DESIGN AND IMPLEMENTATION OF ARRAY MICROSTRIP ANTENNA WITH TRUNCATED CORNERS SQUARE RING PATCH AT RANGE FREQUENCY (2.3-2.4) GHZ

ABSTRACT

In the current communication system, portable nature of a communication device used by the users of telecom services is absolutely necessary. Therefore, the antenna as a passive element supporting establishment of communication that has omnidirectional radiation pattern is needed in these portable devices.

The development of WiMAX applications is fast enough has produced a new technology, which is Mobile WiMAX compete with 3G technology which has been growing rapidly. Mobile WiMAX based on IEEE 802.16e standard enables WiMAX systems applied to portable and mobile applications as well as fixed and nomadic. So on its development later, the Mobile WiMAX devices can be integrated on mobile phones and laptops, making it easier than users in accessing communication services. In the implementation of Mobile WiMAX applications, needed an antenna that supports mobility for users, it needed an antenna that is small, compact, and light-mass and have omnidirectional radiation pattern.

In this final project, will be designed and implemented in microstrip antenna arrays with the truncated corners square ring patch, the small size and simple structure, so it can be integrated with other devices. Frequency of work on the range (2.3 to 2.4) GHz with a targeted SWR is ≤ 2. Source type used is a stripline. To simplify the design, then used the software simulator Ansoft HFSS.

Keywords : *portable, Mobile WiMAX,* omnidirectional, ring, truncated corners, stripline