

**FODO-1010****FD_01****APS Upgrade**

Date Measured:

Surveyors:

Instrument s/n:

Software version:

Survey file:

Report created:

Units of measure:

Module Assembly

Wednesday, February 23, 2022

ROBERTO LOPEZ

394890

SA 2021.2.71490.1 (x64)

DA20_USMN_Iteration_02.xit64

April 12, 2022

meters, milliradians

A:M3

A:Q8

A:M4

B:Q8

B:M3

[M3 Production Magnet](#)[Q8 Production Magnet](#)[M4 Production Magnet](#)[Q8 Production Magnet](#)[M3 Production Magnet](#)

TM335

EQ804

TM409

EQ803

TM359

Alignment Summary:

FD01	X (m)	Y (m)	Z (m)	Pitch (mr)	Yaw (mr)	Roll (mr)
FD01_AM3_V	-0.000025	0.000001	-0.000092	-0.003	0.000	0.001
FD01_AQ8_V	0.000033	-0.000007	-0.000068	0.000	-0.002	0.000
FD01_AM4_V	-0.000004	-0.000003	0.000075	-0.020	0.000	-0.040
FD01_BQ8_V	0.000034	0.000004	-0.000014	0.002	0.005	0.000
FD01_BM3_V	-0.000024	0.000002	0.000087	0.000	0.002	0.002

Average	0.000003	-0.000001	-0.000002	-0.004	0.001	-0.007
Std. Dev.	0.000026	0.000004	0.000073	0.008	0.002	0.016
ABS Max	0.000034	0.000007	0.000092	0.020	0.005	0.040
NOTE:	Positive pitch/yaw/roll angles represent counter-clockwise rotations of the magnet around the X/Y/Z axes from the magnet axis defined during fiducialization, and do not necessarily represent the true deviations of the magnet axis from the beam axis.					