Long Range Signal Amplifier Using Discrete Components

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Dedication

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Abstract

Range of RF system depends upon output power of transmitter, sensitivity of receiver and high gain antennas. Long Range Signal Amplifier transmits message signal at 2.4GHz ISM band and receives at distance of 1km. Yagi-Uda antenna having high gain and characteristic impedance of 50 ohms is designed at both ends. Frequency modulation is carried out by VCO which is then fed to power amplifier having 28dBm output power. Receiver sensitivity depends upon low noise amplifier and demodulation is carried out by PLL method. Message signal is received on oscilloscope by passing it through bandpass filter. This project major application is in communication system, audio/video transmission and defense area.

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