

Unified Security Requirements of HDTV DVB-C and DVB-T2 digital receiver for Finnish market

Version 4.3

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1 Introduction

This document specifies a set of security requirements for IRDs for the reception of HDTV Pay-TV services in Finnish Cable and DVB-T2 Television Networks. The requirements cover IRDs for both “zapper” and “PVR” –functions with integrated Conax smartcard interface, as separate units (set-top-boxes), CAM-modules and as relevant parts of integrated digital TV-sets. FiCom reserves rights to update this document to fulfill the upcoming requirements. Requirements related to functionalities which are not specified in this document or in the referenced documents (e.g. IPTV and VOD) will be considered later.

1.1 Document history

Version	Date	Description
1.0	April 21, 2008	First public version of the requirements
1.1	January 19, 2010	Draft with added CI+ requirements
2.0	December 13, 2011	Unified requirements for DVB-C and DVB-T2 IRDs
4.2	June 24, 2021	Updated to reference to the Unified Requirements of HDTV DVB-C and DVB-T2 digital receiver for Finnish market, Ver. 4.2
4.3	December 24, 2022	Updated to reference to the Unified Requirements of HDTV DVB-C and DVB-T2 digital receiver for Finnish market, Ver. 4.3

1.2 References

- [1] STB Profile Nordic Secure Zapper v 1.0. Conax Security and Conformity Requirement Profile for Nordic Secure STB
- [2] Unified Requirements of HDTV DVB-C and DVB-T2 digital receiver for Finnish market, Ver. 4.3
- [3] CI Plus Specification Version 1.6.1. Content Security Extensions to the Common Interface

1.3 Abbreviations and definitions

CAM	Conditional Access Module
CATV	Cable Television
HD	High-Definition
HDCP	High-bandwidth Digital Content Protection
HDTV	High-Definition Television
ICT	Information and Communications Technology
IDTV	Integrated digital TV
IRD	Integrated Receiver Decoder, STB, IDTV or CAM
SD	Standard-Definition
SDTV	Standard-Definition Television
STB	Set-top-box

1.4 Background

FiCom is a co-operation organisation for the ICT industry in Finland and looks after its interests.

FiCom's members are companies and other entities that operate in the communications and teleinformatics sector in Finland. The total turnover from Finland of FiCom's members is about EUR 6,5 billion. Approximately 45 000 people work in their different locations.

2 Requirements

Security requirements for the Finnish market are based on different specifications of the Nordic markets. The aim is to have IRDs which comply with the requirements which are common to Nordic markets. Most of the security requirements are specified in Conax specifications. Other requirements are specified in NorDig specifications and the deviations from the NorDig specifications are defined in Finnish HDTV IRD technical specifications [2]. Actual requirements are specified in a detailed manner in the relevant specification documents which are referenced in this specification.

In brief, the most relevant requirements are following:

- IRDs with embedded Conax card reader shall support Conax Chipset Pairing
- All encrypted content shall be HDCP copy control protected for all digital outputs
- If any analog output is available, HD-formatted video shall be down-converted to SD-format for output via analog output
- All encrypted content shall never be stored in unencrypted form
- IRDs without embedded Conax card reader shall support CI Plus interface

2.1 IRDs with embedded Conax implementation

IRD with embedded Conax card reader shall support Conax Chipset Pairing

2.1.1 Valid Conax STB license

Valid Conax STB license is required from IRD manufacturers in order to supply HDTV IRDs to Finnish Television markets.

2.1.2 Security and conformity requirement profile for Nordic secure STB

When IRD manufacturers plan to supply IRDs to Finnish Cable and T2 Television markets, FiCOM provides them with "Security and Conformity Requirement Profile for Nordic Secure STB" document from Conax [1]. This document contains information about the requirements and lists Conax specifications with which the IRD has to comply in order to be approved by Conax. IRDs shall be tested in Conax Conformity Test (CT). Conax specifications are available from Conax to manufacturers with valid Conax licenses.

2.1.3 Minimum Conax STB security level 3

Finnish cable and terrestrial operators have set the Conax Security Level 3 as the minimum required security level for HDTV IRDs. IRDs shall be tested in Conax Security Evaluation (SE). The IRD manufacturers shall present to FiCom their diplomas, proving that the IRD complies with the required level.

2.2 IRDs with CI Plus interface

2.2.1 General requirements

IRDs without embedded Conax card reader shall support CI+ interface. IRD shall fulfill all the mandatory requirements set by "CI Plus specification" version 1.4 [3].

2.3 Finnish HDTV IRD technical specifications

The Finnish HDTV IRD technical specifications are established with the aim to ensure that IRDs in the Finnish market satisfy a common set of minimum requirements, independent of operator/service provider and transmission media. The specifications cover IRDs, as separate units (set-top-boxes), CAM-modules and as relevant parts of integrated digital TV-sets.

The IRDs shall fulfill all the mandatory requirements set by "Unified Requirements of HDTV DVB-C and DVB-T2 digital receiver for Finnish market" [2]. IRDs shall be tested in Cable Ready HD and/or Antenna Ready HD tests. More information about the Cable Ready HD and Antenna Ready HD is available at www.testatutlaitteet.fi.

2.4 CI Plus CAM requirements

2.4.1 URI handling for SD channels

The CAM modules for the Finnish HDTV market shall handle missing URI signalization from SD channels by sending following URI information:

- protocol version: 0x01
- emi_copy_control_info: 0x0b00
- aps_copy_control_info: 0x0b00
- ict_copy_control_info: 0x0b0
- rct_copy_control_info: 0x0b0
- rl_copy_control_info: 0x0b000000
- reserved bits equal: 0x0b0