

<b>Title</b>	Develop radio frequency and interference rejection characteristics for radio altimeters		<b>Reference:</b>	FSMP.006.01		
<b>Source</b>	FSMP/2 Report					
<b>Problem Statement</b>	Recent ITU activities have threatened aeronautical systems operating in the 4200-4400 MHz band by considering the introduction of mobile broadband systems in adjacent frequency bands. Existing ITU-R documentation, and related documentation such as RTCA DO-155 <i>Minimum Performance Standard Airborne Low-Range Radar Altimeters</i> , describe some performance characteristics for radio altimeters, however additional/refined details are necessary to enable a proper assessment of suitable protection requirements for systems operating on adjacent frequency bands. Without standardized frequency and interference performance characteristics, there is no way to specify suitable protection from interference from services operating in adjacent frequency bands. This creates safety risks to flying aircraft operating radio altimeters, especially noting that non-aeronautical systems can now operate at the adjacent frequency bands.					
<b>Specific Details (including impact statements)</b>	Radio frequency interference rejection characteristics and associated standards for radio altimeters are needed to ensure frequency sharing compatibility between aircraft radio altimeters and other aeronautical applications, namely Wireless Avionics Intra-Communications (WAIC), in the same band. Furthermore, out-of-band interference susceptibility and rejection characteristics are also required for protecting the operations of the radio altimeters from harmful interference caused by non-aeronautical systems operating in adjacent frequency bands.					
<b>Expected Benefit</b>	Protection of continued safe operations of radio altimeters from potentially harmful in-band and adjacent band radio frequency interference, and guidance for future radio altimeter design.					
<b>Reference Documents</b>	Annex 10 ARINC 707-7B Eurocae ED-30 RTCA DO-155 Minimum Performance Standard Low-Range Radar Altimeters Recommendation ITU-R M.2059 "Operational and technical characteristics and protection criteria of radio altimeters utilizing the band 4 200-4 400 MHz", approved Feb. 2014					Attachments  Nil
<b>Primary Expert Group:</b>	FSMP					
WPE No.	Document affected	Description of Amendment proposal or Action	Supporting Expert Group	Expected dates:		
				Expert Group	Effective	Applicability
	Annex 10	Referencing material from Standard Making Organisations, develop technical provisions defining technical aspects relating to radio frequency and interference rejection characteristics of the radio altimeters. Final location of material to be determined.		Q1 2019 [Depends on WAIC measurement effort]		
	Action	Conduct an aircraft fleet equipage impact analysis and develop detailed transition plans based on industry input and expected safety benefit.	AIRP FLTOPSP	Q1 2019		
Initial Issue Date: 2016-11-24		Date approved by ANC: 2016-11-24		Session/Meeting: 203-4		