

Attachment2 Environmental resistance

	Development test		Proto-flight test					
Temperature range	strage, transportation standby turn on operating	-20 to +52 °C -30 to +60 °C -25 to +60 °C -20 to +55 °C	strage, transportation standby turn on operating	-20 to +52 °C -30 to +60 °C -25 to +60 °C -20 to +55 °C				
Sine wave vibration	sweep rate : 2 oct/min maximum amplitude : 12.7 mmDA		sweep rate : 4 oct/min maximum amplitude : 12.7 mmDA					
	frequency [Hz]	acceleration [m/s ²]	frequency [Hz]	acceleration [m/s ²]				
	5.0 to 25.1 25.1 to 31.2 31.2 to 100.0	12.7 mmDA 1 m/s 196	5.0 to 25.1 25.1 to 31.2 31.2 to 100.0	12.7 mmDA 1 m/s 196				
Random vibration	Duration : ≥ 275sec		Duration : ≥ 40sec					
	Z axis	frequency [Hz]	PSD [m ² /s ⁴ /Hz]	Z axis	frequency [Hz]	PSD [m ² /s ⁴ /Hz]		
		20. to 80. 80. to 270. 270. to 413. 413. to 800. 800. to 884. 884. to 1000. 1000. to 2000.	+6 dB/oct 67.4 -6 dB/oct 28.9 -8 dB/oct 22.1 -8 dB/oct		20. to 70. 70. to 270. 270. to 400. 400. to 1000. 1000. to 2000.	+6 dB/oct 48.02 -6 dB/oct 22.1 -8 dB/oct		
		Overall : 214.17 m/s ² rms			Overall : 193.1 m/s ² rms			
		X/Y axis	frequency [Hz]		PSD [m ² /s ⁴ /Hz]	X/Y axis	frequency [Hz]	PSD [m ² /s ⁴ /Hz]
			20. to 70. 70. to 700. 700. to 2000.		+6 dB/oct 19.21 -8 dB/oct		20. to 70. 70. to 700. 700. to 2000.	+6 dB/oct 19.21 -8 dB/oct
Overall : 138.67 m/s ² rms			Overall : 138.3 m/s ² rms					
Shock	SRS (Q=10) Duration : 2 times each for positive and negative directions for each axis, 12 times in total		/					
	frequency [Hz]	level [m/s ² srs]						
	100 to 800 800 to 4000	+8 dB/oct 9800						