ABSTRACT

Microstrip antenna is an antenna which has a compact size, is designed for communication system which has a limitation for placing.

Intelligent Transport System (ITS) is one of services in mobile communication for vehicle which in it has many kind of communication services. In fact, there is a limited space in vehicle to put antenna for each service (i.e. GPS, wireless communication, etc), so it is needed to have an antenna to be able to work for those devices frequency.

Discussed within this final assignment, the design and realization of microstrip dual-band antenna to operate in 1.8 GHz and 2.4 GHz using dielectric material Duroid 5880. The design and realization of this antenna by locating circular micro strip antenna for 2.4 GHz operation frequency, inserted annular-ring microstrip antenna in the middle of the design for 1.8 GHz operation frequency, so that in addition to it has compact size and it is also able to work in two operation frequency. Modeling method using magnetic cavity resonator.

Bandwidth in VSWR 2:1 is 13.6 MHz for 1.8 GHz antenna and 17.62 for 2.4 GHz antenna. Antenna polarization is linear horizontal polarization. Input impedance for 1.8 GHz antenna is 56.27-j6.250 Ω and 37.99+j3.003 Ω for 2.4 GHz antenna. Gain for each antenna is 4.622 dB and 0.957 dB.