



16 Typical Sample Test Data – ARW & In-Run Bias

Please find below typical 100Hz sample test data for Noise and I-Run Bias from a production LandMark™ 20 IMU eXT “LN Series” for user reference. The sample data depicted below is for a unit that contains standard rate range (300°/sec) gyros and high linear range (10g) accelerometers, so the user should be aware that lower or higher rate and accelerometer range units will have corresponding both lower or higher ARW Noise and peak-to-peak noise in their respective in-run charts. The charts are in-run bias plots for the X, Y and Z channel gyros and accelerometers and are representative of typical performance for units with Serial Numbers 100+. The data was taken for 5 minutes after a 5 minute warm-up period at ambient temperature. The test conditions should be similar to what a user should likely have during initial setup. If the user is not obtaining laboratory test data similar to the data plots and charts below please contact the factory for consultation and assistance.

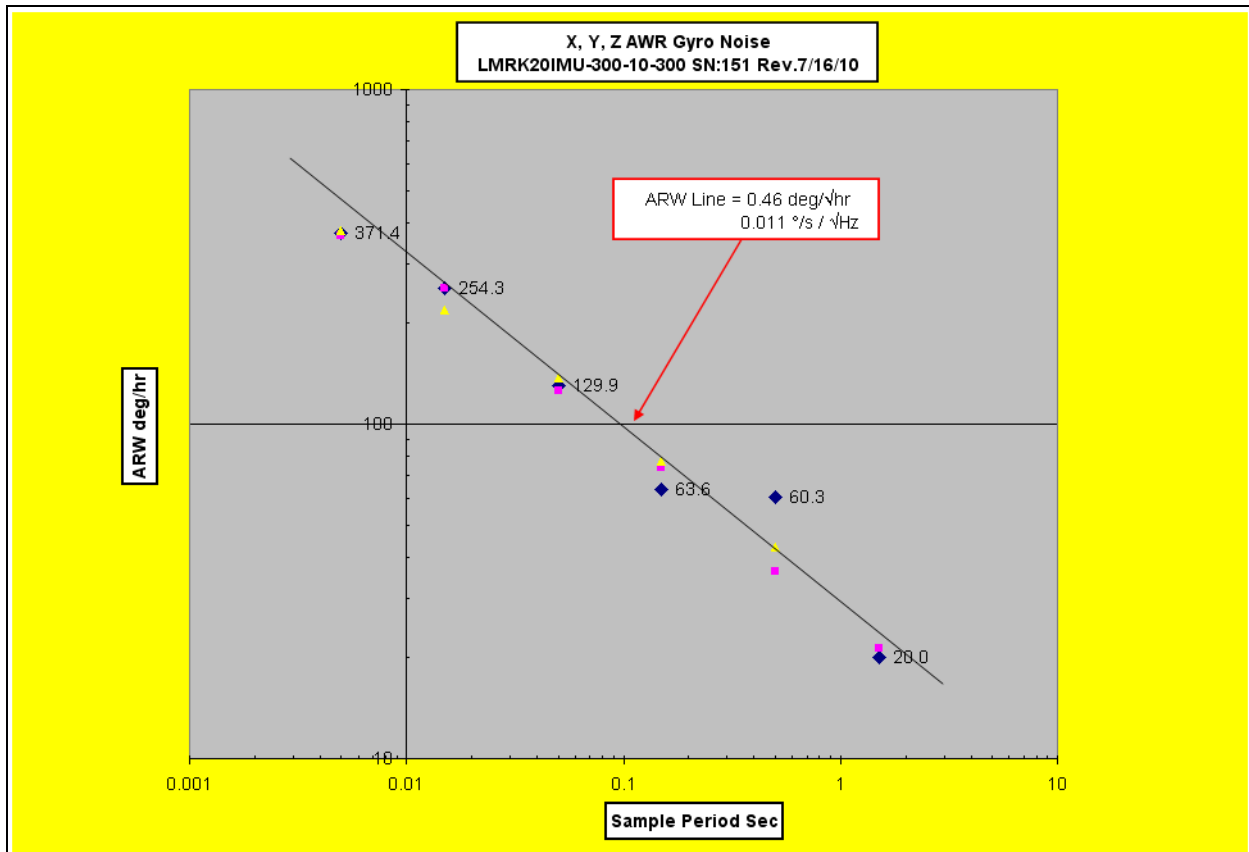


Figure 38: X, Y, Z ARW Gyro Noise

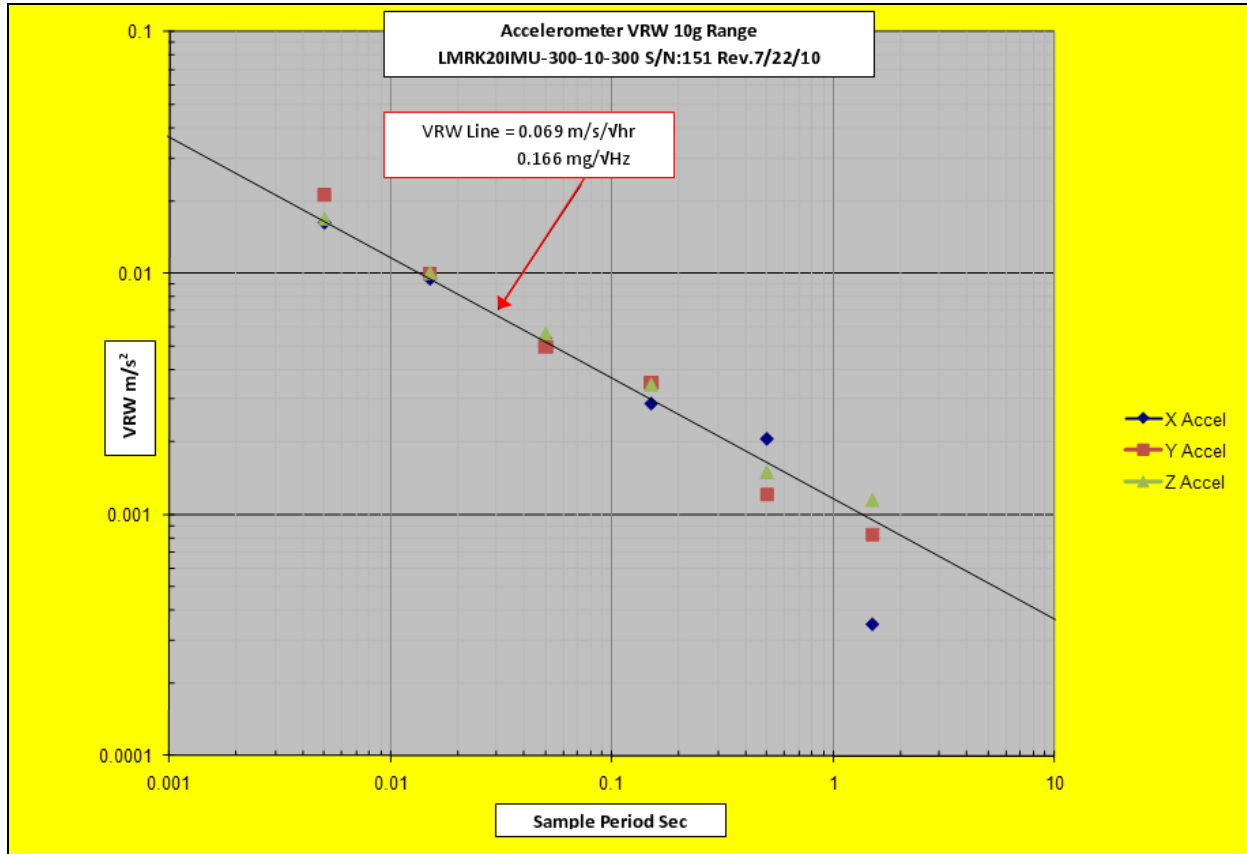


Figure 39: VRW Accelerometer Noise

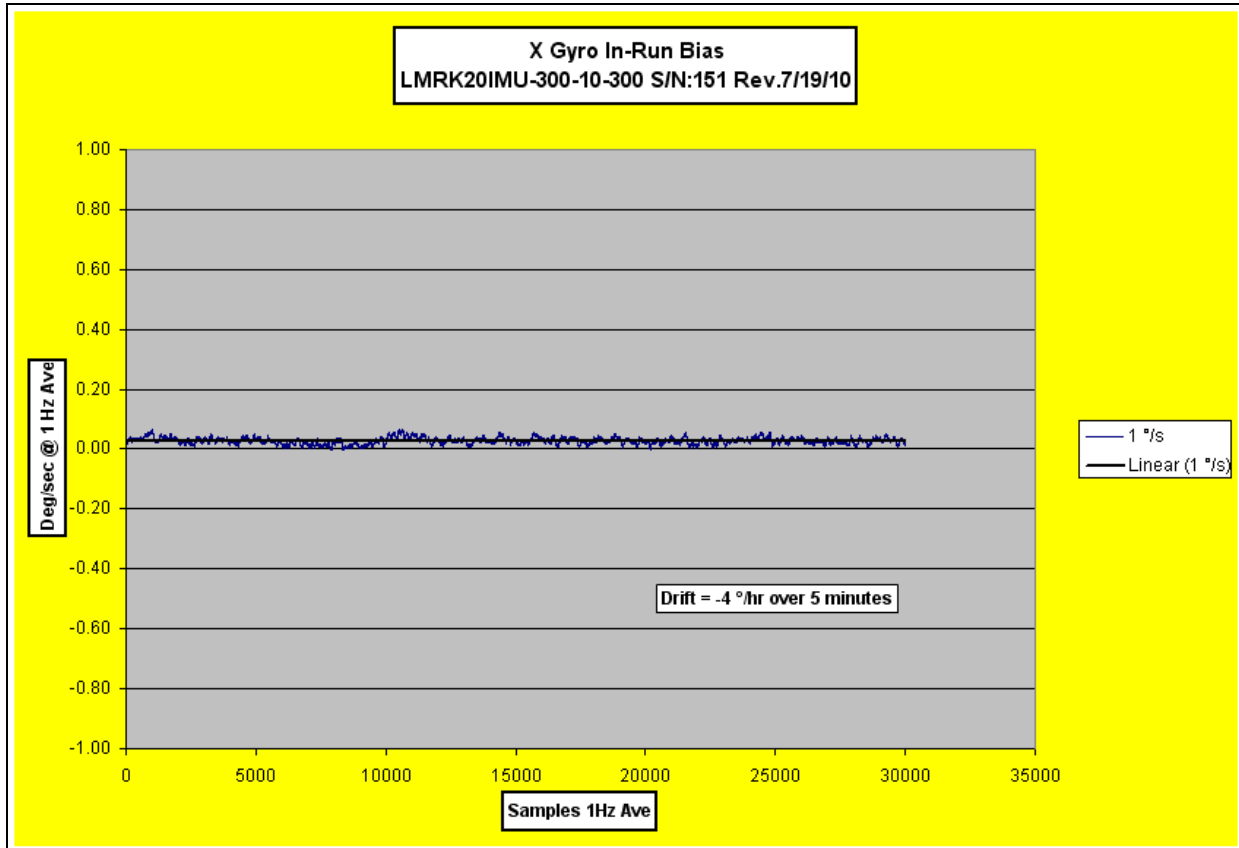


Figure 40: X Gyro In-Run Bias

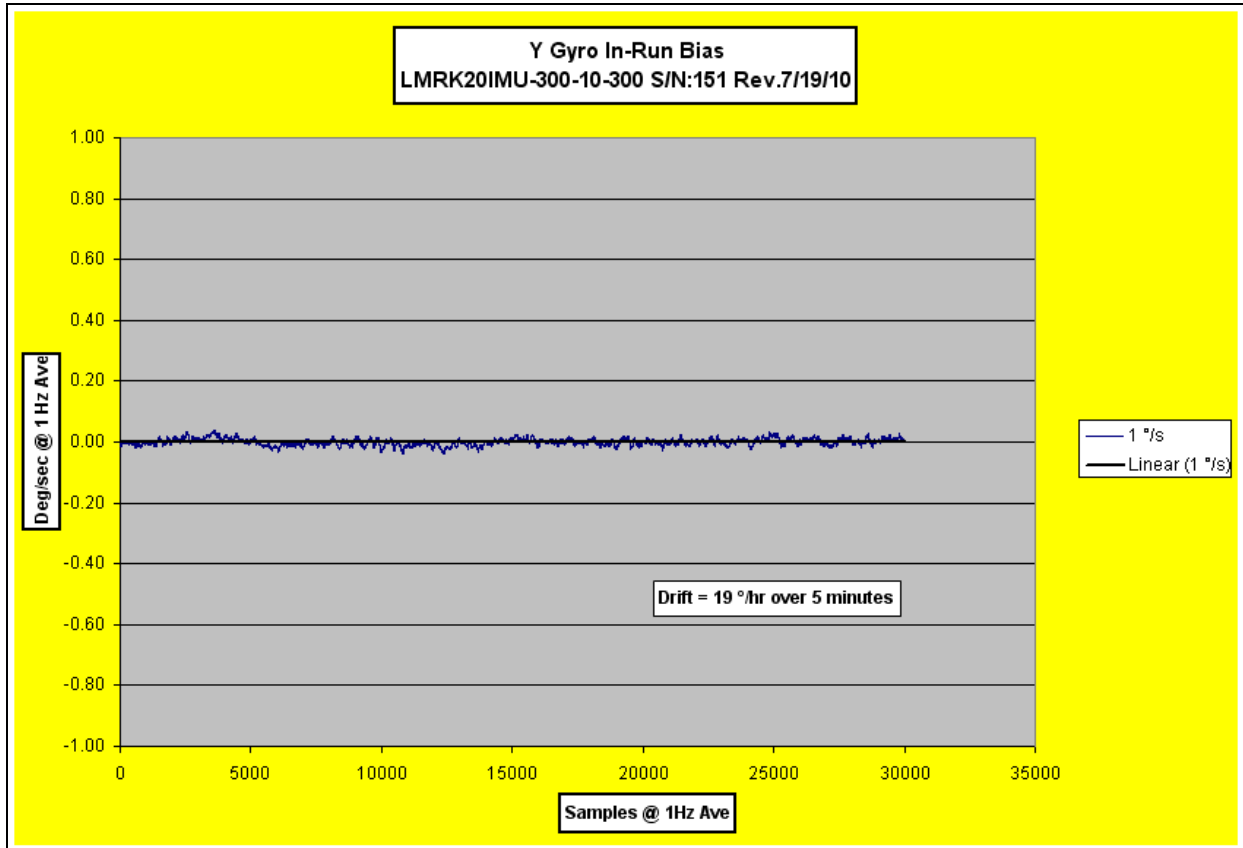


Figure 41: Y Gyro In-Run Bias

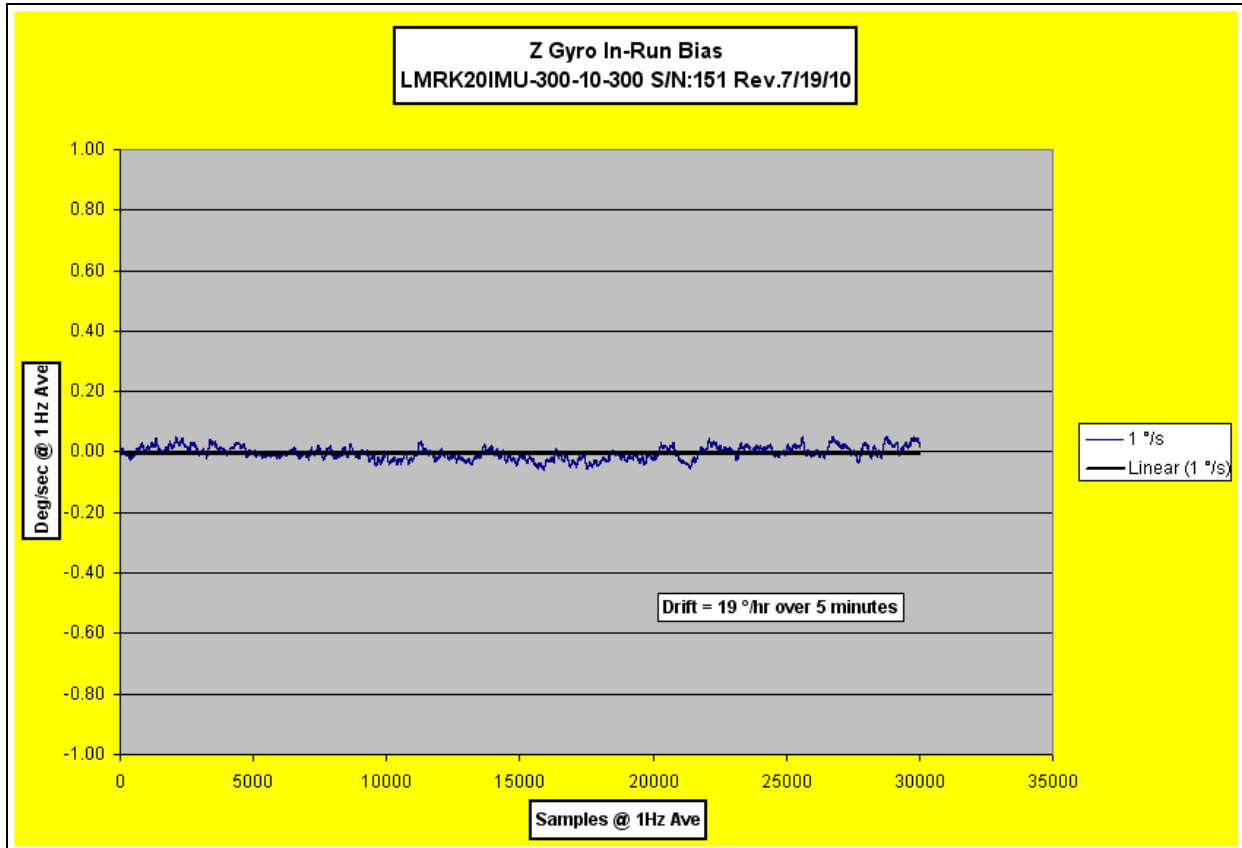


Figure 42: Z Gyro In-Run Bias

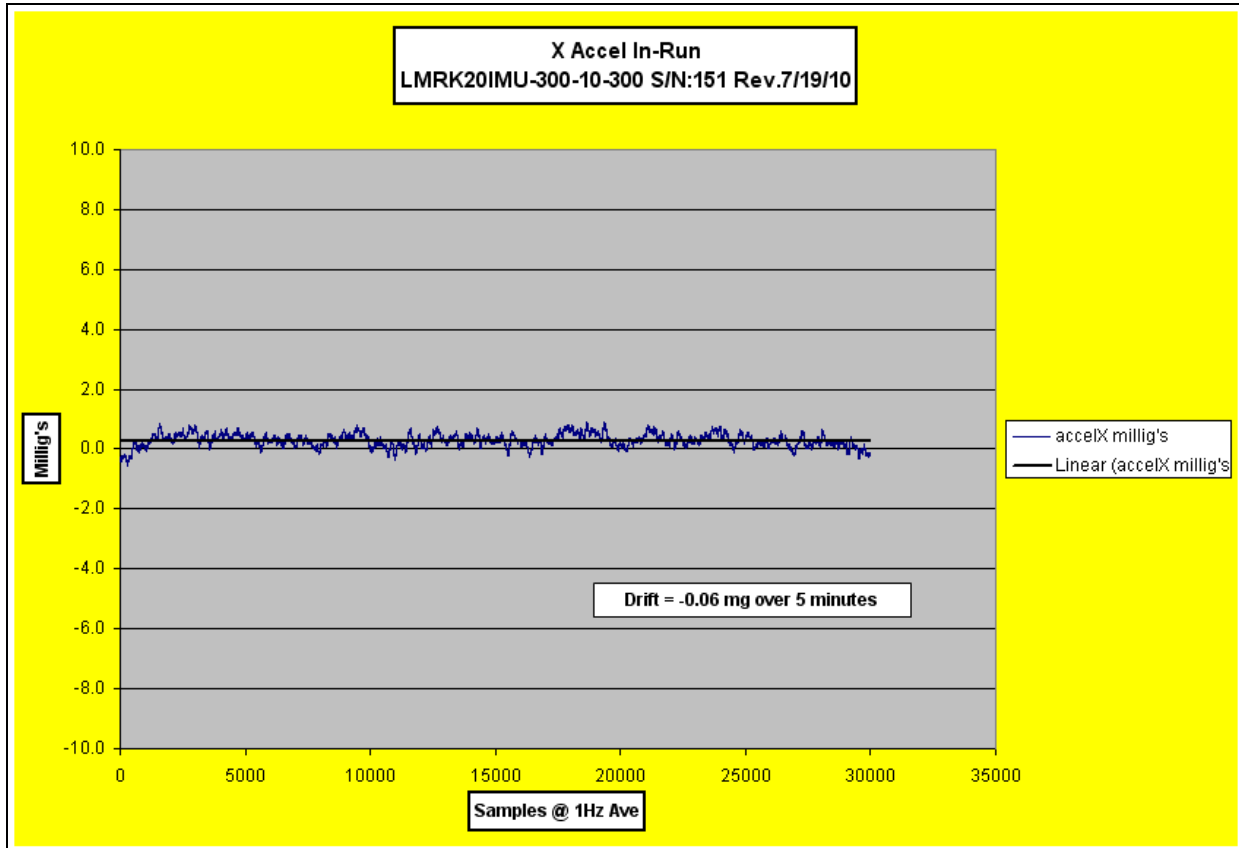


Figure 43: X Accel In-Run Bias

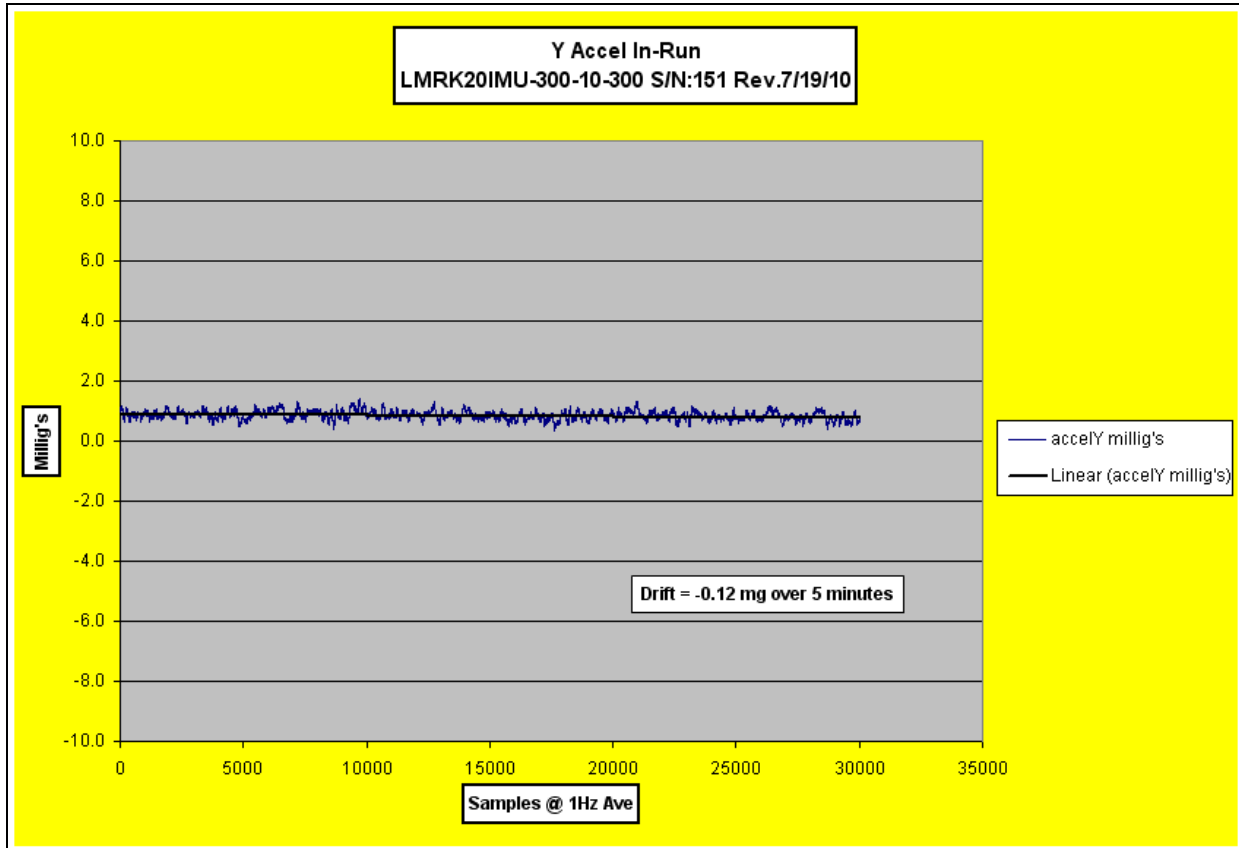


Figure 44: Y Accel In-Run Bias

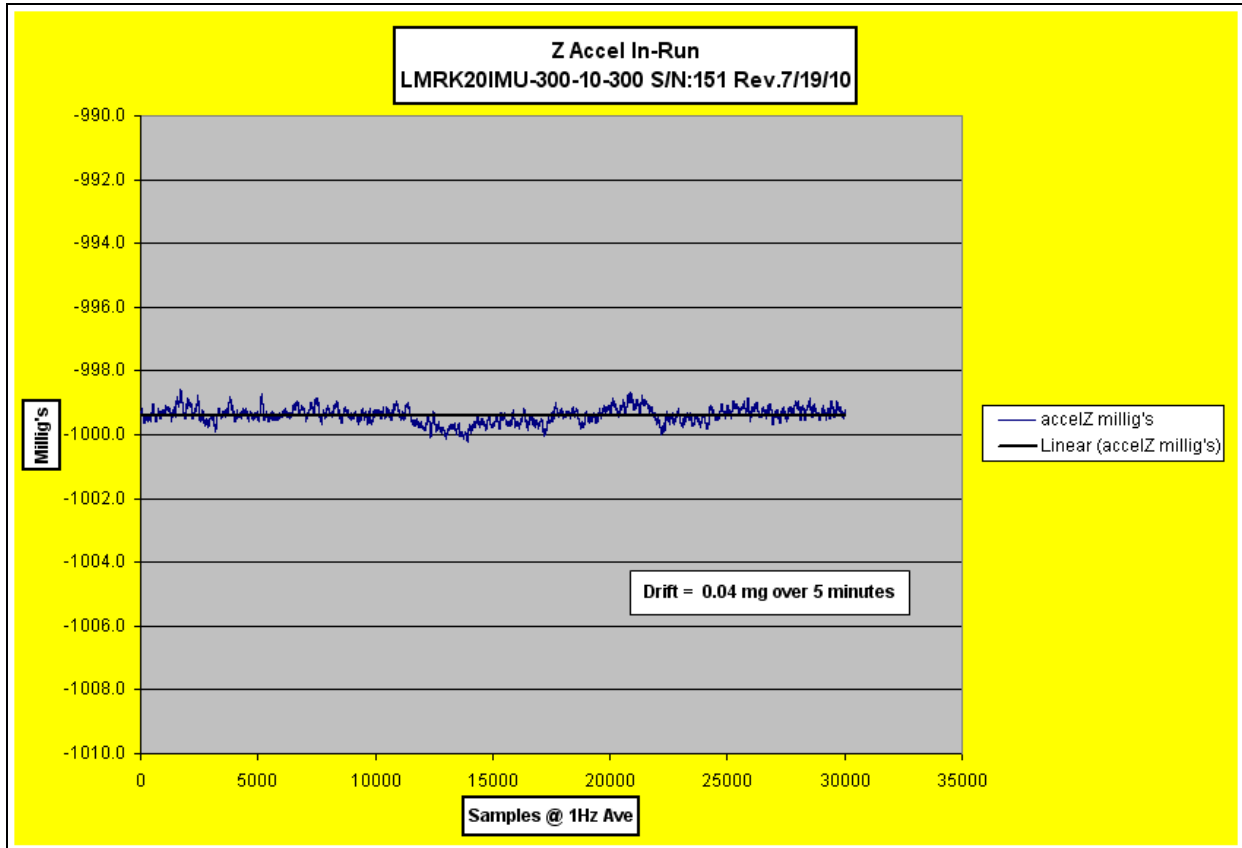


Figure 45: Z Accel In-Run Bias



17 Typical Test Data – Gyro Bias and Scale Factor over Temperature

Please find below typical 100Hz sample test data for Gyro Bias and Scale Factor Over Temperature from a production LandMark™ 20 IMU eXT “LN Series”. The charts are representative of typical performance for units with Serial Numbers 100+.

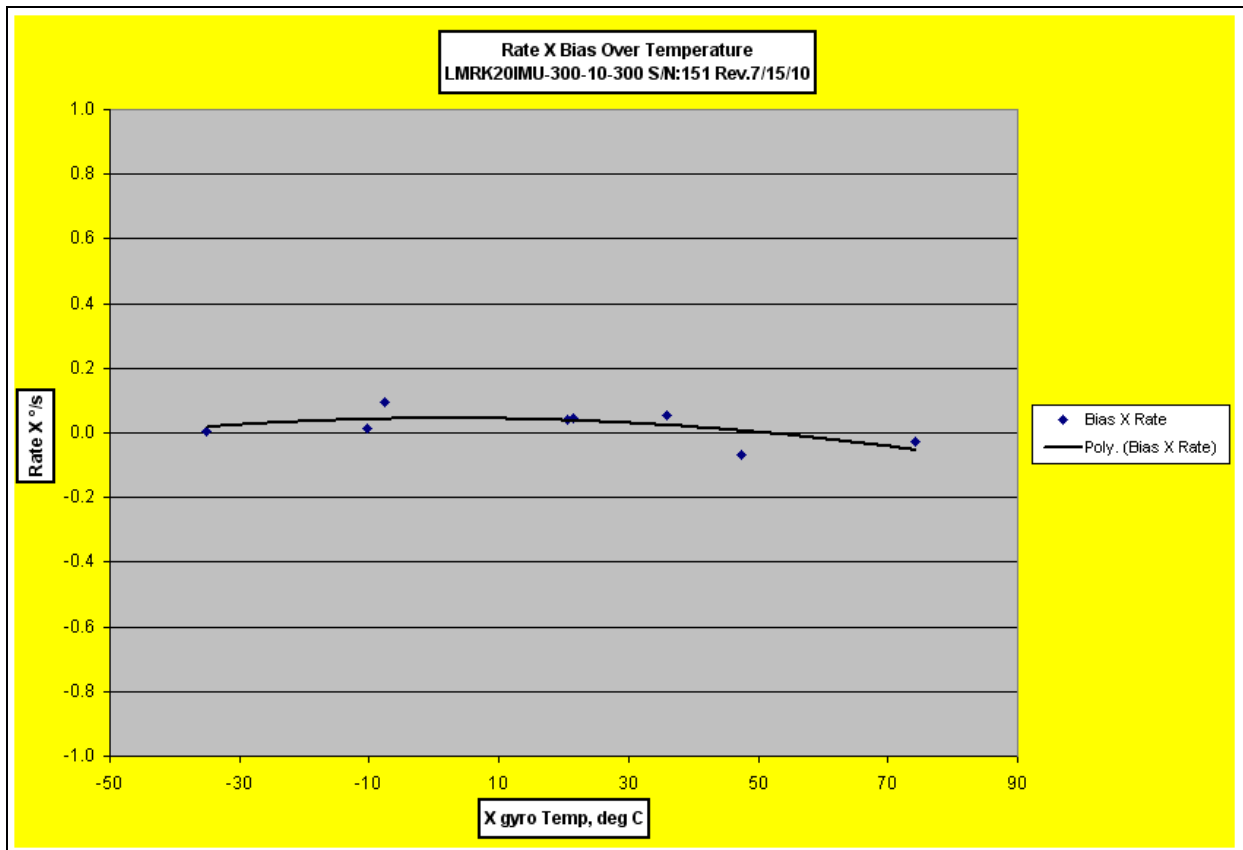


Figure 46: Rate X Bias Over Temperature

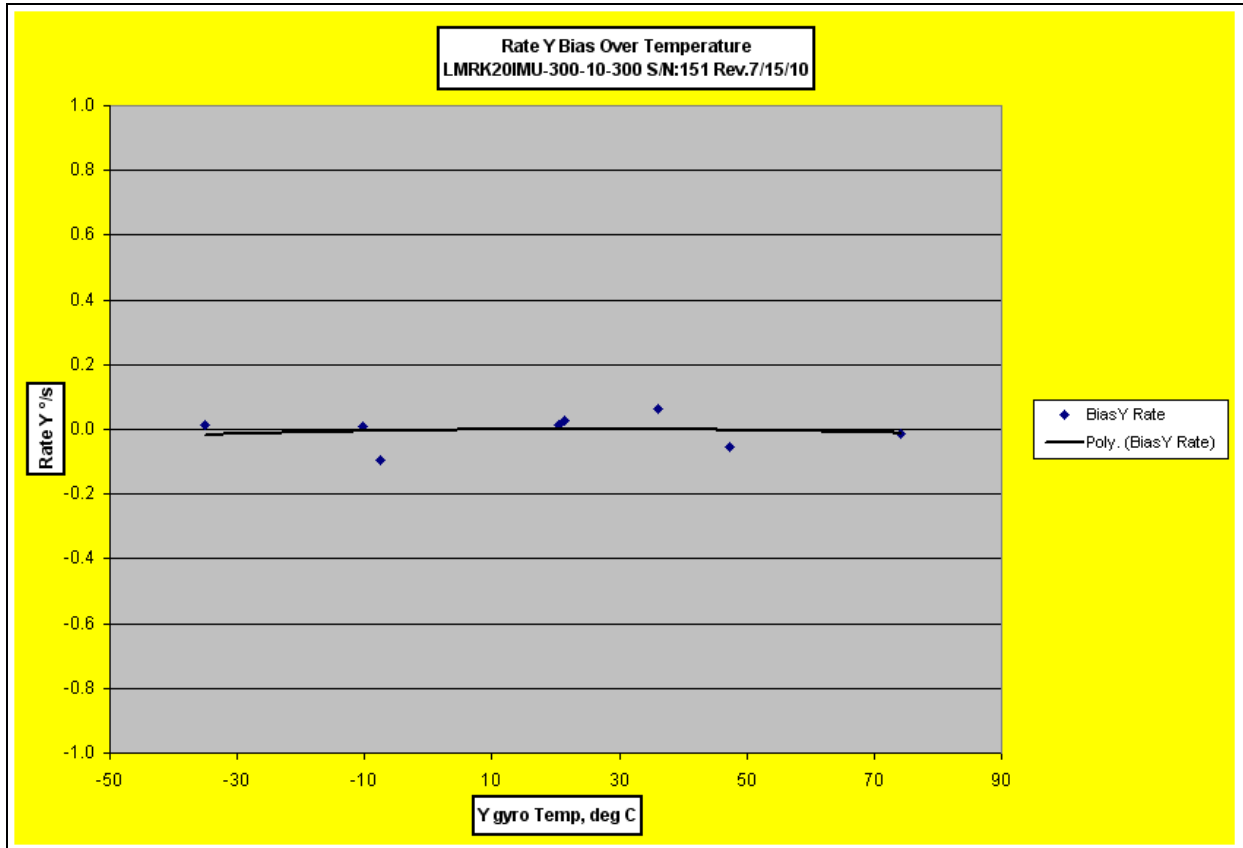


Figure 47: Rate Y Bias Over Temperature

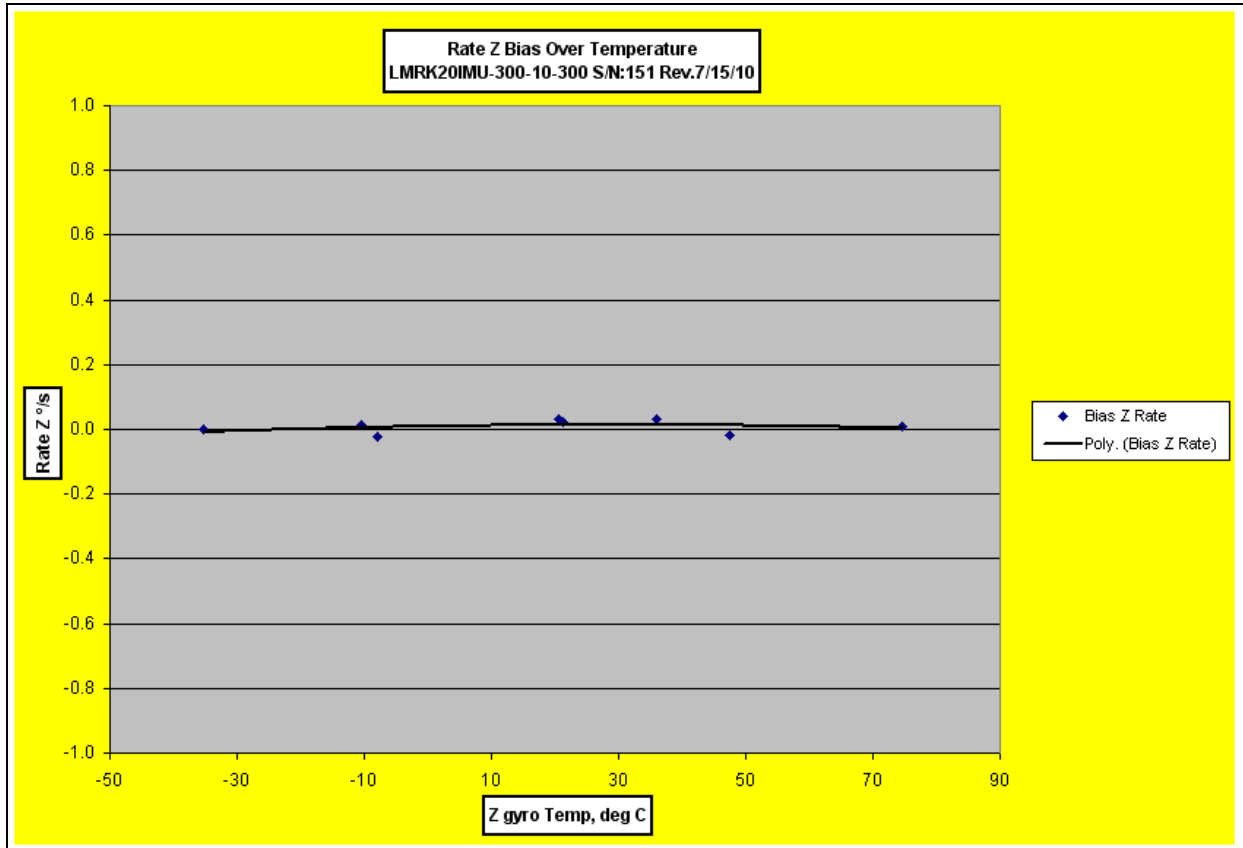


Figure 48: Rate Z Bias Over Temperature

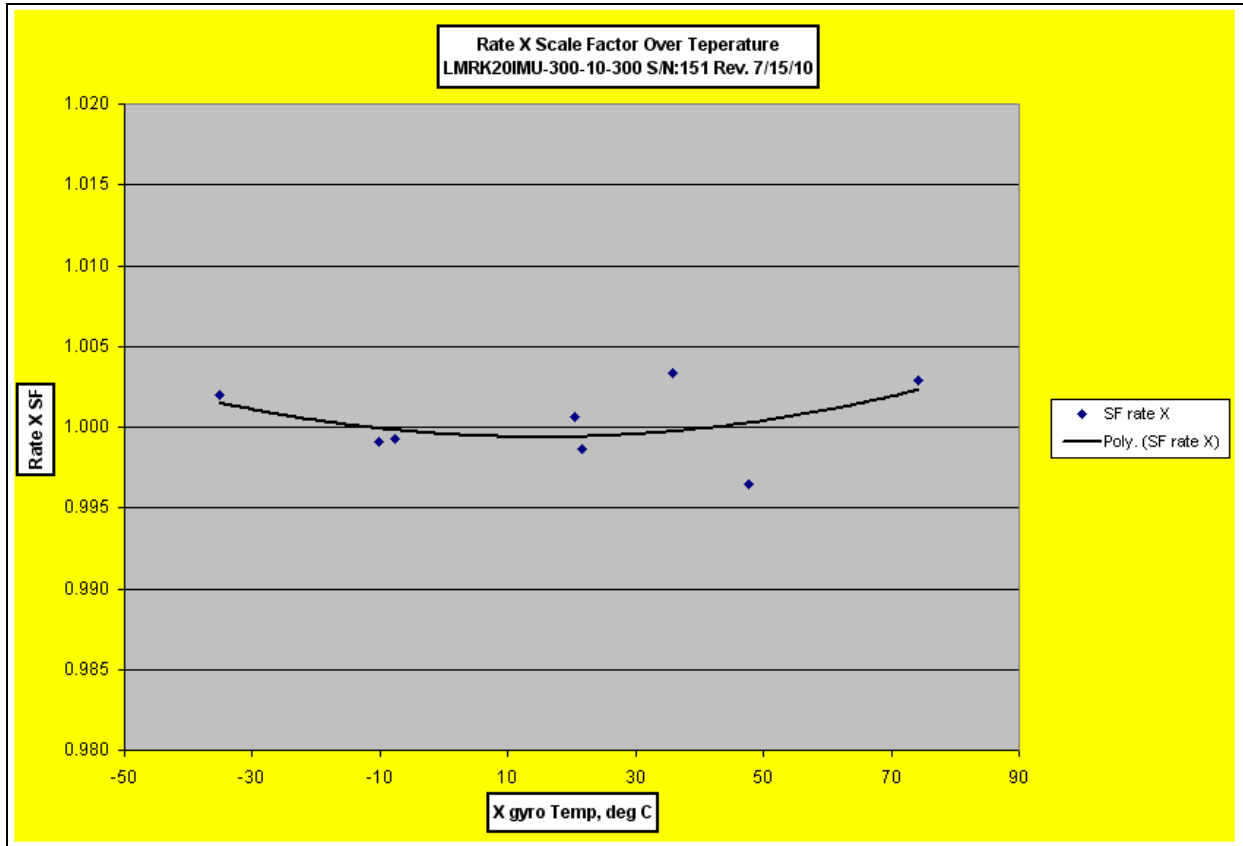


Figure 49: Rate X Scale Factor Over Temperature

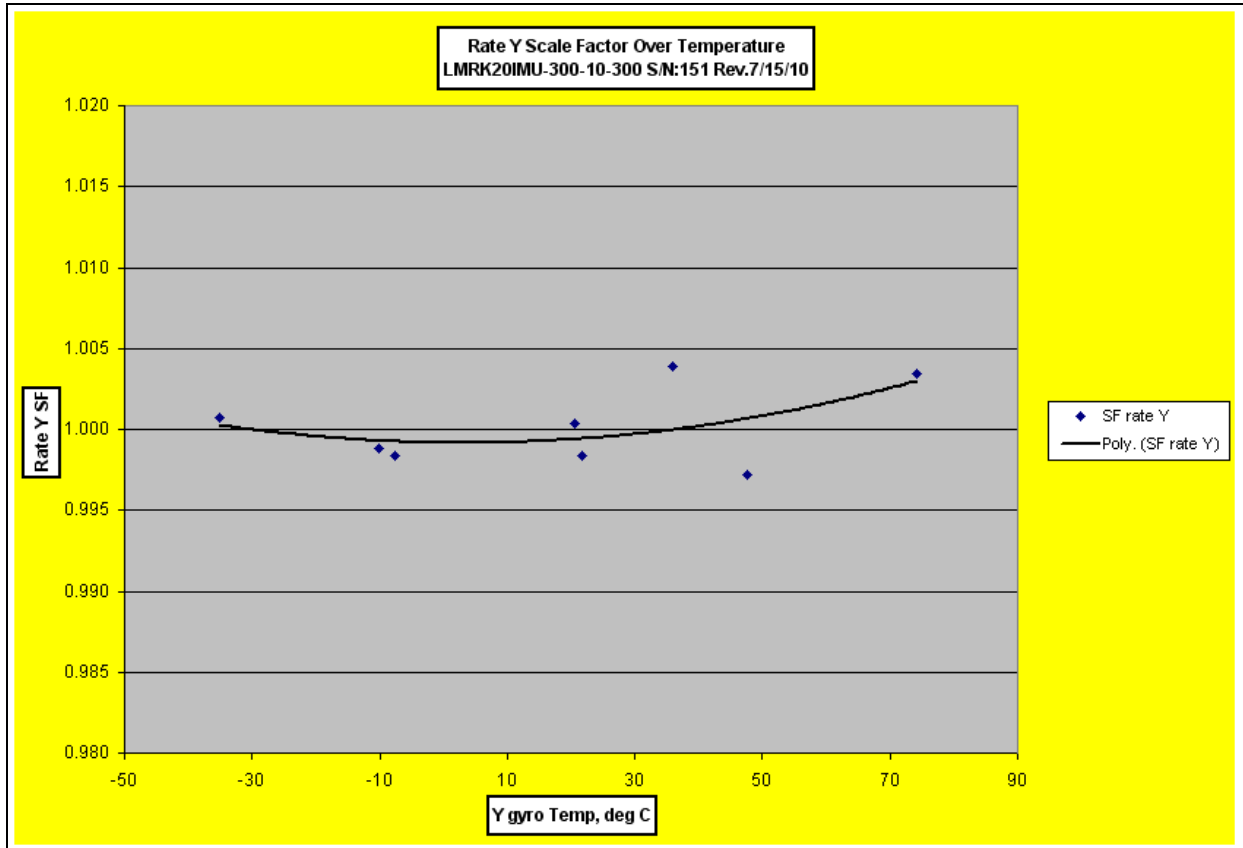


Figure 50: Rate Y Scale Factor Over Temperature

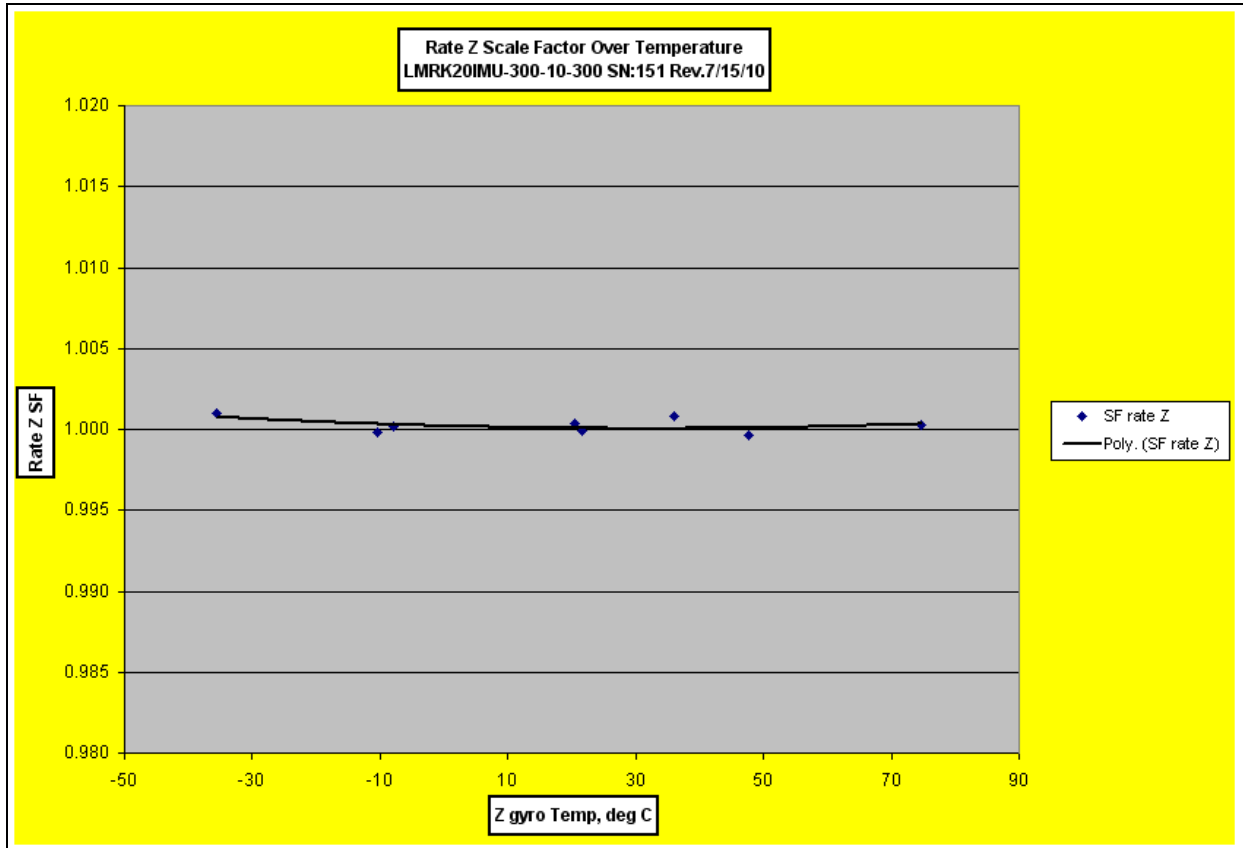


Figure 51: Rate Z Scale Factor Over Temperature



18 Typical Test Data – Accelerometer Bias and Scale Factor over Temperature

Please find below typical 100Hz sample test data for Accelerometer Bias and Scale Factor Over Temperature from a production LandMark™ 20 IMU eXT “LN Series”. The charts are representative of typical performance for units with Serial Numbers 100+.

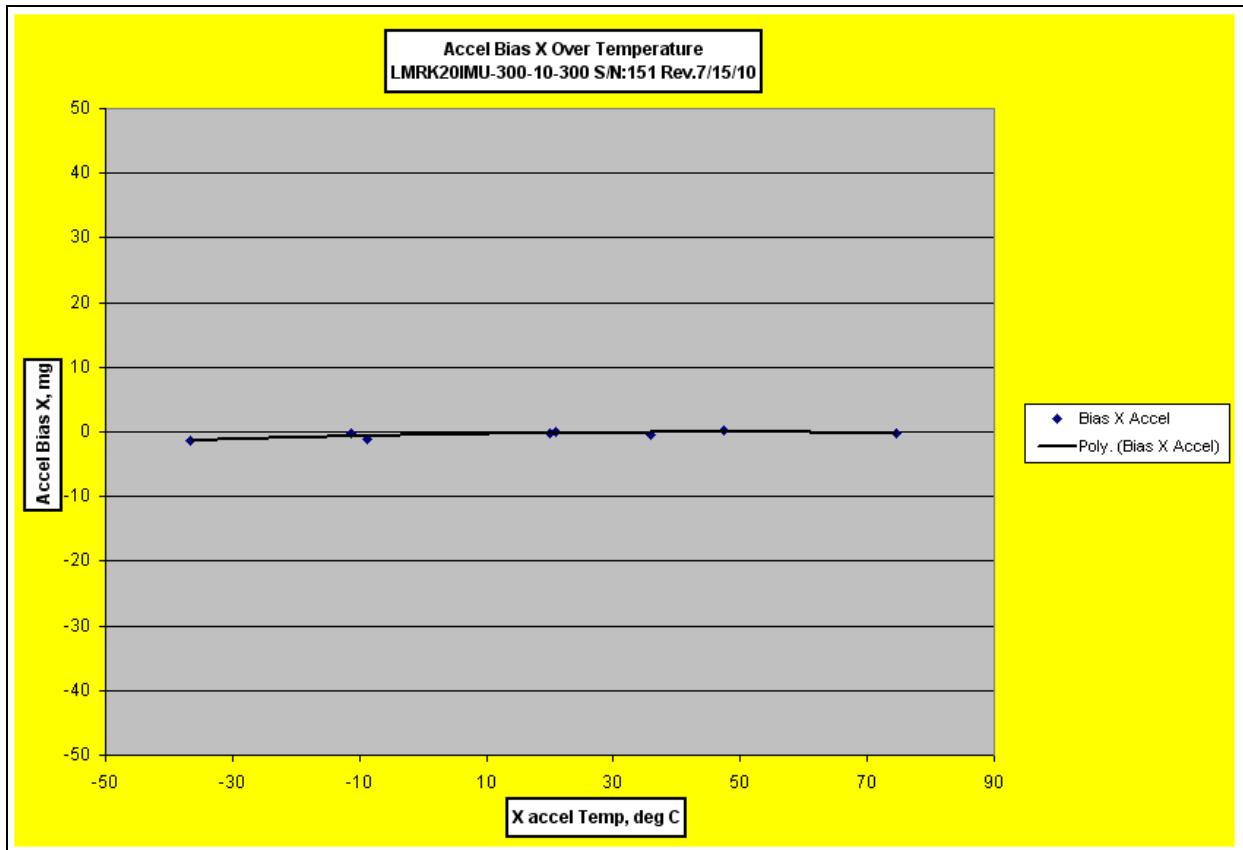


Figure 52: Accel Bias X Over Temperature

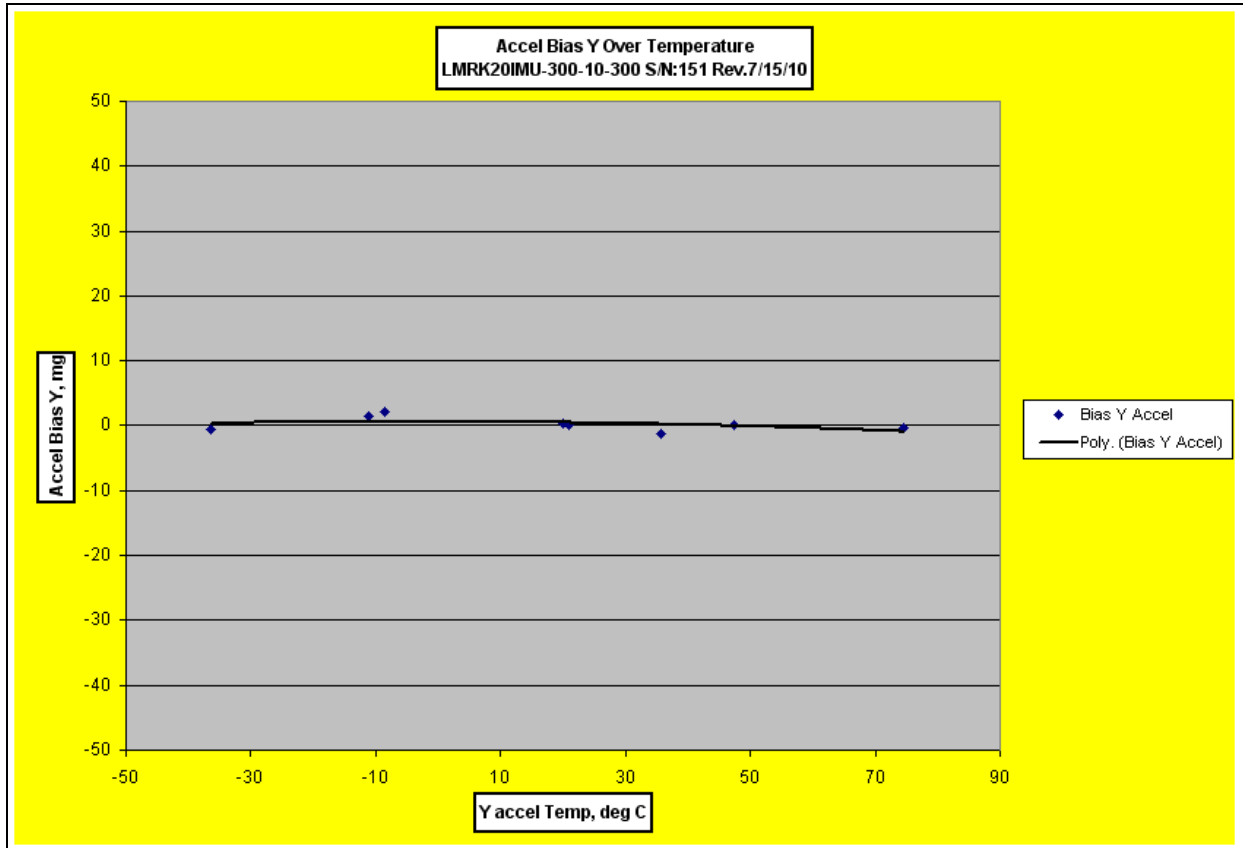


Figure 53: Accel Bias Y Over Temperature

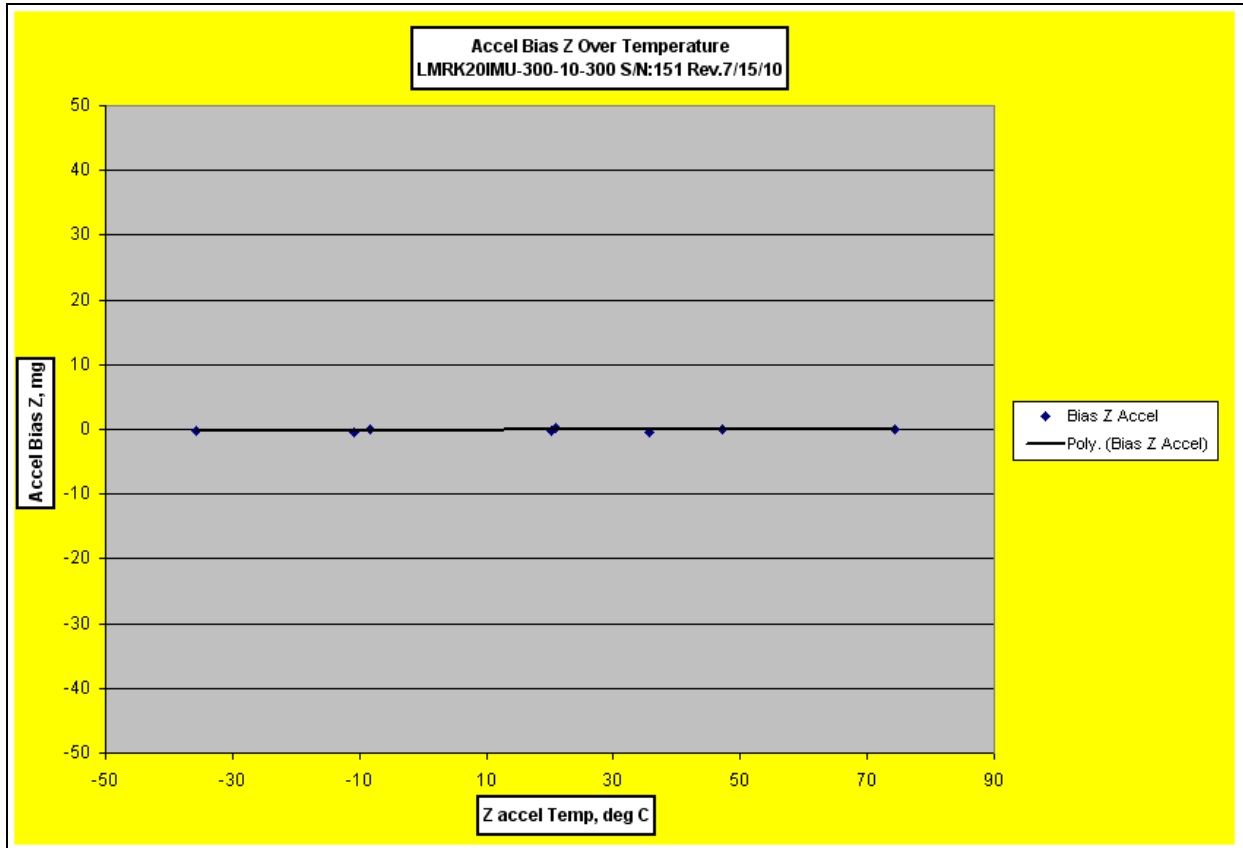


Figure 54: Accel Bias Z Over Temperature

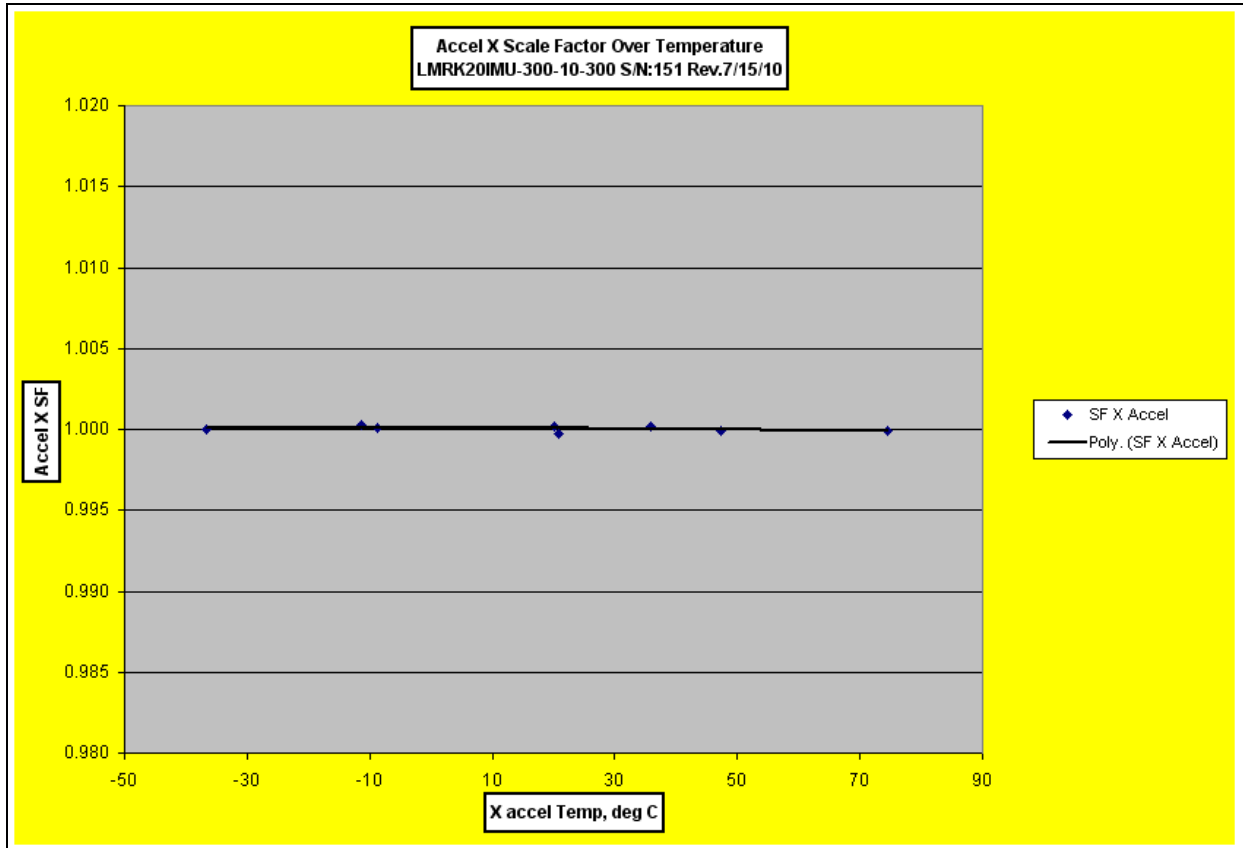


Figure 55: Accel X Scale Factor Over Temperature

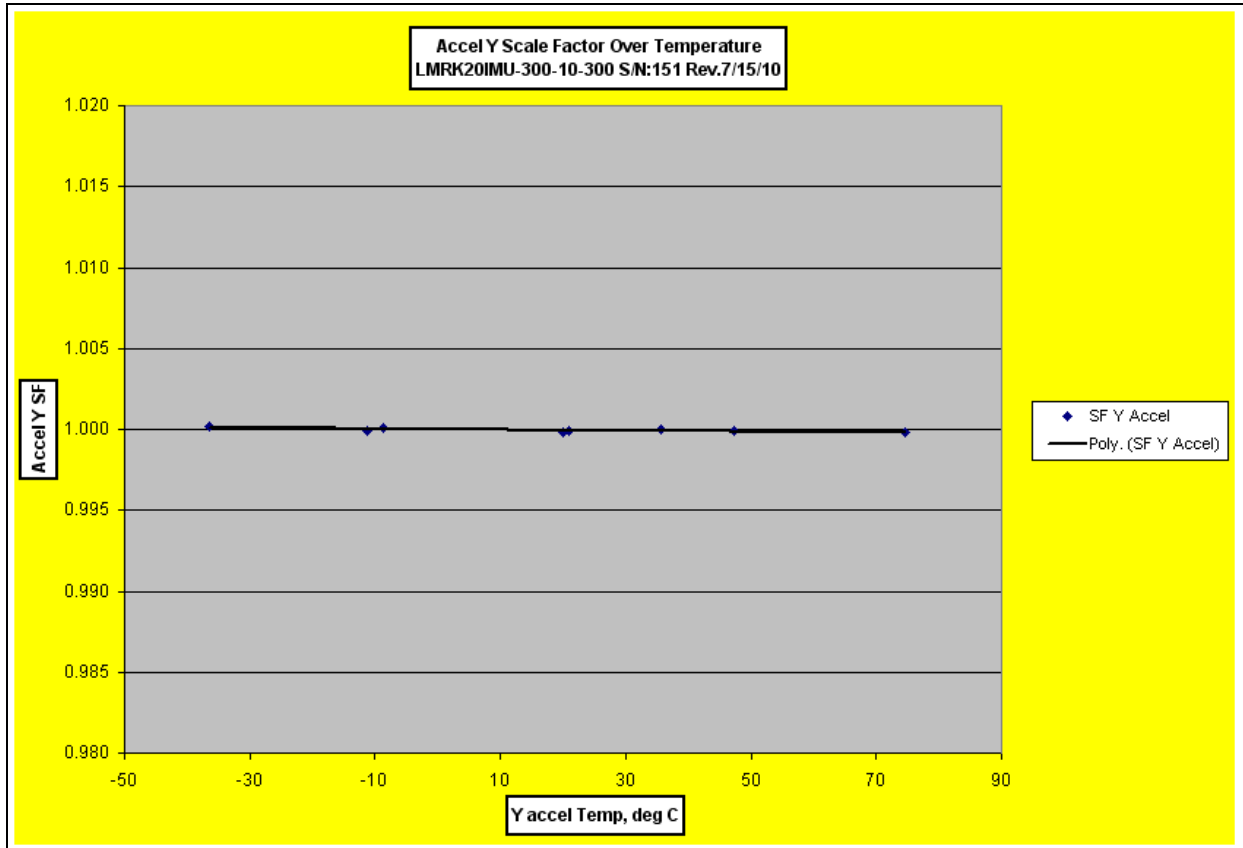


Figure 56: Accel Y Scale Factor Over Temperature

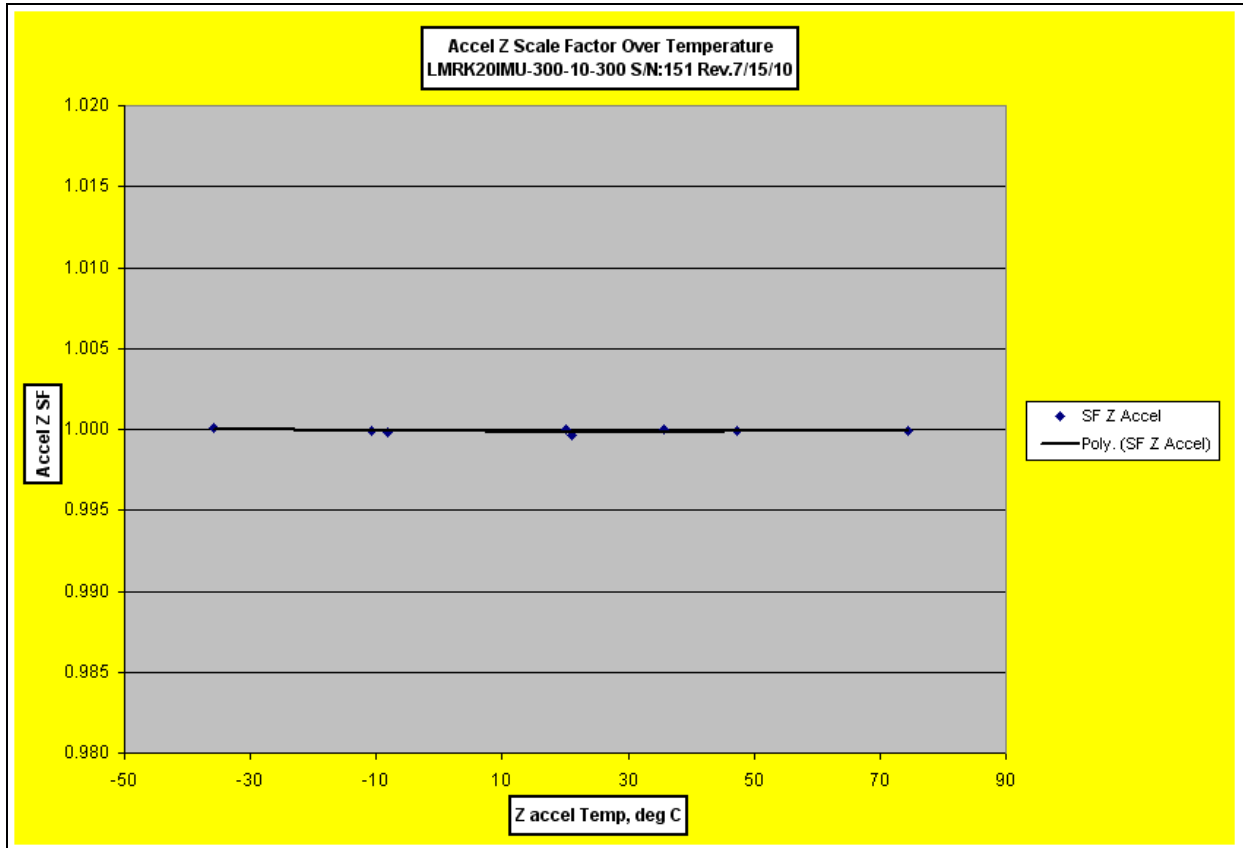


Figure 57: Accel Z Scale Factor Over Temperature



20 Power Supply Sensitivity

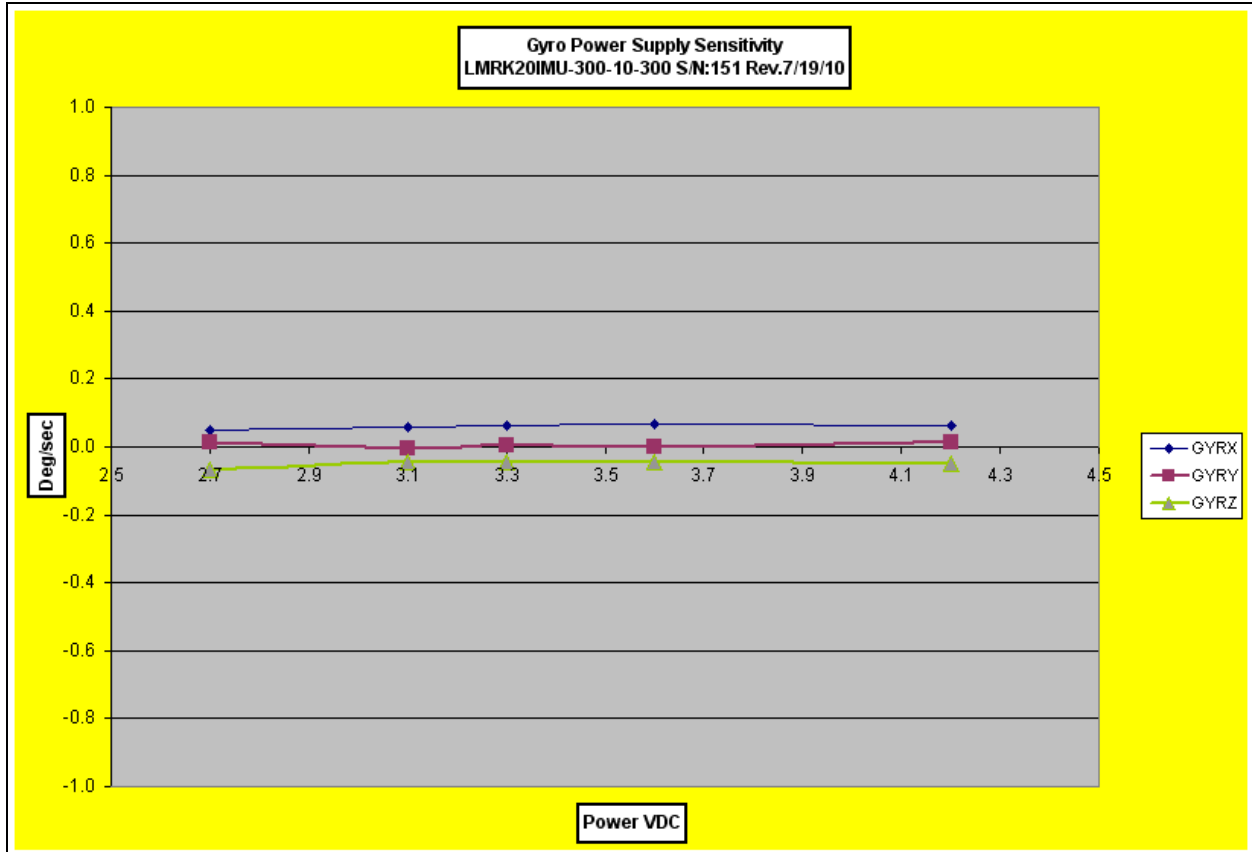


Figure 60: Gyro Power Supply Sensitivity

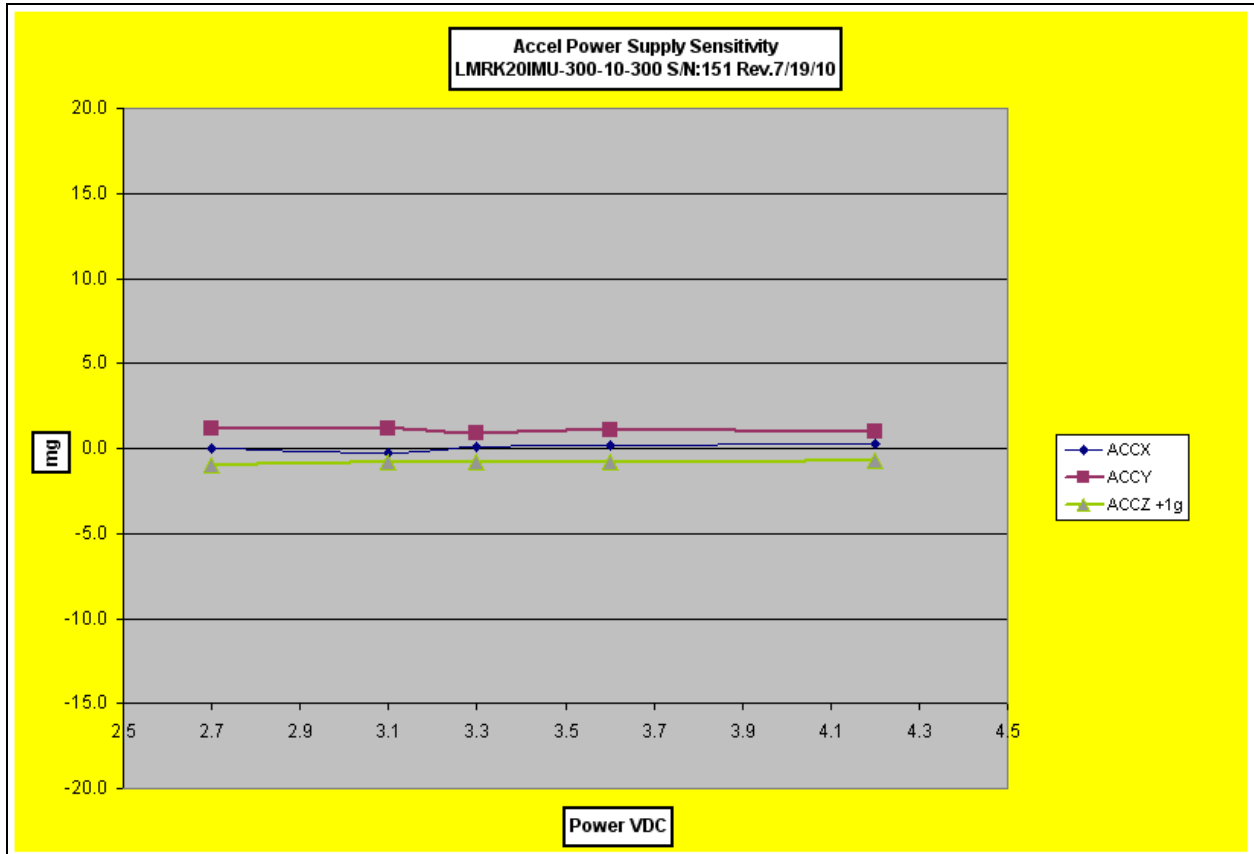


Figure 61: Accel Power Supply Sensitivity