

ABSTRACT

Nano satellite is a small-sized satellites that use small-sized electronic components as well. Satellite Nano only weighs about 10-15 kg. This satellite was designed with the mission of collecting various data.

In this case, the design of components that can be used as a portion pengkombine array antenna arranged by 4 array. This is because the beam is needed to transmit the signal takes a narrow beam. In this research design of this component in pairs on the base station (earth station). Kombiner designed just to the transmitter, the required isolation (coupling) each output port greatest adjacent 15dB at s12, s13m, s14 and s15, so that each of the adjacent output port do not affect each other, so maching impedance which is derived purely from each port, if the resulting impedance maching, then VSWR nya will be close to 1, and it can be used.

Based on the results of measurements and simulations are not much different from that expected, it can be concluded parameters such as VSWR, return loss, insertion loss, and the clutch is in conformity with the specifications required for the power divider. Engineering design can generate power divider return loss and VSWR appropriate in order to get closer to the value Z0 impedance (50 ohms). Insertion loss and coupling the resulting power divider on simulation and realization has been very good in accordance with the specifications of power divider that is great to use. Specifications power divider has been designed according to the specifications of the Wilkinson-Power divider, which has insersion loss -6dB and can work at the desired frequency so that the power divider can be implemented for the application of nano satellites that use frequency 2.435 GHz.

Keywords: nano satellites, combiner, isolation, transmitters, power divider, return loss