

ABSTRACT

Jammer is a device used for interfering some signals of a certain system so that the communication session should not be available. The jammer itself was developed for multi purposes such as in military weapon which can interfering the radar system of enemy, and in public interest blocking cellular communication system at meeting room, library, mosque/church. This final project will explain about jammer used for CDMA 800MHz and GSM 900MHz only.

The purpose of this final project is to know the truth that the cellular communication systems above (especially CDMA 800MHz) can be jammed using man-made noise. So the Signal-to-Noise Ratio (SNR) at cellular phone would be less than SNR threshold allowed and finally the cellular phone could not communicate to base station. But this final project just design and build the RF section of jammer that often called the heart of jammer. The RF section consists of three main parts such as VCO, RF amplifier, and antenna which will generate and transmit man-made noise signal at downlink frequency of CDMA 800MHz (869MHz – 894MHz) and GSM 900MHz (935MHz – 960MHz). That RF section is expected to able interfere downlink signal from base station within coverage 15 meters with omni-directional of radiation pattern. The output power was designed maximum 31dBm.

After the realization and measurement process, the device is conducted unable to work properly because both VCO components broken. But in some simulations using AWR Microwave Office 2004, the device give us some ability to transmit the noise signal about 28.347 dBm for CDMA 800 MHz and 27.69 dBm for GSM 900 MHz. At other hand, the phase noise component from VCO is large enough which -85.666dBc for CDMA 800 MHz and -88.761dBc for GSM 900 MHz measured at 10KHz of offset frequency. Unfortunately, the simulation could not give a result about how far the range of device to do a jamming.

Keyword: jammer, RF section, CDMA 800MHz, GSM 900MHz, Net Monitor