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ABSTRACT

Antenna is one of the implementations of telecommunications as a means of sending signals that can be used to transmit data information. One of them is bending on the antenna is an event caused by a deviation factor that will affect the characteristics of the parameters to be measured. The antenna can be used as a bending machine that has mechanical flexibility and can be attached to an object structure that shows the results of monitoring data to see the characteristics produced using a bending antenna.

This final project is designing a monopole antenna bending as a bending level sensor. The antenna design uses a rectangular patch with a working frequency of 4.08 GHz Ultra Wideband (UWB). The substrate used is condura delinova 200. Simulation design is done using 3D software and analysis on bending antenna design with rectangular patch at sensor bending level.

Experimental analysis on bending antenna design with a rectangular patch can be used as a bending level sensor, the results obtained for the simulation of the design working frequency of 4.08 GHz are return loss -46.967003 dB with a fractional bandwidth of 61.98%. Experimental measurement results for the working frequency shifted to 3.135 GHz, the return loss value was -19.2654 dB and the fractional bandwidth was 97%.

Keywords: bending, ultra wideband (UWB), and fractional bandwidth.