VECTOR-600 DECLARATION

UAV Navigation hereby declares:

1. That VECTOR 600 has successfully past the following test in accordance with the procedures detailed in MIL-STD-810 F:

Climatic test

- Altitude (Storage), MIL-STD-810F, Method 500.4, Procedure I.
- Altitude (Operation), MIL-STD-810F, Method 500.4, Procedure II.
- High Temperature (Storage), MIL-STD-810F, Method 501.4, Procedure I.
- High Temperature (Operation), MIL-STD-810F, Method 501.4, Procedure II.
- Low Temperature (Storage), MIL-STD-810F, Method 502.4, Procedure I.
- Low Temperature (Operation), MIL-STD-810F, Method 502.4, Procedure II.
- Humidity, MIL-STD-810F, Method 507.4, Procedure I.

Vibration, mechanical shock and constant acceleration test:

- MIL-STD-810F, Method 514.5, Proc. I, Cat. 1Figure 514C-1.
- MIL-STD-810F, Method 514.5, Proc. I, Cat. 1Figure 514C-3.
- MIL-STD-810F, Method 514.5, Proc. I, Cat. 10.
- MIL-STD-810F, Method 514.5, Proc. I, Cat. 13. Figure 514.5C-9 & Table 514.5C-II.
- MIL-STD-810F, Method 514.5, Proc. I, Cat. 13. Figure 514.5C-9 & Table 514.5C-II (for varying propeller speed), with f0=102Hz (a C130H/J plane), and materiel location "In engine compartment, empennage or pylons" (vibration level L0=0,60g2/Hz).
- MIL-STD-810F, Method 516.5, Procedure I, saw thooh of 15 g, 11ms.
- MIL-STD-810F, Method 513.5. Aceleration Level: 15 g for the launching axis and 10 g for the other axes.

These tests have been conducted by the "Instituto Nacional de Técnica Aeroespacial (INTA)" and the Declaration of success and the test reports are available under a Non-Disclosure Agreement (NDA).

2. That a Reliability Prediction based on MIL-HDBK-217F handbook has been performed to the Vector 600, by the company ANZEN AEROSPACE ENGINEERING, ISO 9001: 2015 certificated in Safety Analysis in Transport Systems and Components Engineering.

For the VECTOR-600 reliability prediction data:

- Estimated probability that a critical failure of the VECTOR-600 lead to loss of mission:

Environment	External Component Temperature	Mission Time	Probability of Loss of Mission
AUC	+85ºC	1 Hour	1.809E-05

- MTBF and Failure Rate calculation with POLAR-300 HSP (High Speed Pressure) sensor configuration:

Environment	External Component Temperature	Failure Rate	Mean Time Between Failures
AUC	+85ºC	39.75 FPMH	25,157 Hours

- MTBF and Failure Rate calculation with POLAR-300 LSP (Low Speed Pressure) sensor configuration:

Environment	External Component Temperature	Failure Rate	Mean Time Between Failures
AUC	+85ºC	51.16 FPMH	19,547 Hours

- MTBF and Failure Rate calculation without POLAR-300 (i.e. internal VECTOR AHRS):

Environment	External Component Temperature	Failure Rate	Mean Time Between Failures
AUC	+85ºC	34.64 FPMH	28,868 Hours

The aforementioned results are extracted from the following documents applicable to VECTOR-600, both of which are available under a Non-Disclosure Agreement (NDA):

- VECTOR-600 Reliability Prediction Report
- VECTOR-600 Failure Mode Effects and Criticality Analysis

3. That Vector 600 has been satisfactory tested following the procedure CC-PRO-7212-030-INTA ed01 in compliance with MIL-STD-461F related to Electromagnetic Compatibility.

Emission Test:

- Conducted Emission test (CE102). MIL-STD-461F

Susceptibility test :

- Audio-Frequency Conducted Susceptibility (CS101). MIL-STD-461F
- RF Conducted Susceptibility (CS114). MIL-STD-461F
- Conducted Susceptibility to impulse excitation (CS115). MIL-STD-461F
- Conducted Susceptibility to damped sinusoidal trans. (CS116). MIL-STD-461F

The test were performed in the "Instituto Nacional de Técnica Aeroespacial (INTA)" and the test reports are available under a Non-Disclosure Agreement (NDA).

Madrid, 24 March 2022

Teresa Muñoz

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Teresa Muñoz de la Torre
Quality Manager

DE FRUTOS CARRO MIGUEL ANGEL - 05295444Q

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Miguel Ángel de Frutos Carro
UAV Navigation CTO