

ABSTRACT

Antenna from year to year has developed quite rapidly by prioritizing smaller sizes in accordance with the progress of communication devices. When the antenna is placed on a material the antenna will bend. Bending is bending or bending of a tool or material. With the bending of the antenna placed on the surface of the structure or body, conformal properties appear and of course this change will result in bending effects on antenna characteristics such as return loss, bandwidth, and VSWR.

In this final project, an analysis of the bending effect was carried out using a microstrip printed monopole ultra wideband antenna with an elliptical patch. This research was carried out with an analytical process using software and realized with a substrate made of textile cordura with a relative permittivity (ϵ_r) = 1.6, a dielectric thickness of 0.5 mm, while patches, feedlines, and groundplanes used copper tape with a dielectric thickness of 0.1 mm, and plywood as the object of observation. antenna bending.

From the simulation results and field measurements, it has been observed that the changes that occur when the antenna undergoes bending are changes in antenna characteristics such as return loss, bandwidth, and VSWR values. The measurement results are the smaller the bending radius that occurs in the antenna, the smaller the return loss value, the greater the fractional bandwidth and VSWR. Meanwhile, the larger the bending radius that occurs in the antenna, the greater the return loss value, the smaller the fractional bandwidth and VSWR.

Keywords: monopole antenna, bending, ultra wideband