

Third edition
2021-04

Information technology — Telecommunications and information exchange between systems — Near field communication interface and protocol 2 (NFCIP-2)

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Interface et protocole 2 en
communication de champ proche (NFCIP-2)*



Reference number
ISO/IEC 21481:2021(E)

© ISO/IEC 2021



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 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

This is a preview of "ISO/IEC 21481:2021". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms	2
5 Conventions and notations	2
6 NFCIP-2 device	2
7 External RF field detection	3
8 RF field generation	3
9 Mode selection and switching	3
Bibliography	5

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This third edition cancels and replaces the second edition (ISO/IEC 21481:2012), which has been technically revised.

The main change compared to the previous edition is the improvement of the specification of the mode selection and switching mechanism.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

This is a preview of "ISO/IEC 21481:2021". [Click here to purchase the full version from the ANSI store.](#)

Introduction

In 2002, Ecma International formed Task Group 19 of Technical Committee 32 to specify near field communication (NFC) signal interfaces and protocols. The NFC devices are wireless, closely-coupled devices communicating at 13,56 MHz.

Although ISO/IEC 18092 (NFCIP-1), ISO/IEC 14443 and ISO/IEC 15693 all specify 13,56 MHz as their working frequency, they specify distinct communication modes. These are defined as NFC, PCD, PICC and VCD communication modes.

This document (NFCIP-2) specifies the mechanism to detect an external RF field and select one communication mode out of those four possible communication modes. Furthermore, NFCIP-2 requires that subsequent behaviour be as specified in the standard specifying the selected communication mode.

In 2018, the work to revise this document started to improve mode selection and switching to address latest use cases. Furthermore, harmonization with NFC Forum requirement specification is intended.