ABSTRACT

Multiband antenna is an antenna that has more than one working frequency, meaning that an antenna can work on several frequencies at once without using multiple antennas. With this capability, the use of antennas will be more efficient where there is no need to use several types of antennas to meet each required frequency.

In this task, a multiband antenna is designed to be used for working frequency airports that meet GSM frequencies (0.9 GHz, 1.8 GHz, 2.1 GHz) WLAN (2.4 GHz), LTE (2.35 GHz) and applications. ATC (1.35 GHz) used in Indonesia. Antenna design is done using simulation softwear and an antenna made by adding slots in the patch section and cutting the antenna size. The parameters achieved by VSWR are between values <2, obtaining 1-4 dB. The material used for FR-4 epoxy substrates with a permittivity of 4.6 and a thickness of 1.6 mm.

The results of the optimization carried out on the size, position of the antenna slot and the size of the antenna, which show that at a frequency of 0.95 GHz, 1.35 GHz, 1.85 GHz, 2.14 GHz, 2.35 GHz and 2.45 GHz, the VSWR value is 1.839. , 1.124, 1.484, 1.736, 1.782, 1.595 at each frequency and the gain obtained at each frequency is 1.27 dB, 1.607 dB, 1.847 dB, 3.279 dB, 3.879 dB, 2.682 dB. With bidirectional and unidirectional polarity.

Keywords ***:*** *Multiband, Airport, Microstrip*