

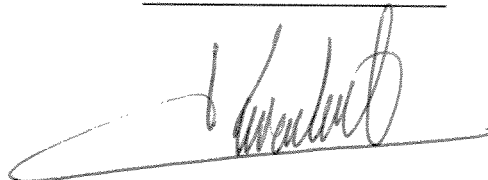
DECLARATION OF DESIGN AND PERFORMANCE (DDP)

For the AHV1600 Low Range Radio Altimeter

Prepared by:
THALES COMMUNICATIONS
160 Boulevard de Valmy - B.P. 82 - 92704 COLOMBES Cedex – FRANCE

Approved by M.KWARTNIK

Date 01/07/09



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EVOLUTIONS

REVISION	DESCRIPTION
- -	First issue
- A	Updated for TSO-C87
- B	
- C	
- D	
- E	
- F	

IND. + DATE	--	- A	- B	- C	- D	- E	- F
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1. Name and Address of Supplier/Manufacturer	Customer Aircraft Manufacturer data
THALES COMMUNICATIONS 160, Boulevard de Valmy BP 82 92704 Colombes France	Aircraft Type Helicopter Customer name Various
2. Description and Identification	
Part Number.....	AHV1600-01-01 00 A
Designation.....	Low Range Radio Altimeter
Short Description.....	The AHV1600 Transceiver is a single channel unit used to provide the System Users with the Radio Altitude Information, which is the Main Landing Gear Wheels Height above the Ground.
Equipment Development Assurance Level.....	The AHV1600 is a Critical Equipment Level B classified
Hardware Level.....	The AHV1600 Hardware is DO254 Level B classified
Software Level.....	The AHV1600 Software is DO178B Level B classified
Software Configuration Index CSCI MANAGEMENT (VDD).....	61814516-498 Rev. -E
Software Configuration Index CSCI TS (VDD)	5615832B-498 Rev. AA
FPGA Configuration Index (FVDD).....	62061842-498 Rev. -F
Equipment Configuration Index (CID)	62390566-109 Rev. --
Modification Standard.....	
Outline Drawing	61939395-041 Rev. --
Weight and Overall Dimensions.....	Max weight: 2 kg h = 94.4mm ± 0.6mm l = 189.4mm ± 0.6mm w = 89.4mm ± 0.6mm
Description of the Modification to the previous Type.....	None

3. Applicable Specification Reference	
Equipment Specification (ES)	61814657-306 Rev -B
Interfaces Control Document (ICD)	61814659-558 Rev -B
Acceptance Test Procedure (ATP).....	62101820-090 Rev.-D
Environmental Qualification Test Procedure (EQTP).....	62056971-206 Rev.-A
Software Quality program Plan (SQPP ou SQAP)...	61814509-311 Rev. –B (SDP)
FPGA Quality program Plan	61816578-599 Rev. –D (PFAC)
Software Configuration Management Plan.....	61814509-311 Rev. –B (SDP)
FPGA Configuration Management Plan (FCMP).....	61816578-599 Rev. -D (PFAC)
4. Rated Performance	
Failure Mode and Effect Analysis FMEA/FMES.....	62060460-530 Rev. -A
Maintenability Analysis and Report.....	61937476-997 Rev. -A
Reliability Report.....	61937475-576 Rev. -A
Fault Tree Analysis Report.....	62095918-601 Rev. -A
5. Particular of Approvals	
TSO.....	TSO-C87
ETSO.....	ETSO 2C87 : - Monitoring level : class A - In-flight condition : category L / P - Degree of accuracy : category B - Altitude range : category B

6. Qualification Tests Report and Software Accomplishment Summary.	
Environmental Qualification Test Report.....	61816441-279 Rev. -A
Acceptance and Design Test Report (ATR)	62101820-088 Rev. -A
Software Accomplishment Summary CSCI MANAGEMENT.....	61814673-570 Rev.-A
Software Accomplishment Summary CSCI TS.....	62384686-570 Rev -A
FPGA Accomplishment Summary (FAS).....	62061843-570 Rev -C
7. Service and Instruction Manual	
Maintainability data	
- Maintenance Manual (CMM).....	34-42-61 rev.1
- Installation Manual	36719226-AA rev.0
- User's Instruction Manual	36719226-AA rev.0

8. Statement of Design Compliance			
The design of the Unit/Equipment complies with the specification as defined in section 3, with the restrictions and limitations listed in section 11 below.			
9. Statement of Level of Compliance			
Operating Limitation Statement.....		N/A	
Endurance, Life, Fatigue Limitation Statement.....		N/A	
Production Readiness Statement.....		Compliant	
Certification Readiness Statement.....		Compliant	
Environmental Condition Statement.....		The radio altimeter AHV1600 is compliant with DO160 E as defined in Environmental Test Qualification Report (61816441-279 Rev. -A). ED-14E Cat. [(B4)X]BBB[RG]XWFD FSZZAZ[ZC][HF]M[(A4G33)(A3J33)]XXAX	
Environmental Condition DO160E	DO160E section	Description of conducted test	Status
Temperature and altitude	4	Category B4	Compliant
Temperature variation	5	Category B	Compliant
Humidity	6	Category B	Compliant
Operational shocks and crash safety	7	Category B	Compliant
Vibration	8	Category R curve G	Compliant
Explosive atmosphere	9	Not required Category X	Compliant
Waterproofness	10	Category W	Compliant
Fluids susceptibility	11	Category F	Compliant
Sand and dust	12	Category D	Compliant
Fungus resistance	13	Category F	Compliant
Salt Fog	14	Category S	Compliant
Magnetic effect	15	Category Z	Compliant
Power input	16	Category Z	Compliant

		TCF declares that the AHV1600 Transceiver is able to withstand momentary power interruption up to 2ms (Test condition 1 of table 16-3).	
Voltage spike	17	Category A	Compliant
Audio frequency conducted susceptibility – power inputs	18	Category Z	Compliant
Induced signal susceptibility	19	Category ZC	Compliant
Radio frequency susceptibility (radiated and conducted)	20	Category H for Conducted Susceptibility Category F for Radiated Susceptibility	Compliant Compliant
Emission of radio frequency energy	21	Category M	Compliant
Lightning induced transient susceptibility	22	Pin Injection Tests : Equipment tested to Category (A4) for power lines and (A3) for interconnecting lines. Cable Bundle Tests : Equipment tested to Category (G33) for power lines and (J33) for interconnecting lines.	Compliant Compliant
Lightning direct effects	23	Not required Category X	Compliant
Icing	24	Not required Category X	Compliant
Electrostatic discharge	25	Category A	Compliant
Fire, Flammability	26	Not required Category X	Compliant

10. Statement of Criticality

Equipment Criticality.....	The AHV1600 is a Critical Equipment Level B classified
Hardware development assurance level.....	The AHV1600 Hardware is DO254 Level B classified
Software development assurance level.....	The AHV1600 Software is DO178B Level B classified

11. Restriction for use

The compliance to DO160E used instead of the current DO160D deviate from the ETSO 2C87 requirement of the Sub-part A.

The compliance to DO160E used instead of the "ENVIRONMENTAL TEST PROCEDURES FOR AIRBORNE ELECTRONIC EQUIPMENT " deviate from the TSO-C87 requirement.

The declaration of this document is made under the authority of THALES COMMUNICATIONS.

On behalf of THALES COMMUNICATIONS, we hereby certify that the information contained in this DDP is accurate.

THALES COMMUNICATIONS cannot accept responsibility for equipment used outside of the limiting conditions stated above without previous agreement.

In the event the design of this Equipment is changed, THALES COMMUNICATIONS will revise this declaration

This declaration and supporting data will remain in effect until superseded, suspended or revoked by THALES COMMUNICATIONS

Date: 01/07/09



Mr Benoit COUTURE

Director of Navigation and IFF Business Segment

THALES COMMUNICATIONS