ComCase P temperature tests results by Trace Laboratories

Trace Laboratories performed extensive temperature tests on the ComCase P using ANSI/NCSL Z450-I and ISO/IEC 17025-1999 requirements standardized by NIST. Please refer to the NIST web site for more information about these standards http://www.nist.gov/

The purpose of these tests was to determine at what temperature extremes the ComCase P system would stop and then start operating again. The hard drive was the most critical component of this system.

The list of PC/104 equipment inside the ComCase P when tested follows:

Cisco 3230 Mobile Access Router with two WMIC (2.4 & 4.9GHz)

Western DataCom PC/104 SBC CPU (computer) with a 30G Hard drive
Intelligent Video Server
EVDO modem with GPS
Four port Ethernet card

Temperature tests were performed on all the equipment with individual measurements made on the SBC CPU and hard drive.

Low temperature -40C -40F
High temperature +74C +165 F

Low temperature - cold test results

The hard drive did not start operating until the internal temperature of the ComCase P reached -31C -23F. The SBC CPU temperature was -28 C -18 F.

Total time for reboot at low temperatures after power was applied to the ComCase P system was 1.5 minutes.

High temperature - heat test results

The hard drive did not start operating until the internal temperature of the ComCase P reached + 72C 161F. The SBC CPU temperature was +83C 181F.

The total time for reboot at high temperatures after power was applied to the ComCase P was 10 seconds.

Summary

The SBC CPU and hard drive passed all the NIST temperature requirements. These tests also confirmed that the 30G hard drives on-board cold and heat temperature sensor would not allow it to operate (spin), therefore protecting the hard drives storage media from damage.

Temperature tests summary for the ComCase P 3.pdf

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