Attachment 2　New Reaction Wheel Assembly Series 'Type M-A' Environmental Test condition

ID	item	Contents		
1	Temperature Range	Storage　　: −20℃ ～ +50℃ Transportaion : −20℃ ～ +40℃ On-orbit non-operation : −30℃ ～ +70℃ *1) Turn-on　　: −15℃ ～ +60℃ *1) On-orbit operation　　:−5℃ ～ +60℃ *2) *1)Temperature range that does not cause any failure or unrecoverable degradation *2)Temperature range that satisfies sepcifications for function and performance and operate properly		
2	Sine wave vibration (including acceleration)	Qualification Test Level	Protoflight Test Level	Acceptance Test Level
		5 ～ 27.96Hz　: 12.7 mm DA 27.96～100　Hz　: 196.1m/s^2 o-p (20Go-p) sweep : 2oct/min, 1 round trip	5 ～ 27.96Hz　: 12.7 mm DA 27.96～100　Hz　: 196.1m/s^2 o-p (20Go-p) sweep　: 4oct/min, 1 round trip	N/A
3	Random vibration (including acoustic)	＜in-plane＞ 20 ～　70 Hz　;+6 dB/oct 70 ～　145 Hz　;48.0 m^2/s^4/Hz 145 ～　214 Hz　;−6 dB/oct 214 ～　1000 Hz　;22.1 m^2/s^4/Hz 1000 ～　2000 Hz　;−8 dB/oct Over All　:　183.0 m/s^{2}rms (18.7Grms) ＜out-of-plane＞ 20 ～　70 Hz　: ＋3 dB/oct 70 ～　220 Hz : 48.0 m^2/s^4/Hz 220 ～　325 Hz : −6 dB/oct 325～　1000 Hz : 22.1 m^2/s^4/Hz 1000 ～　2000 Hz : −5.8 dB/oct Over All　: 195.9m/s^{2}rms (20.0 Grms) time : 120 sec	＜in-plane＞ 20 ～　70 Hz　;+6 dB/oct 70 ～　145 Hz　;48.0 m^2/s^4/Hz 145 ～　214 Hz　;−6 dB/oct 214 ～　1000 Hz　;22.1 m^2/s^4/Hz 1000 ～　2000 Hz　;−8 dB/oct Over All : 183.0 m/s^{2}rms (18.7Grms) ＜out-of-plane＞ 20 ～　70 Hz　: ＋3 dB/oct 70 ～　220 Hz : 48.0 m^2/s^4/Hz 220 ～　325 Hz : −6 dB/oct 325～　1000 Hz : 22.1 m^2/s^4/Hz 1000 ～　2000 Hz : −5.8 dB/oct Over All　: 195.9m/s^{2}rms (20.0 Grms) time : 40 sec	＜in-plane＞ 20 ～　70 Hz　;+6 dB/oct 70 ～　145 Hz　;24.0 m^2/s^4/Hz 145 ～　214 Hz　;−6 dB/oct 214 ～　1000 Hz　;11..1 m^2/s^4/Hz 1000 ～　2000 Hz　;−8 dB/oct Over All　:　130.0 m/s^{2}rms (13.3Grms) ＜out-of-plane＞ 20 ～　70 Hz　: ＋3 dB/oct 70 ～　220 Hz : 24.0 m^2/s^4/Hz 220 ～　325 Hz : −6 dB/oct 325～　1000 Hz : 11.1 m^2/s^4/Hz 1000 ～　2000 Hz : −5.8 dB/oct Over All　: 138.7m/s^{2}rms (14.2 Grms) time : 40 sec
4	Shock	SRS (Q = 10) [m/s2] 100～800Hz:　+8dB/oct 800～4000Hz:　9800　{1000G}		
5	Thermal vacuum	−30℃～+70℃　1 cycle,　−5℃～+60℃　8 cycle,　Vacuum : < 133×10^{-5} Pa(1×10^{-5} Torr)		
6	Radiation	Resistance of total dose :　above 300Gy		