

LIST OF TABLES

Table 1. 1 Implementation Schedule.....	5
Table 2. 1 Effect of PID Gains to the System.....	12
Table 3. 1 Component Functions	20
Table 3. 2 STM32F103C8T6 Specifications	24
Table 3. 3 MS5837-30BA Pressure Sensor Specification	24
Table 3. 4 PG36 Motor Specification	25
Table 3. 5 Subsystem Specification	27
Table 4. 1 Magnetic Encoder Pulses Measurement	29
Table 4. 2 Motor Position PID Gain Tuning.....	31
Table 4. 3 Temperature Measurement	33
Table 4. 4 Average Record Absolute Pressure (MS5837-30BA)	34
Table 4. 5 Theoretical Absolute Pressure Calculation	35
Table 4. 6 Depth Measurement by Sensor (with Kp Gains Only)	42
Table 4. 7 Depth Measurement by Measuring Tools (with Kp Gains Only).....	43
Table 4. 8 Accuracy of PID Controller (with Kp Gains Only)	44
Table 4. 9 Depth Measurement by Sensor (with KD Gains)	45
Table 4. 10 Depth Measurement by Measuring Tools (with KD Gains)	45
Table 4. 11 Accuracy of PID Controller (with Kd Gains)	46
Table 4. 12 Depth Measurement by Sensor at Different Depths	47
Table 4. 13 Depth Measurement by Measuring Tools at Different Depths	48
Table 4. 14 Accuracy of PID Controller at Different Depths	48
Table 4. 15 Error of PID Controller Final Value	49