

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

J.1109

(01/2019)

SERIES J: CABLE NETWORKS AND TRANSMISSION
OF TELEVISION, SOUND PROGRAMME AND OTHER
MULTIMEDIA SIGNALS

Switched digital video over cable networks

Requirement for in-band full-duplex in a HFC based network

Recommendation ITU-T J.1109



International
Telecommunication
Union

Documents
Document Sharing Hub

Recommendation ITU-T J.1109

Requirement for in-band full-duplex in a HFC based network

Summary

Recommendation ITU-T J.1109 describes the high level general and system requirements for in-band full-duplex in a hybrid fibre coaxial (HFC) based network.

Keywords such as ultra-high-resolution content delivery, end-to-end access service proliferation, high-speed transmission and broadband transmission are becoming the basic requirements for network providers who are responsible for data transmission and reception.

In particular, as various IoT services, personal media and cloud-based services gradually become common, there is a demand for high data rate for subscribers.

Cable networks are also undergoing various network evolution processes to develop and apply technologies that satisfy the requirements of the service ecosystem.

Currently, cable broadcasting networks have limited upstream frequency bands that can transmit data.

In order to overcome these limitations and enable symmetric upstream and downstream transmission, in-band full-duplex (IFDX) transmission technology that enables simultaneous transmission and reception in the same band is being developed.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T J.1109	2019-01-13	9	11.1002/1000/13839

Keywords

IFDX, in-band full-duplex.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

© ITU 2019

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

Table of Contents

	Page
1 Scope.....	1
2 References.....	1
3 Definitions	1
3.1 Terms defined elsewhere	1
3.2 Terms defined in this Recommendation.....	1
4 Abbreviations and acronyms	1
5 Conventions	1
6 Overview.....	2
7 Requirements	3
7.1 General requirements.....	3
7.2 System requirements	4
Appendix I.....	5