DRAFT INTERNATIONAL STANDARD ISO/DIS 17401

ISO/TC **20**/SC **14** Secretariat: **ANSI**

Voting begins on: Voting terminates on:

2021-11-22 2022-02-14

Space systems — Spacecraft interface requirements document for launch vehicle services

Systèmes spatiaux — Document d'exigences d'interface du véhicule spatial vis-à-vis du service de lancement

ICS: 49.140

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

This document is circulated as received from the committee secretariat.



Reference number ISO/DIS 17401:2021(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Contents Foreword			Page
			Intr
1	Scop	e	1
2	Norn	native references	1
3	Terms, definitions and abbreviated terms		
3	3.1	Terms and definitions	
	3.2	Abbreviated terms	
4	Snace	ecraft mission description	2
-	4.1	Mission description	
	4.2	SC description (optional)	
5	Mechanical interfaces		2
	5.1	Mechanical configuration	
	5.2	SC fundamental frequencies	
	5.3	Usable volume	
	5.4 5.5	Spacecraft (or SC adapter) mechanical interface	
	5.6	Connectors and microswitches (SC side of the interface) Purges and fluid connection interface	
	5.7	Encapsulated spacecraft access	
6	Floct	rical interfaces	4.
Ū	6.1	Umbilical wiring diagram	
	6.2	Umbilical connectors	
	6.3	Umbilical wiring links (for each connector pin)	5
	6.4	Electrical commands dedicated to spacecraft	
		6.4.1 Pyrotechnic commands	
		6.4.3 Electrical commands	
	6.5	Separation status transmission	
	6.6	SC in-flight telemetry	
	6.7	Power supply required from LV	
	6.8	Earth potential continuity	7
7	Radio-frequency and electromagnetic interface		8
	7.1	Characteristics of radio-electrical systems	
	7.2	RF telemetry and command link	
		7.2.2 SC antenna coordinates	
		7.2.3 RF-link implementation	
		7.2.4 RF-link budget	9
		7.2.5 Base band signal characteristics	10
8	Spacecraft mission characteristics		
	8.1	SC input data for mission analyses	
		8.1.1 Mass and inertia characteristics	
		8.1.2 Sloshing masses (pendulum-type)	
	8.2	SC orbit parameters (with tolerances)	
	8.3	Launch window	
		8.3.1 Launch window constraints (when applicable)	13
	o :	8.3.2 Preferred window	
	8.4	SC pointing and separation	
9		ronment requirements	
	9.1	General	
	9.2	Mechanical environment	13