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Theory of Operation of the CMM9900

This modem is a GSM modem that operates in two bands, Cellular 850 MHz and 1900 MHz PCS band. This modem consists of a GSM module along with an Atmel application microcontroller. External to these chips are a crystal, and three voltage regulators. An antenna itself is attached to the modem via an antenna connector. The RF section is completely covered by a shield and is part of the GSM module. The RF Power Amplifier, transmitter, Receiver, and Power Management Unit chip is inside the GSM module and is completely shielded.

The digital modulation is done in GSM and follows all the GSM standard protocol. In GSM the modulation is done using GMSK and is done in bursts. The data rate is 6 Kilobytes/sec

The user has no control of the RF power level in GSM. This is all controlled by the Carrier's base station. The user also has no control to change frequency. This is also controlled by the Carrier's base station.