

ISO 24411:2022-10 (E)

Space systems - Micro-vibration testing

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	2
5	Test purpose	2
6	General test information	3
6.1	Tailoring	3
6.2	Disturbance sources	3
6.3	Preliminary analysis	3
7	Test equipment	3
7.1	Test configuration for transfer function measurement and modal survey test	3
7.2	Test configuration for response measurement	4
7.3	Test equipment functional requirements and recommendations	5
7.3.1	Boundary simulation	5
7.3.2	Excitation	7
7.3.3	Measurement, data acquisition and processing	7
8	Test requirements and recommendations	8
8.1	General test requirements and recommendations	8
8.1.1	General	8
8.1.2	Transfer function measurement	9
8.1.3	Modal survey test	9
8.1.4	Micro-vibration response measurement	9
8.2	Pre-conditions	9
8.3	Test article configuration	9
8.4	Test environment	10
8.4.1	Laboratory environment requirements	10
8.4.2	Background noise requirements	10
8.5	Measurement	10
8.6	Safety	10
9	Test flow and procedure	11
9.1	Test flow	11
9.2	Test procedure	11
9.2.1	General	11
9.2.2	Before the test	12
9.2.3	Test implementation	12
9.2.4	After the test	14
10	Test interruption and handling	14
10.1	Test interruption	14
10.2	Interruption handling	14

11	Test data and result evaluation	14
11.1	Test data	14
11.2	Result evaluation	15
12	Test report	15
	Annex A (informative) Typical internal disturbance sources and characteristics	16
	Annex B (informative) Guideline of the necessity of spacecraft level micro-vibration test	17
	Annex C (informative) Suspension frequencies measurement	18
	Bibliography	22