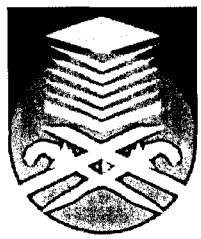
IMPLEMENTATION OF M-ARY PHASE SHIFT KEYING (PSK) BASEBAND MODEM ON TEXAS DIGITAL SIGNAL PROCESSOR TMS320C6713

This thesis is presented in partial fulfillment for the award of the

Bachelor of Electrical (Hons.) Engineering

UNIVERSITI TEKNOLOGI MARA



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ABSTRACT

This paper presents the implementation of Phase Shift Keying (PSK) baseband modem on Digital Signal Processor (DSP). Different level of PSK modulation schemes are being used which are 8-PSK, 16-psk, 32-psk, 64-psk, 128-psk and 256-psk. MATLAB simulink software is used in this project to simulate the system. The system model consists of modulator, demodulator, noise channel and channel coding. Noise channel that is used in the system is Addittive White Gaussian Noise (AWGN). After the simulation, Matlab file is created. The purpose of creating Matlab file is to get the Bit Error Rate (BER) graph for all 6 level of modulation scheme. Then, the system is implemented on the DSP TMS320C6713 board. From the simulation, the result that is obtained is constellation point for all M-ary PSK before and after adding channel coding and AWGN. The BER graph that is obtained also follows the theory. From the result. It shows that before adding the AWGN channel and channel coding, the constellation diagram that is obtained is smooth. After AWGN channel and channel coding is added to the model, the constellation diagram that is obtained is not smooth. From the constellation diagram, it shows that there is noise in the system.

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