

## ABSTRACT

Antenna is used in radio communication as transmitter the energy of electromagnetic to the space and receiver the energy of electromagnetic from the space. Generally once antenna only used for once application. We need the wide band antenna that can cover many application. Base on the hipotesis that “ the antenna is the transition of paths construction as impedance transformator frequency path with intrinsic impedance of radio wave medium propagation”. In this final test will design a wideband antenna that is hexacula Omnidirectional twin stripline Binomial 0.3GHz-3.0GHz,  $VSWR \leq 1.5$ ,  $50\Omega$  SMA connector , monopole feed. The operating frequency will cover frequency range of DCS-1800, CDMA 1900, UMTS 2100, W-LAN and others application frequency will covered.

After tested and measured in laboratorium of microwave and in environment of ITTelkom, operating frequency 736.2 MHz-3000Mhz in  $VSWR \leq 1.5$  and 600MHz-3000MHz in  $VSWR \leq 2.0$ , Omnidirectional, Ellips Polarization, gain  $6,353 \pm 1,428$  dBi and the average impedance is  $52.00821 + j8.46$ .

The result of measurement already achieve the specification except operating frequency and polarization. If want to achieve the oprating frequency as the specification, suggestion are make a smaller slice in upper strips from 2mm to 0.1mm and make conic higher than before that is from 3.1cm to 5.0cm. If want to achieve the polarization as the specification, suggestion are use the pencil beam antenna when measure the polarization and dielectric size must be match with width strips.

The key words are Hexacula antenna, VSWR, frequency operating, Gain, Polaradiation, and polarization