtocell on the GSM network in the 900 MHz and 1800 MHz will be realized.

With the realization of microstrip antennas using MWPA (Monopolar Patch Antenna Wire) method for femtocell on the GSM network in the 900 MHz and 1800 MHz;it's expected that this antenna could be used in small enclosed spaces (like the space elevator).

Keywords: Femtocell, Antenna, Microstrip.