

ABSTRACT

Statistical Analysis of ADS-B Quality Indicators of Data Obtained From A
Low-Cost Receiver

by

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In this thesis, the author investigated the ADS-B quality indicators to see the latest status of data quality as well as the air traffic. ADS-B quality indicators determine if the data that were sent are acceptable to be used for the relevant surveillance applications. To attain such data, the author used a low-cost ADS-B receiver system that was installed at the author's home (6° 21' 21.204" S, 106° 43' 10.776" E). The collecting period was executed for a total of five weeks, initiated from November 9, 2020 until December 13, 2020. The raw data was then cleaned and filtered before statistically analyzed with Python. For comparison with DO-260B minimum requirements, the author used EASA's regulation. Of the total messages received, 65.88% still use ADS-B version 0. Only 32.02% is ADS-B version 2 and 2.10% is ADS-B version 1. In addition, more than 50% of each ADS-B version 2 quality indicators met the minimum requirements. Thus, the results are satisfactory.

Keyword: *ADS-B, Quality Indicators, ICAO Version 0, ICAO Version 1, ICAO Version 2, regulation, EASA*