RTCA Special Committee 186, Working Group 3

ADS-B 1090 MOPS, Revision A

Meeting #16

A3 Receiver Performance in LA2020

Presented by: Larry Bachman

SUMMARY

Here are the plots for A3 receiver performance in LA 2020 for the two interference scenarios: 24K and 30K ATCRBS > -84 at the bottom antenna. In the 24K scenario, A3 crosses the line at around 65-70 NM (A2 at 55 NM) for state vector 95-95 update, but at the rate of 0.8/sec, TSR 95-95 update is out to about 35 NM (A3) and 25 NM (A2). For the 30K scenario, A3 crosses the line at 55 NM and A2 at 45 NM for state vector, while for TSR A3 is at 30-35 NM and A2 is 25 NM. These results represent performance predictions which I feel comfortable with for the scenarios and constraints we are working with. It is important to remember that the parameters we have assumed do not necessarily represent worst case assumptions, so for example, A3 transmitters which fall into the lower values of the power range permitted by the MOPS may not be expected to perform as well as those simulated.

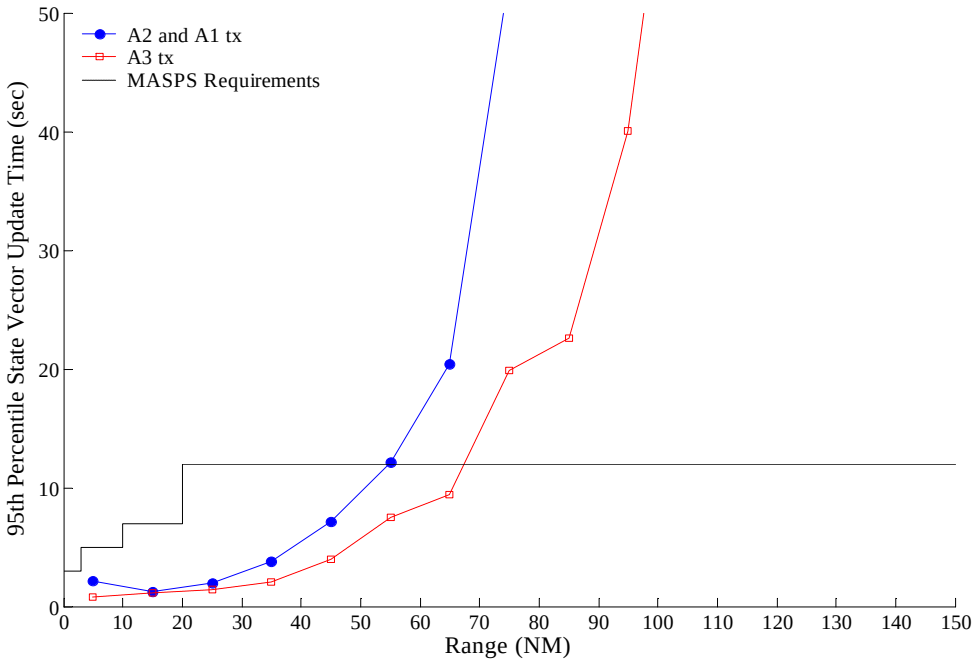

Figure 1 - 95th Percentile State Vector Update Times for Aircraft in LAX2020 in a 24k Per Second Fruit Environment

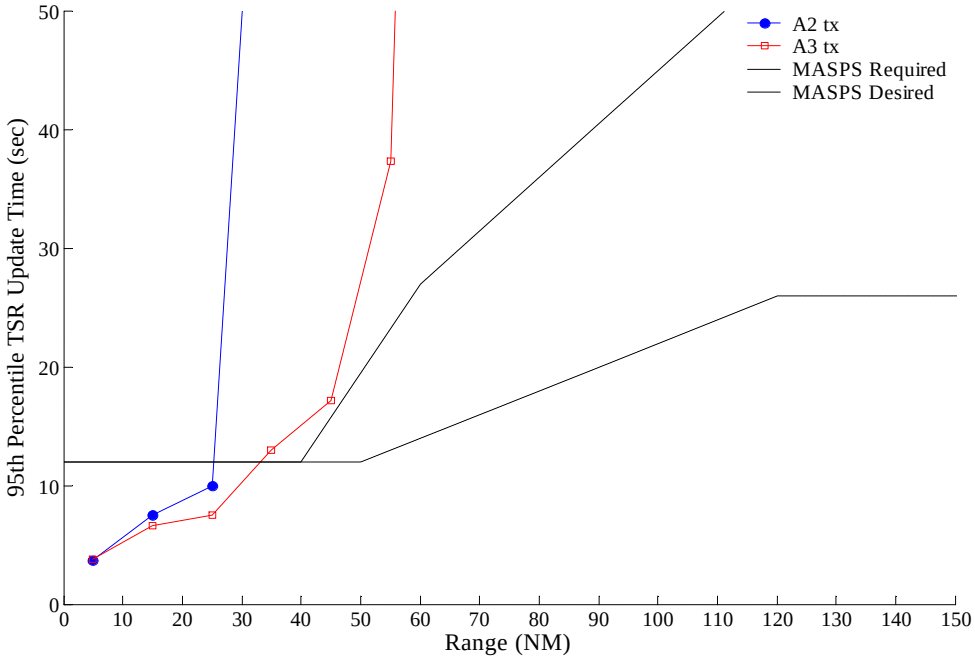

Figure 2 - 95th Percentile Target State Report Update Times for Aircraft in LAX2020 in a 24k Per Second Fruit Environment

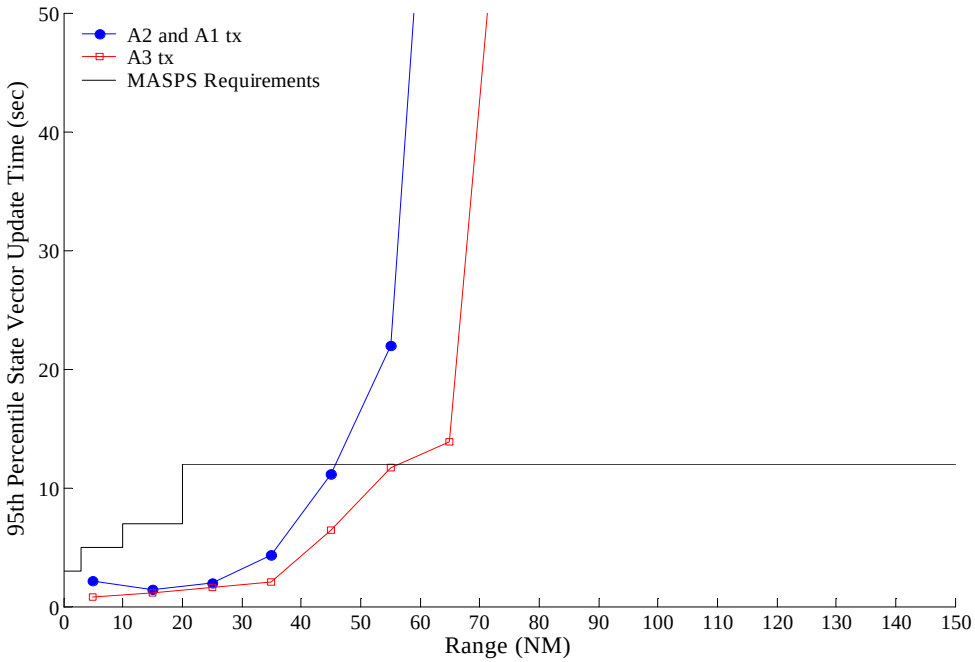

Figure 3 - 95th Percentile State Vector Update Times for Aircraft in LAX2020 in a 30k Per Second Fruit Environment

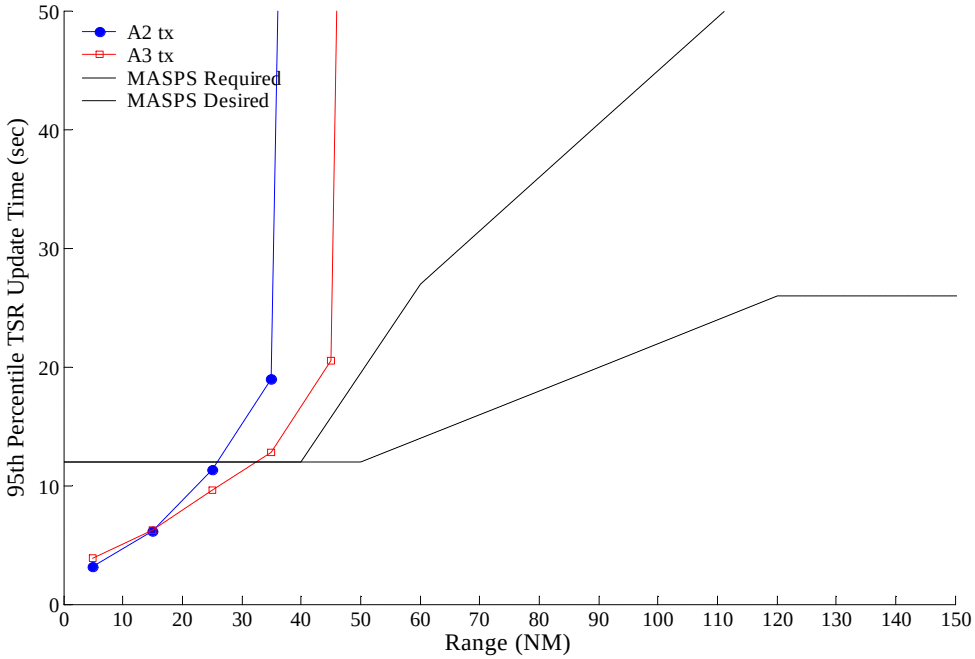

Figure 4 - 95th Percentile Target State Report Update Times for Aircraft in LAX2020 in a 30k Per Second Fruit Environment