ABSTRACT

This final assignment was designed and realize Unidirectional Two Strips Dwitunggal Chebyshev antenna 300 MHz – 3000 MHz with SMA connector and monokupu driven's. This Unidirectional Two Strips Dwitunggal Chebyshev antenna was designed and implemented with two purposes:

1. Make very wideband unidirectional antenna available in order can be used by several operators jointly for economize tower and area.
2. Prove the first advisor's hypothesis that said antenna is a matching device between propagation space and radio transmission line.

The antenna consist of two parallel strips which were interpolated by the dielectric substances. The Chebyshev transformation is a kind of λ/4 transformation that used for wide band. The characteristics of antenna supposed to VSWR ≤ 1.5 and 3.41 dBi gain that could used for GSM 900 MHz, CDMA 800 MHz dan CDMA 450 MHz, PCS 1900 MHz, W-LAN 2.4 GHz services, etc.

With parallel twin strip principle, construction material composition and each dimension are obtained. Use parallel brass strip with width (w) 1cm x length (l) = 19cm, space(s) = 5cm (chosen). Monokupu was built from brass with an angle 45°, height 5cm and 50Ω unbalance terminal impedance.

From the measurement of antenna result, obtained which close from scheme specifications that is VSWR ≤ 1.5 with operation frequency from 859,9 MHz – 2916,3 MHz, gain = 4.598 dBi at 1650 MHz with unidirectional radiation pattern and ellips polarization.

Keyword : Dwitunggal antenna, λ/4 Transformation Chebyshev, Monokupu.