

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Abbreviated terms
5	Testing philosophy
5.1	Objectives, tasks and principles of development test for launch vehicle and its units
5.1.1	Development test
5.1.2	Objectives
5.1.2.1	Objectives of ground development test
5.1.2.2	Objectives of flight test
5.1.2.3	Objectives for reliability and safety programmes
5.1.2.4	Objectives of test for launch vehicle and its units
5.1.3	Test planning
5.1.4	Organization and test sequence
5.1.5	Development test programme plan
5.1.5.1	Planning
5.1.5.2	Initiation of the programme
5.1.5.3	Contents of development test programme plan
5.1.5.4	Principles of development test programme plan
5.1.6	Effects of implementation of principles
5.2	LV and rocket unit test types during their development
5.2.1	Tests in development phase
5.2.1.1	General
5.2.1.2	Mock-up test
5.2.1.3	Environmental test
5.2.1.4	Propulsion system test
5.2.1.5	Other functional and performance test
5.2.1.6	Launch site verification and validation test and flight demonstration
5.2.1.7	Other consideration
5.2.2	Test in routine production phase
5.2.2.1	Consensus with customer
5.2.2.2	Models and test categories
5.2.2.3	Requirements applicability matrix
5.2.2.4	Test for rocket engines
5.2.3	Test for units
6	Test type and programme requirements
6.1	Test object and type requirements
6.1.1	Engineering and engineering-technological breadboarding
6.1.1.1	General
6.1.1.2	Two types of mock-up
6.1.1.3	Test for engineering mock-up
6.1.1.4	Test for engineering-technological mock-up
6.1.2	Integration/check-out mock-up test
6.1.3	Electrical mock-up test
6.1.4	Fuelling mock-up test
6.1.5	Antenna mock-up test

6.1.6	Static load test
6.1.7	Vibration test
6.1.8	Acoustic test
6.1.9	Shock load test
6.1.10	Cold test of rocket units
6.1.11	Hot firing test
6.1.12	Electromagnetic compatibility (EMC) test
6.1.13	Climatic test
6.1.14	Fire and explosion safety test
6.1.15	Lightning and statics resistance test
6.1.16	Transportability test
6.1.17	Lifetime test
6.1.18	Test at integration site and launching site
6.1.19	Flight test
6.1.20	LV components disposal requirements
6.1.21	Batch production test
6.1.21.1	General
6.1.21.2	Acceptance test
6.1.21.2.1	Before the test
6.1.21.2.2	Procedure for acceptance test
6.1.21.2.3	Re-qualification in the case for design change
6.1.21.2.4	Re-qualification in other cases
6.1.21.3	Acceptance test in butch production phase
6.2	General requirements to development test programme and individual test programme
6.2.1	Contents of development test programme plan
6.2.2	Test programme plans for test models
6.2.3	Requirements for test methods established by test programme plans
6.2.4	Contents of test programme plans
6.2.5	Requirements for communications systems programme plan
6.3	General test object requirements
6.3.1	Test objects
6.3.2	Documentation for test objects
7	Criteria
8	Reporting
Annex A	(informative) Manufacturing stage, item categories and test categories
Annex B	(informative) Requirements applicability matrix
Annex C	(informative) Typical test report contents
Annex D	(informative) Typical test programme plan contents