RTCA, Inc.
1150 18th St. NW, Suite 910
Washington, D.C. 20036, U.S.A.

Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 2 Physical Link and Network Layer

Change 1

RTCA DO-281B Change 1
March 18, 2014

Prepared by SC-214
©2014 RTCA, Inc

currently in preview, click buy full versi

Copies of this document may be obtained from:

RTCA, Inc.
1150 18th St. NW, Suite 910
Washington, D.C. 20036, USA

Telephone: 202-833-9339
Facsimile: 202-833-9434
Internet: www.rtca.org

Please call RTCA for price and ordering information

currently in preview, click buy full versi

FOREWORD

This report was prepared by RTCA Special Committee 214 (SC-214) and approved by the RTCA Program Management Committee (PMC) on March 18, 2014.

RTCA, Incorporated is a not-for-profit corporation formed to advance the art and science of aviation and aviation electronic systems for the benefit of the public. The organization functions as a Federal advisory committee, and develops consensus-based recommendations on contemporary aviation issues. RTCA's objectives include but are not limited to:

- coalescing aviation system user and provider technical requirements in a manner that helps government and industry meet their mutual objectives and responsibilities;

- analyzing and recommending solutions to the system technical issues that aviation faces as it continues to pursue increased safety, system capacity and efficiency;

- developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of minimum operational performance standards for electronic systems and equipment that support aviation; and

- assisting in developing the appropriate technical material upon which positions for the International Civil Aviation Organization and the International Telecommunication Union and other appropriate international organizations can be based.

The organization's recommendations are often used as the basis for government and private sector decisions as well as the foundation for many Federal Aviation Administration Technical Standard Orders and several advisory circulars.

Since RTCA is not an official agency of the United States Government, its recommendations may not be regarded as statements of official government policy unless so enunciated by the U.S. government organization or agency having statutory jurisdiction over any matters to which the recommendations relate.

currently in preview, click buy full versi

This Page Intentionally Left Blank

currently in preview, click buy full versi

Change No. 1 to RTCA/DO-281B

1. In Step 2 of Section 2.4.4.1.12, remove the second sentence, add "dBm" after 75 and replace "-" with "minus".

2.4.4.1.12 In-Band Intermodulation/Desensitization

Reference: Section 2.2.1.2.12

Equipment Required

Desired VDL Mode 2 Signal Source

Undesired VDL Mode 2 Signal Source

VHF Signal Generator

External BER Test Fixture (optional)

RF Combiner

Measurement Procedure

Step 1 Connect the equipment as shown in Figure 2-16 or Figure 2-17.

Step 2 Use the Desired VDL Mode 2 Signal Source as Signal Generator A to generate the desired input signal to the receiver. Tune Signal Generator A to one of the test frequencies (Section 2.4.4). Modulate the output of Signal Generator A with either an appropriate test payload in burst form provided by the external BER test fixture, or a test payload provided by the data generator, as appropriate. Adjust the level of Signal Generator A to produce a signal level of minus 75 dBm at the receiver input.

Step 3 Use the VHF Source as interfering Signal Generator B. Tune Signal Generator B to a frequency 1 MHz above the selected channel frequency. Set Signal Generator B to produce an unmodulated carrier to the input of the receiver at minus 32 dBm.

Step 4 Use the Undesired VHF Source as interfering Signal Generator C. Tune Signal Generator C to a frequency 2 MHz above the selected test frequency. Create an Undesired VDL Mode 2 Signal with Generator C at a level of minus 32 dBm.

Step 5 Apply the desired signal and the two interfering signals to the receiver input via the RF combiner. Use the process of Section 2.4.2.1 or Section 2.4.2.2, as appropriate, to determine the error rate. Verify compliance with the error rate requirements of Section 2.2.1.2.

Step 6 Repeat Steps 3 to 5 for the other two test frequencies (Section 2.4.4).

Note: In the absence of the desired signal (i.e., Generator A switched "off"), the intermodulation products produced by any interaction between the interfering signal generators B & C, must be less than minus 105 dBm at the receiver input. Additional band-pass filters, inserted between each generator and the R.F combiner, may be necessary to reduce the intermodulation product.

© 2014, RTCA, Inc

currently in preview. click buy full versi