

**PUBLIC Coordination Comment Matrix  
DOCUMENT COMMENT LOG**

<b>Originating Office:</b>  AIR-130	<b>Document Description:</b>  TSO-C200 AIRFRAME LF-ULD	<b>Project Lead:</b>  STEVE RAMDEEN, FAA - Avionics System Branch AIR-130 800 Independence Ave, SW Washington, DC 20591-0004	<b>Reviewing Office:</b> Steve.ramdeen@faa.gov	<b>Date of Review:</b>  04 June 2012
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<b>Company &amp; Group</b>	<b>Page &amp; Paragraph</b>	<b>Comment</b>	<b>Rationale for Comment</b>	<b>Recommendation</b>	<b>Disposition</b>
<b>Eurocopter</b>	Page 2 § 3	Whereas § 3.e requires qualification of software, if any, against DO-178B, there is no equivalent request for possible complex electronic hardware.  Nevertheless, § 5 a(4)(b) requires that the " <i>airborne electronic hardware ... design assurance level</i> " be provided, which is not consistent if neither DO-254 nor ARP 4754A are specified for the hardware.	It is guessed that one reason for not specifying CEH qualification against DO-254 is that AC 20-152 requests CEH qualification against DO-254 only for DAL A, B and C, which are unlikely according to the ULD failure classification.  However, DO-254 should be mentioned for the possible cases where a higher DAL is required, which would de facto allow the fulfillment of the requirement in § 5 a(4)(b).	Add § 3.f (Electronic Hardware Qualification) as defined in TSO template (FAA Order 8150.1C appendix G)  Possibly, precise that this is only mandatory if a DAL higher than D is required for the complex hardware.	<b>Not Accepted</b> – The FAA does not require use of RTCA DO-254 for complex custom airborne electronic hardware in TSO articles when the failure condition classification is minor. Additionally, the FAA does not require a PHAC or documentation of the hardware lifecycle data for the TSO article if the failure condition classification is minor. Thus, paragraphs 3.f., 5.d., and 6.h. are removed when the failure condition classification is defined by the TSO as minor, as it is with TSO-C200.
<b>Cessna</b>	Page 2 § 3	Cessna would like to know why RTCA/DO-254 'Design Assurance Guidance for Airborne Electronic Hardware (AC20-152) is not mentioned in reference to obtaining a TSO.	While Cessna understand that per AC20-152, DO-254 is not strictly required for level D AEH. Cessna would appreciate a clarification to avoid confusion or lack of standardization on which requirements to use for a TSO.		<b>Not Accepted</b> – The FAA does not require use of RTCA DO-254 for complex custom airborne electronic hardware in TSO articles when the failure condition classification is minor. Additionally, the FAA does

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					not require a PHAC or documentation of the hardware lifecycle data for the TSO article if the failure condition classification is minor. Thus, paragraphs 3.f., 5.d., and 6.h. are removed when the failure condition classification is defined by the TSO as minor, as it is with TSO-C200.
<b>Boeing Commercial Airplanes</b>	Page 2, Para 3.	We recommend adding a new paragraph to paragraph 3. to address airborne electronic hardware qualification requirements	<p>We suggest adding the following text:</p> <p><i>“[xx]. If the article includes complex custom airborne electronic hardware, develop the component according to RTCA, Inc. Document RTCA/D0-254, Design Assurance Guidance for Airborne Electronic Hardware, to at least the design assurance level consistent with the failure condition classification defined in paragraph 3.b of this TSO. For custom airborne electronic hardware determined to be simple, RTCA/D0-254, paragraph 1.6 applies.”</i></p> <p><i>Note: The certification liaison process objectives will be considered satisfied after FAA review of the applicable life cycle data.”</i></p>	To ensure that proposed TSO-C200 is more complete and comprehensive, it should address requirements for airborne electronic hardware. Additionally, our suggested change is in accordance with the guidelines of FAA Order 8150.1C (Technical Standard Order Program).	<b>Not Accepted</b> – The FAA does not require use of RTCA DO-254 for complex custom airborne electronic hardware in TSO articles when the failure condition classification is minor. Additionally, the FAA does not require a PHAC or documentation of the hardware lifecycle data for the TSO article if the failure condition classification is minor. Thus, paragraphs 3.f., 5.d., and 6.h. are removed when the failure condition classification is defined by the TSO as minor, as it is with TSO-C200.

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Boeing Commercial Airplanes	Page 4, Para. 5.	We recommend adding a new paragraph, after paragraph 5.c., to address application data requirements for airborne electronic hardware.	We suggest adding the following text:  <i>“If the article includes simple or complex custom airborne electronic hardware: a plan for hardware aspects of certification (PHAC), hardware verification plan, top-level drawing, and hardware accomplishment summary (or similar document, as applicable).”</i>	To ensure that proposed TSO-C200 is complete and comprehensive, it should address application data requirements for airborne electronic hardware. Additionally, our suggested change is in accordance with the guidelines of FAA Order 8150.1C (Technical Standard Order Program).	<b>Not Accepted</b> – The FAA does not require use of RTCA DO-254 for complex custom airborne electronic hardware in TSO articles when the failure condition classification is minor. Additionally, the FAA does not require a PHAC or documentation of the hardware lifecycle data for the TSO article if the failure condition classification is minor. Thus, paragraphs 3.f., 5.d., and 6.h. are removed when the failure condition classification is defined by the TSO as minor, as it is with TSO-C200.