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ABSTRACT

This paper presents a design of a RF preamplifier at frequency range of 137-138MHz. The preamplifier is designed to boost NOAA satellite's signal and help in eliminating any existing background noise. The pre-amplifier was simulated using Electronics Workbench Multisim 10 software and fabricated on a printed circuit board (PCB) where Orcad Layout Plus is used for the PCB design layout. The results obtained are compared between simulation and measurement. The simulation results show the values of gain and bandwidth are 16.37 dB and 1 MHz respectively. The noise figure is less than 2dB. From the measurement, the preamplifier is recorded to operate at 137.5MHz frequency with 15.75 dB gain, 1.4MHz bandwidth and 1.25 dB noise figure.

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