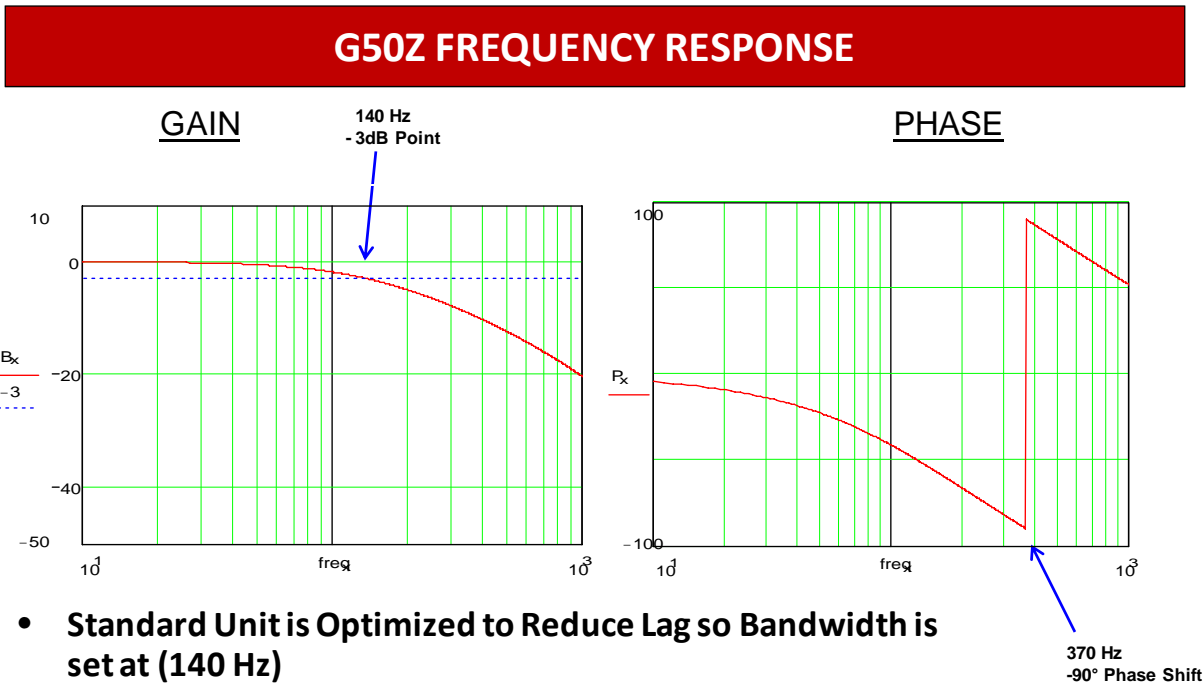




11 Typical Sample Test Data

11.1 Frequency Response

The standard G50Z “LN Series” Gyro has the bandwidth set at 140 Hz (-3dB Point) in order to optimize performance of the sensor. The -6 db Point is at 240Hz. The -90° Phase Shift occurs at 370 Hz.



- **Standard Unit is Optimized to Reduce Lag so Bandwidth is set at (140 Hz)**
- **Data Pictured Above is for Standard 140 Hz Unit**
 - Optional Lower Bandwidth Units Available Upon Request (Peak to peak noise will be slightly lowerer)

Figure 12: G50Z “LN Series” Frequency Response

Lower bandwidth options are available i.e. 100 Hz etc., and users should note that the decreased bandwidth will result in a slightly lower peak to peak noise.



11.2 Angle Random Walk (ARW) Test Data

Sample test data of various test parameters are depicted in the following graphs from some sample production G50Z “LN Series” gyros. Serial number 100 is a 100deg/sec rate range unit and serial number 109 is a 350deg/sec rate range unit.

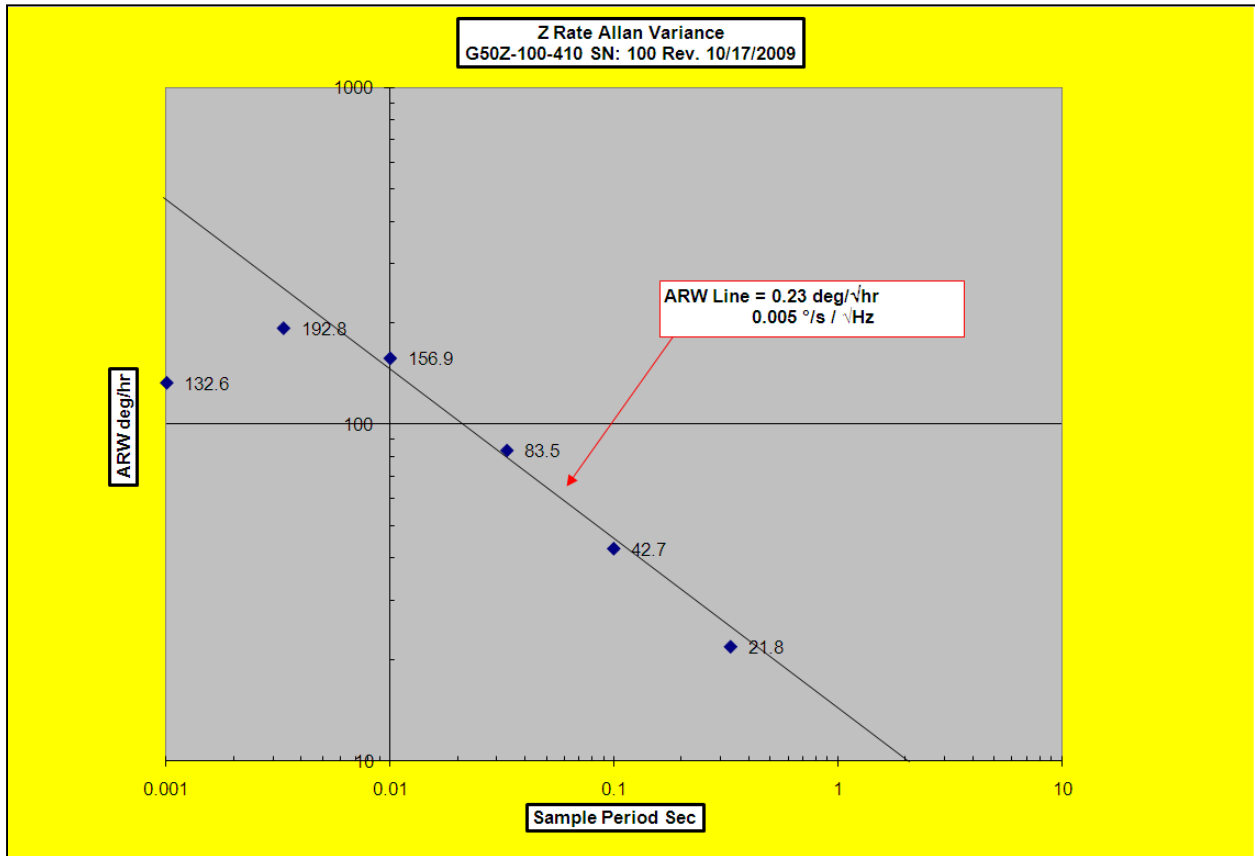


Figure 13: ARW for G50Z-100-410 SN: 100

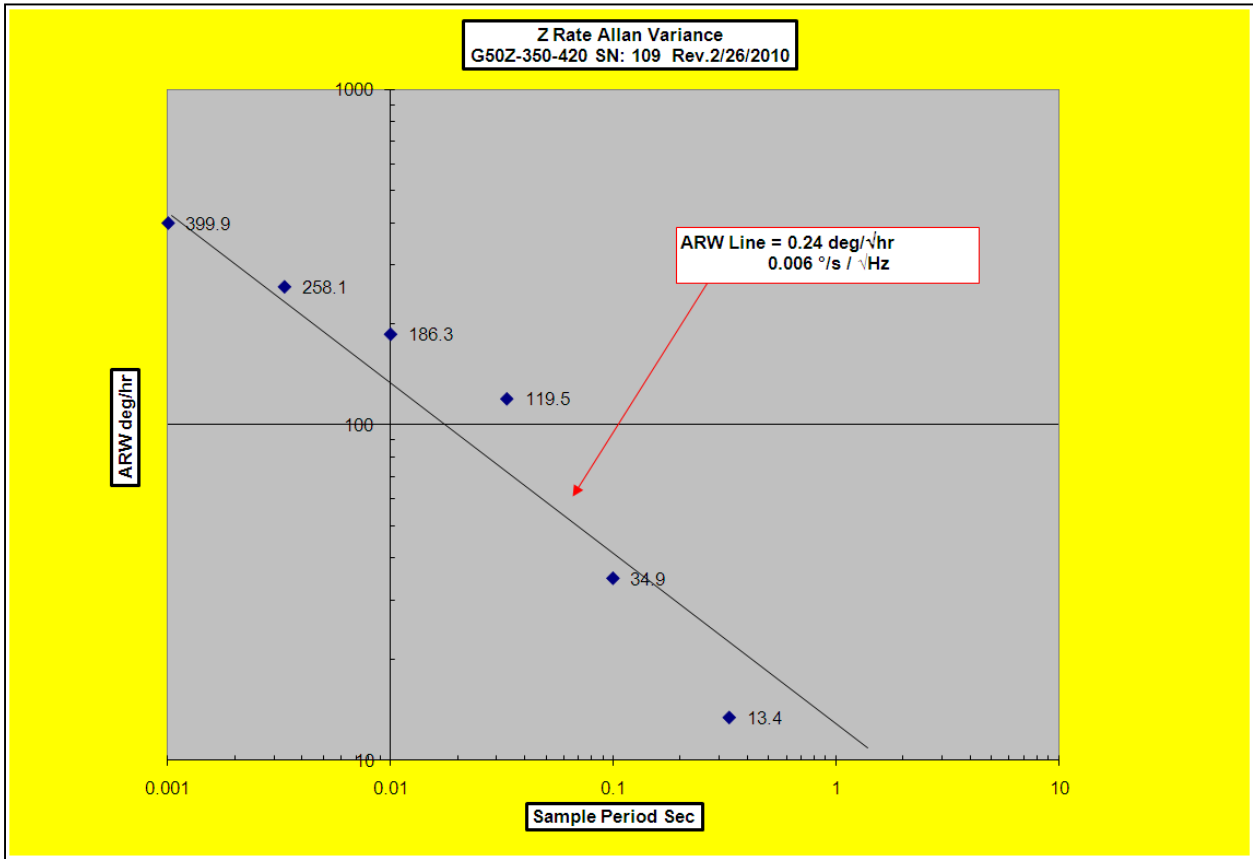


Figure 14: ARW for G50Z-350-420 SN: 109



11.3 In Run Bias

In Run Bias from production G50Z “LN Series” Gyros is pictured below for user reference. The charts are in run bias plots for the X channel gyro. 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 approximately within 5 minutes after turn-on. If the user is not obtaining laboratory test data similar to the data plots and charts below or that accompany production units please contact the factory for consultation and assistance.

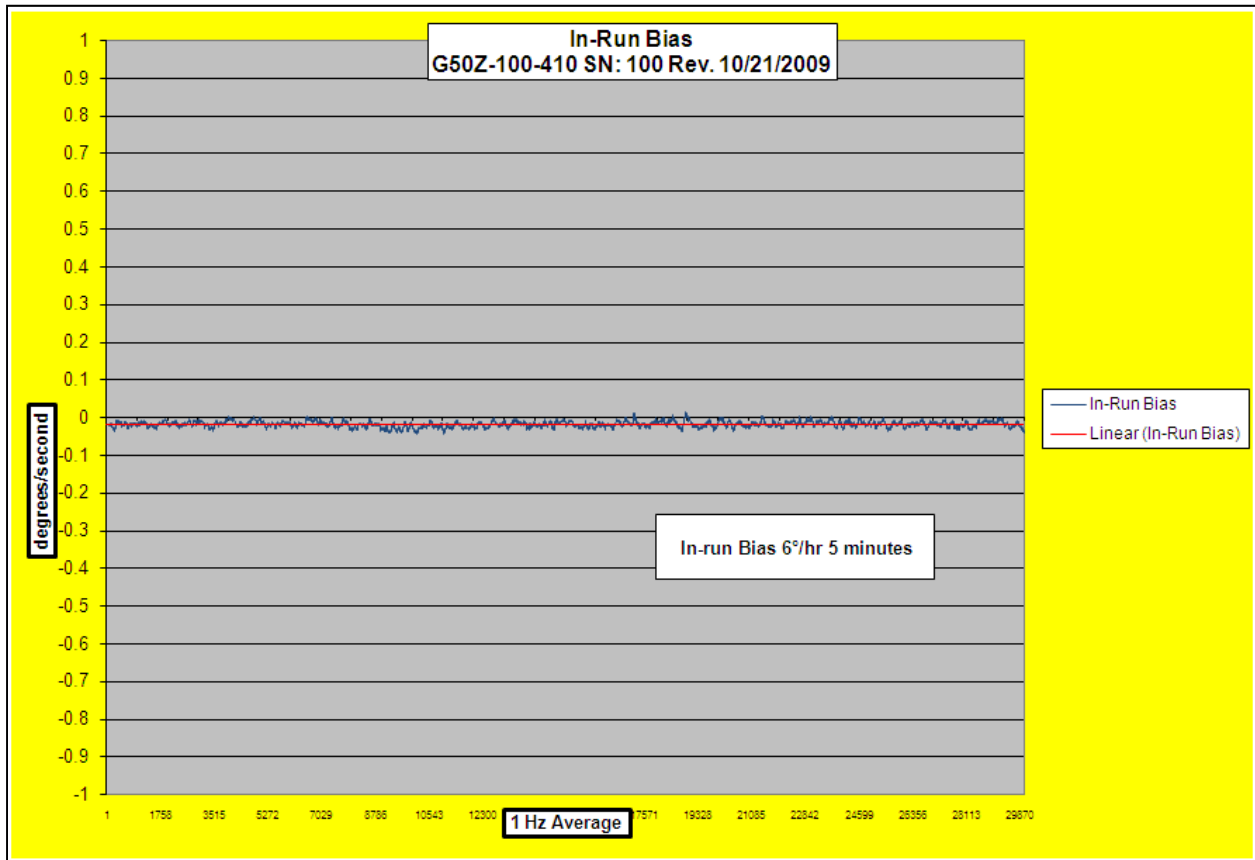


Figure 15: In-Run Bias G50Z-100-410 SN: 100

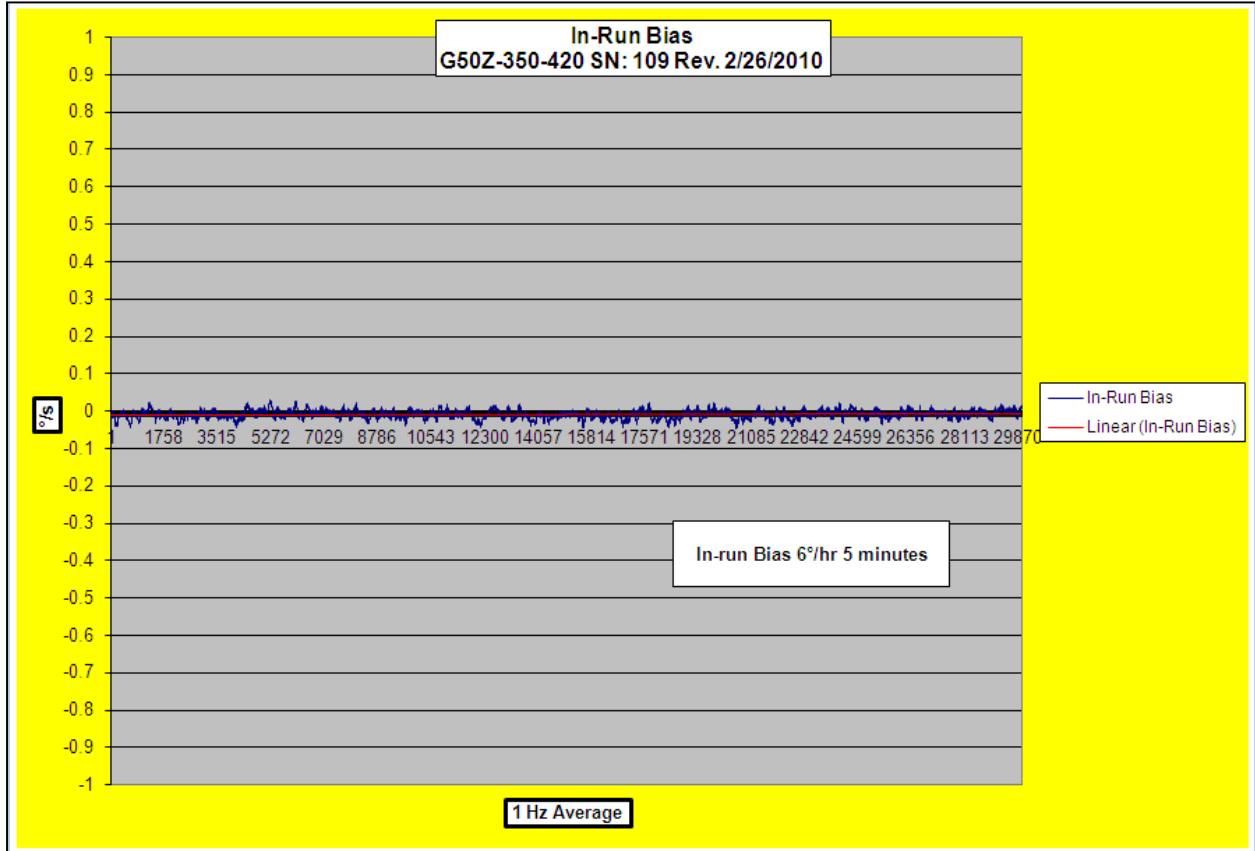


Figure 16: In-Run Bias G50Z-350-420 SN: 109



12 Bias and Scale Factor Over Temperature

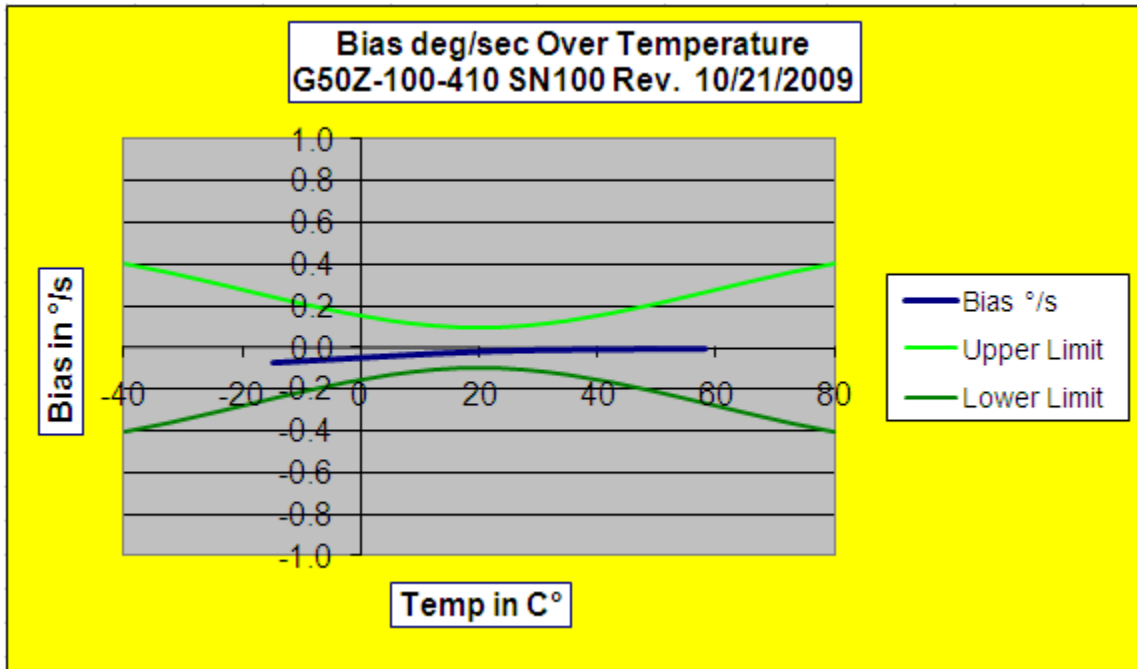


Figure 17: Bias Over Temperature G50Z-100-410 SN: 100

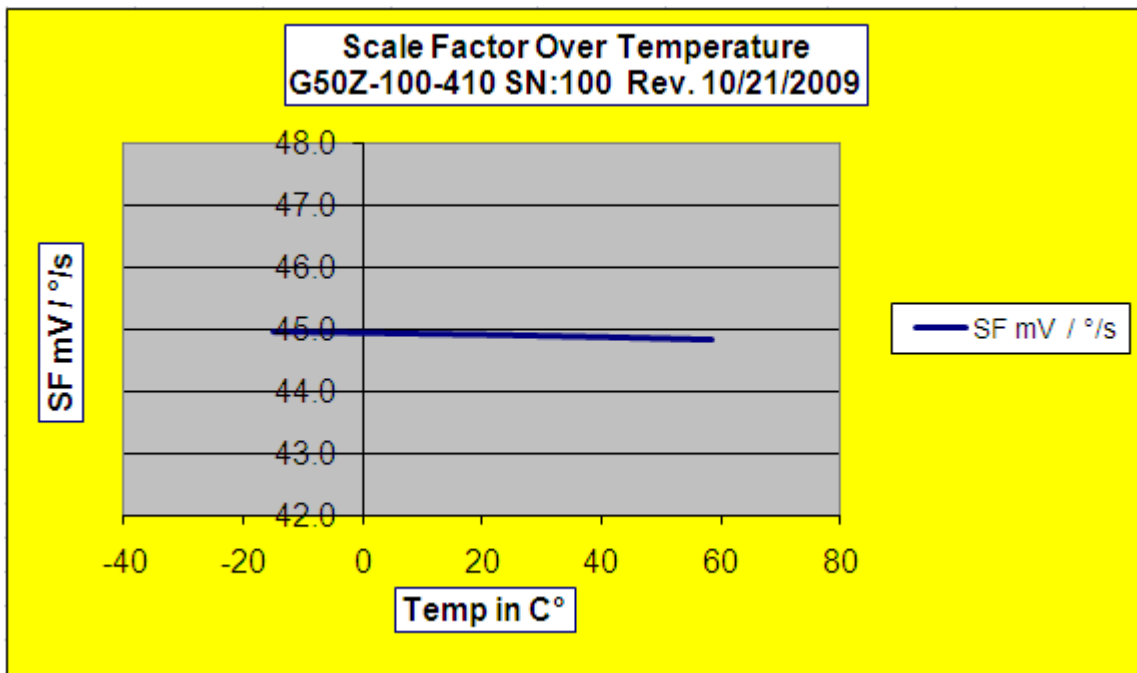


Figure 18: Scale Factor Over Temperature G50Z-100-410 SN: 100

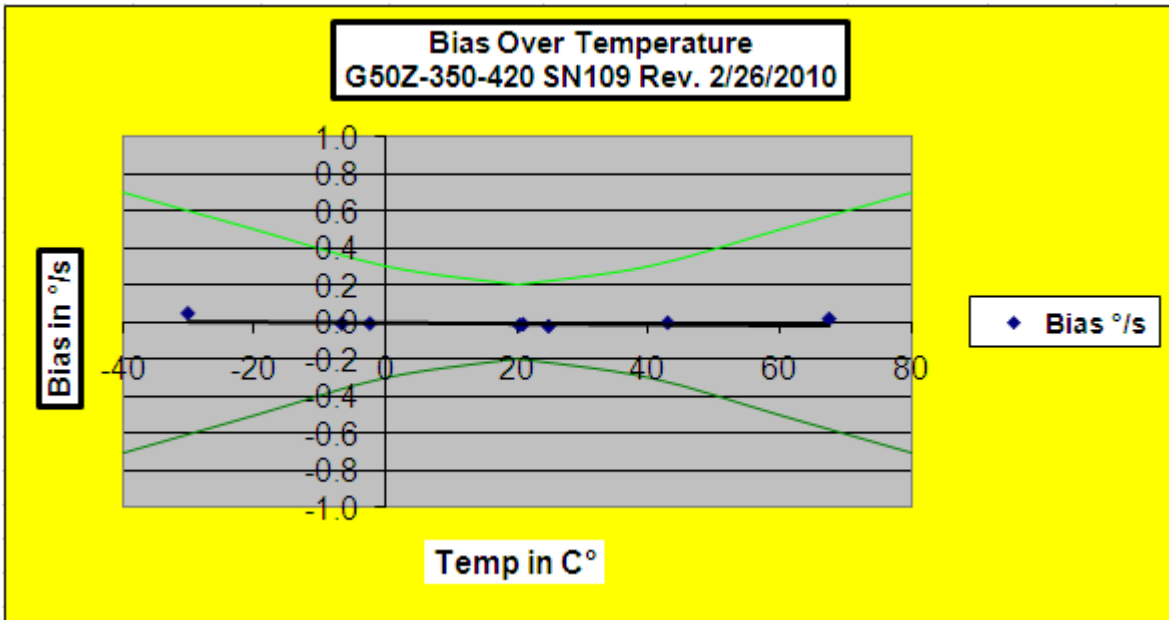


Figure 19: Bias Over Temperature G50Z-350-420 SN: 109

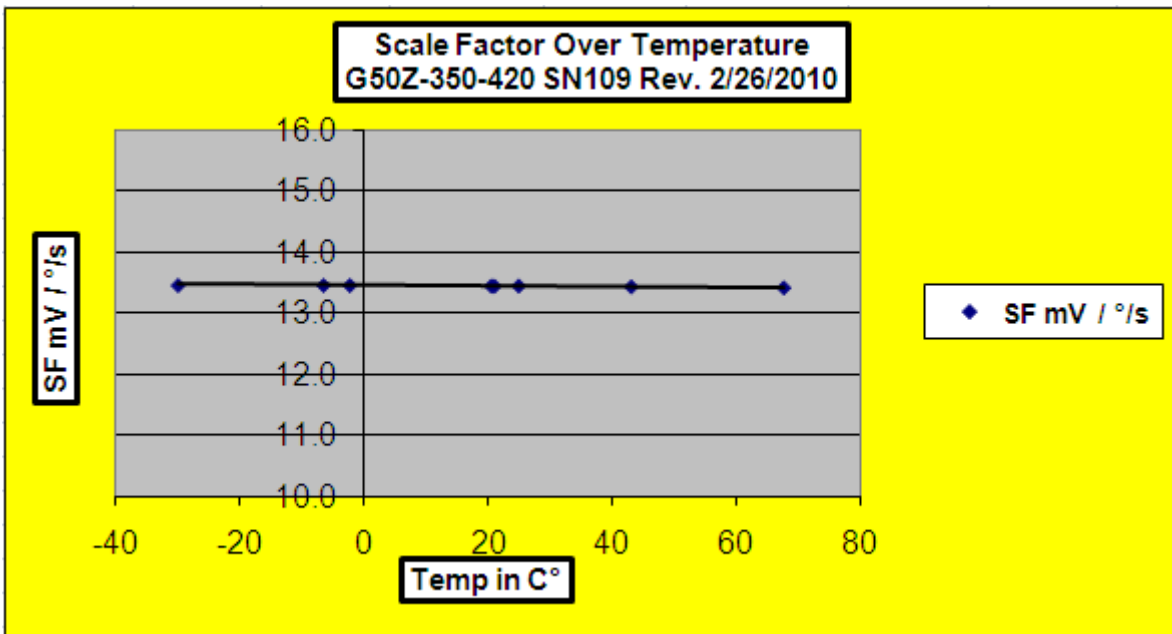


Figure 20: Scale Factor Over Temperature G50Z-350-420 SN: 109



13 Power Supply Sensitivity

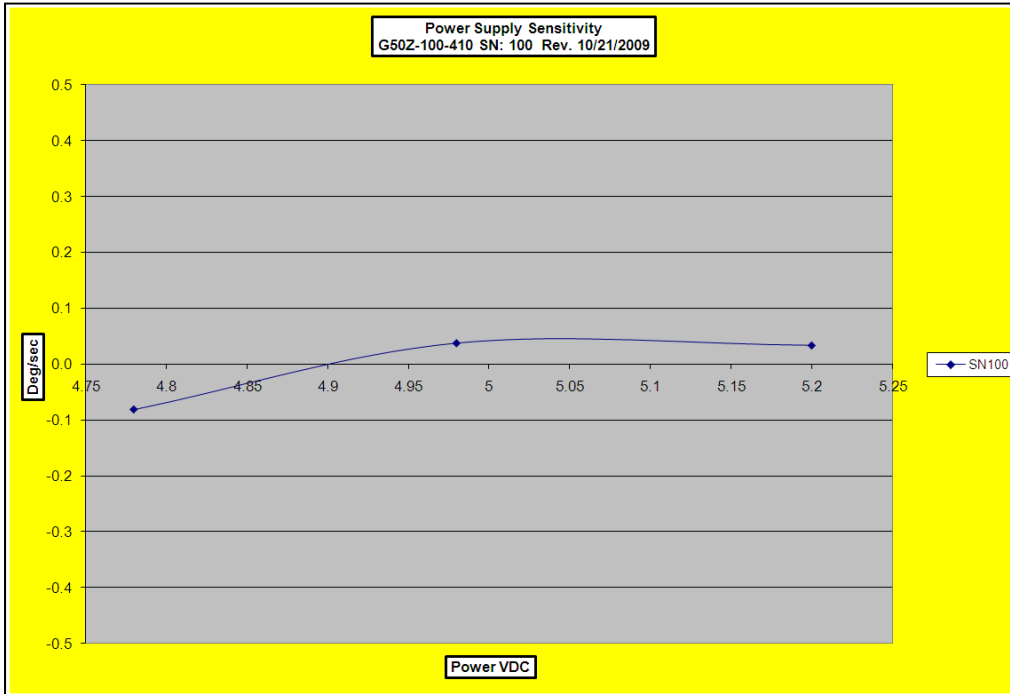


Figure 21: Power Supply Sensitivity G50Z-100-410 SN: 100

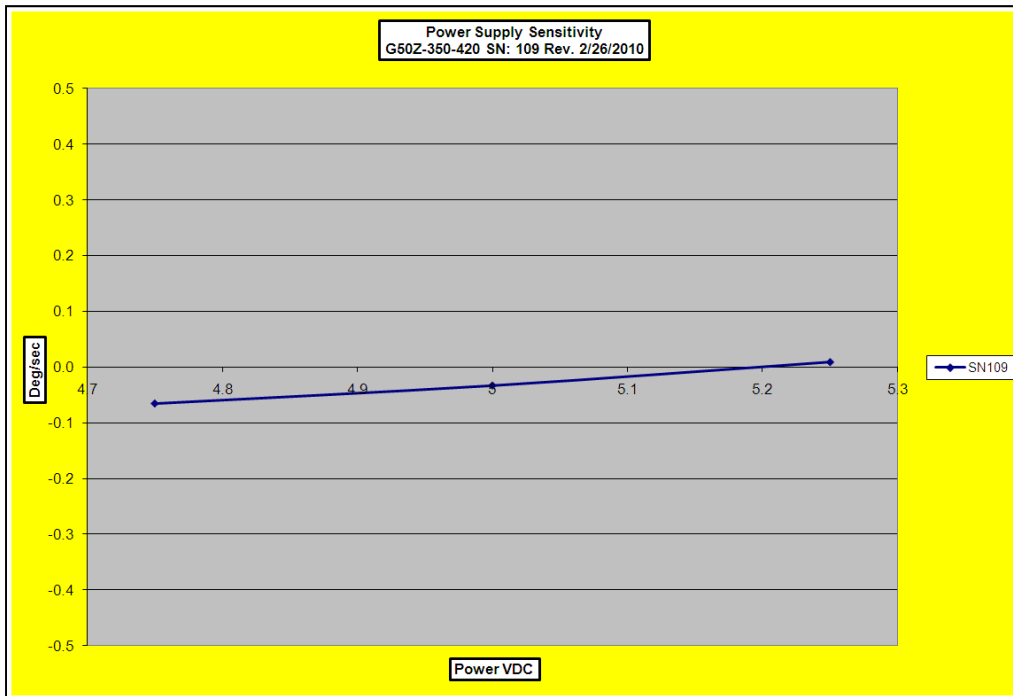


Figure 22: Power Supply Sensitivity G50Z-350-420 SN: 109



14 G-Sensitivity & Mis-Alignment Performance Data

Mis-Alignment mrad	
-4.4	Connector
-1.8	Cross
G-Sensitivity °/s / g	
-0.003	Connector
0.000	Cross
0.005	Input
0.003	RSS

Figure 23: Misalignment & G-Sensitivity G50Z-100-410 SN: 100

Mis-Alignment mrad	
0.3	Connector
0.8	Cross
G-Sensitivity °/s / g	
0.026	Connector
0.023	Cross
-0.007	Input
0.021	RSS

Figure 24: Misalignment & G-Sensitivity G50Z-100-420 SN: 109