



AFDAU-T1

Environmental Qualification Form

AMS Environmental Qualification Form

AMS-EQF-1-001

AFDAU-T1 Data Acquisition Unit

Issue Log

Issue	Date	Change Notes
1	2 August 2022	-



AFDAU-T1

Environmental Qualification Form

Manufacturer:

Airborne Mission Systems Pty Ltd
 Hanger 480, 16 Miles Street
 Bankstown Aerodrome, NSW, 2200
 Australia

Type/Model/Part Number:

AFDAU-T1 (P/N 231-001-00)

Qualifications:

AMS Internal Pre-Qualification Tests (Note 4)

- Pre-Qualification testing of Sections 4.0, 5.0, 6.0 and 15.0 of DO-160
- Power Input, Reverse Input Voltage, Overvoltage Input Voltage and Internal Short Testing.

RTCA DO-160G Environmental Conditions and Test Procedures for Airborne Equipment (Notes 1 & 2)

Table 2: DO-160G Qualification Level

Condition	DO-160G Section	Description
Temperature and Altitude	4.0	B2
Temperature Variation	5.0	B (Note 3)
Humidity Test	6.0	B
Operational Shocks & Crash Safety	7.0	B
Vibration	8.0	U-F
Explosive Atmosphere	9.0	X
Waterproofness	10.0	X
Fluids Susceptibility	11.0	X
Sand and Dust	12.0	X
Fungus Resistance	13.0	X
Salt and Fog	14.0	X
Magnetic Effect Test	15.0	Z
Power Input	16.0	X
Voltage Spike	17.0	X
Audio Frequency Conducted Susceptibility – Power Inputs	18.0	X
Induced Signal Susceptibility	19.0	X
Radio Frequency Susceptibility	20.0	X
Emission of Radio Frequency Energy Test	21.0	M
Lightning Induced Transient Susceptibility	22.0	X
Lightning Direct Effects	23.0	X
Icing	24.0	X
Electrostatic Discharge (ESD)	25.0	X
Fire, Flammability	26.0	X



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Date Tested:

23 June – 15 July 2022

Notes:

1. Refer to Test Report No. P-VZLUTEST-140/22 for substantiating data.
2. The AFDAU-T1 is a non-required, non-essential electronic device. There are no requirements for continued operation of the AFDAU-T1 relating to the normal operation or safety of aircraft in which it is installed. The AFDAU-T1 was tested with a pass/fail criterion of maintaining steady current draw, visual structural integrity and generating no fire hazard.
3. During the temperature variation test the AFDAU-T1 current draw dropped off when operating below -50°C for an extended period. No damage to the AFDAU-T1 was reported and the device resumed operation as the temperature was raised.
4. Refer to Test Report No. AMS-EQTR-1-01 for substantiating data.