ETHIOPIAN
STANDARD

ES 7028:2023

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Ethiopay:Payment card scheme specification

ICS:03.060
Published by Institute of Ethiopian Standards

Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Finacial service (TC 107) and published by the Institute of Ethiopian Standards (IES).

For the purpose of this Ethiopian standard, the adopted text shall be modified as follows:

- The phrase "International Standard" shall be read as "Ethiopian Standard" and
- A full stop (.) shall substitute comma (,) as decimal marker.

Ethiopay - Payment Card Scheme Specification

1. Scope

This Ethiopian standard specifies the requirements for Ethiopay contact payment card schemes. This standard excludes contactless, and QR scheme.

2. Normative reference

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ES ISO 17442-1: Financial services — Legal entity identifier (LEI) — Part 1: Assignment

ES ISO 17442-2: Financial services — Legal entity identifier (LEI) — Part 2: Application in digital certificates

ES ISO/IEC 7810, Identification cards — Physical characteristics

ES ISO/IEC 7812 – 1, Identification cards — Identification of issuers — Part 1: Numbering system

ES ISO/ IEC 7813, Information technology — Identification cards — Financial transaction cards

ES ISO 3166-1, Codes for the representation of names of countries and their subdivisions — Part 1: Country code

ES ISO/IEC 7816-1, Identification cards — Integrated circuit cards — Part 1: Cards with contacts — Physical characteristics

3. Terms and definition

For the purpose this Ethiopian standard the following definition shall apply.

3.1.
Card scheme

One or more payment networks linked to payment cards of which a financial institution becomes a member. Its primary role is to manage payment transactions, including operations and clearing. Transactions are managed according to a set of procedures, rules, and arrangements that allow cardholders to use their cards with third parties

3.2.
Automated Teller Machine (ATM)

unattended electronic device that requires a customer verification method such as a card and personal identification number (PIN) to perform basic Financial institutions teller functions such as accepting deposits, cash withdrawal, account transfers, loan payments and balance enquiries

3.3.
Point - of -sale (POS)

a terminal used for processing card payments at retail locations

3.4.
Track data

Mandatory and optional data elements defined for track 1 or track 2

NOTE: - *Track data may be on the magnetic stripe of a physical card, or be contained within an integrated circuit or other media*

3.5.
Individual account number
Number assigned by the card issuer for the purpose of identifying an individual account

3.6.
Card issuer
Institution (or its agent) that issues the card to the cardholder
Note 1 to entry: - *For institutions in the financial services industry and regulatory community, a legal entity as defined in ES ISO 17442, or its agent, that issues the card to the cardholder.*

3.7.
Card
Form factor (physical or virtual) provided by a card issuer
Note 1 to entry: - *For this document, this definition is not limited to ES ISO/IEC 7810 ID-1 card. Some examples of other card types include but are not limited to virtual, thin flexible, single-use, integrated-circuit or mobile devices. Institution (or its agent) which acquires from the card acceptor the data relating to the transaction and initiates the data into an interchange system*

3.8.
Fallback
EMV fallback transactions occur when an EMV-enabled payment card is used in a chip card reader, but the payment cannot be completed using EMV technology

3.9.
Magnetic stripe
A type of pass that permits the user to complete electronic transactions or access a locked physical space

3.10.
Debit card
A physical card that can be used as a method of payment; which is issued by the financial institutions where a customer has an account

3.11.
Acquirer
An entity that owns and operates payment channels and enters in to an agreement with financial institutions, merchants, switch processors or providers of card scheme

3.12.
Common Core Definitions (CCD)
A minimum common set of card application implementation options, card application behaviors, and data element definitions sufficient to accomplish an EMV transaction

3.13.
Financial Institution
a bank, microfinance institution ,an insurance company, reinsurer ,a payment instrument issuer, a payment system operator, a money transfer institution ,a postal saving or such as a similar institutions as may be determined by the national bank

3.14.
Europay, MasterCard, Visa (EMV)
A payment method based on a technical standard for smart payment cards and for payment terminals and automated teller machines which can accept them

3.15.
Integrated circuit card (ICC)
A card into which one or more integrated circuits are inserted to perform processing and memory functions

3.16.
Bank Identification Number (BIN)
A unique number used to identify the card's issuing financial institution

3.17.
Primary Account Number (PAN)
A unique identifier designated on cards for a primary account

3.18.
Common Payment Application (CPA)
Granted to a card product with an embedded CPA application. The CPA approval process attests the compliance of the card application to the EMV CPA Specification

3.19.
Contact card
A process of executing a payment or transaction by presenting a card to pay with physical contact between the card and card reader device (ATM/POS)

4. Requirements

4.1. General Requirements

4.1.1. Ethiopay payment cards shall have primary account number (PAN) that complies with ES ISO/IEC 7812 – 1.

4.1.2. BIN assignment for financial institution shall follow chronological order of the date of request.

4.1.3. Data structure of Ethiopay payment cards shall have Track 1 and track 2 that comply with ES ISO/ IEC 7813.

4.1.4. The data structure of all Integrated Circuit (IC) chips on contact cards shall comply with the EMV specifications.

4.1.5. The common standard application for Ethiopay contact cards shall complies with EMV Common Payment Application (CPA).

4.1.6. IC chips shall comply with EMV Common Core Definitions (CCD) for payment card application.

4.1.7. The personalization of Ethiopay payment cards shall comply with EMV Card Personalization Specification (CPS) .

4.1.8. Financial institutions shall implement EMV CPS compliant chip card products.

4.1.9. Financial institutions shall issue certified EMV compliant chip card products.

4.1.10. Financial institutions shall implement cards having IC chips with fallback to magnetic stripe.

4.1.11. Financial institutions should issue magnetic stripe/IC chip cards for stored value cards

4.1.12. The Ethiopay payment card design shall comply with the common layout for Ethiopay payment cards.

4.1.13. The Ethiopay card branding and Co-branding shall be directed by Approved body nominated by National bank of Ethiopia..

4.1.14. The acquiring devices (POS and ATM) shall be certified for Ethiopay contact card.

4.1.15. The contact cards shall comply with EMV security and key management specifications.

4.1.16. The payment card product should be environmental friendly.

4.1.17. The payment card product shall comply with national security regulation.

NOTE:- a) The Ethiopay card type shall be debit card, credit card or Pre-paid card.

b) Physical characteristics of the card should comply with ES ISO/ IEC 7813.

4.2. Specific Requirements

The contact payment card scheme shall comply with the following specific requirements.

4.2.1. Numbering System

4.2.1.1. Primary Account Number(PAN)

TABLE1: The Primary Account Number (PAN) of all Ethiopay payment cards shall contain 19 (nineteen) digits and comply with the following arrangement.

Digit sequence	**Description**
First Digit	9 is for national assignment as per ES ISO/IEC 7812 -1
Second to Fourth Digits	231 is the code of Ethiopia as per ES ISO 3166-1
Fifth Digit	4 is assigned for financial Institutions as per ES ISO/IEC 7812 -1
Sixth and Seven Digits	Identify financial institutions
Eighth and Nine Digits	Identify Card Products by the respective financial institutions
Tenth to Eighteenth Digits	Identify Account Numbers by the respective financial institutions.
Nineteenth Digit	Check digit

4.2.1.2. Bank Identification Number (BIN)

4.2.1.2.1. The first seven digits of a primary account number shall be Bank Identification Number (BIN).

4.2.1.2.2. BIN assignment for financial institution shall be from 9231401 up to 9231499.

4.2.2. Card Application

4.2.2.1. The structure and general information content of an integrated circuit card are defined in ES ISO/IEC 7816; for interoperability purpose implementers of financial applications on ICCs shall follow the EMV specification.

4.2.3. **Security**

4.2.3.1. The contact cards shall comply with PCI DSS (Payment Card Industry Data Security Standard) and EMV security.

4.2.3.2. The contact cards should comply with PA DSS (Payment Application Data Security Standard).

4.2.4. **Ethiopay Card Design**

4.2.4.1. The card dimension shall be 85.6mm from its top to bottom edges and 54mm from its left to right edges.

4.2.4.2. Front side dimension of the card shall comply with the following requirements

4.2.4.2.1. The issuer financial institutions name and logo shall be printed on the maximum space of 11mm length and 79.6mm width, at the bottom space adjacent to "Valid only in Ethiopia".

4.2.4.2.2. On both the left and right sides of the issuer financial institution's name and logo, a minimum of 3mm spaces shall be left empty.

4.2.4.2.3. The issuer financial institutions should print the co-brand name and/or logo or the financial institutions slogan on the maximum space of 11mm length and 60mm width, at the bottom right side space of the issuer name and logo. On the right side of the co-brand name/logo or slogan, a minimum of 3mm space shall be left empty.

4.2.4.2.4. On the left edge, at the center of the card from top to bottom, the triangular shape showing direction of insertion of the card into ATM/POS shall be printed.

4.2.4.2.5. "Expiry date" shall be printed starting from 24mm from left edge, right after 12mm from bottom edge of the card.

4.2.4.2.6. "Month/Year" shall be printed at the center between the left and right edges of the card right after 15mm from the bottom edge of the card.

4.2.4.2.7. The "EthioPay" logo shall be printed in 20.5mm width and 9.75mm length border lined box at the right bottom corner side of the card 5mm above the bottom edge and 3mm from the right edge of the card.

4.2.4.2.8. The sub-brand "DEBIT, CREDIT OR PREPAID" shall be printed on the space adjacent to the bottom center of the "EthioPay" logo, 3mm above the bottom edge of the card.

4.2.4.3. Back side dimension of the card shall comply with the following requirements

4.2.4.3.1. At the center of the 3mm space from top edge of the card the phrase "Valid only in Ethiopia" should be printed.

4.2.4.3.2. The phrase "Authorized Signature" shall be printed after 16mm from top edge and 3mm from left edge of the card.

4.2.4.3.3. The phrase "Not valid unless signed" shall be printed at the center of the card after 16mm from top edge.

4.2.4.3.4. The sentences "By using this card the holder agrees to all the terms under which it was issued. In the event the card is lost or stolen, contact your branch or customer service center." shall be printed on 56mm width and 8mm length space located next to 32 mm from top edge and 3mm from left edge of the card.

4.2.4.3.5. The phrase "Contact center, customer service telephone number" of financial institutions shall be printed on 18mm width and 8 mm length space located next to 32 mm from top edge and 3mm from right edge of the card.

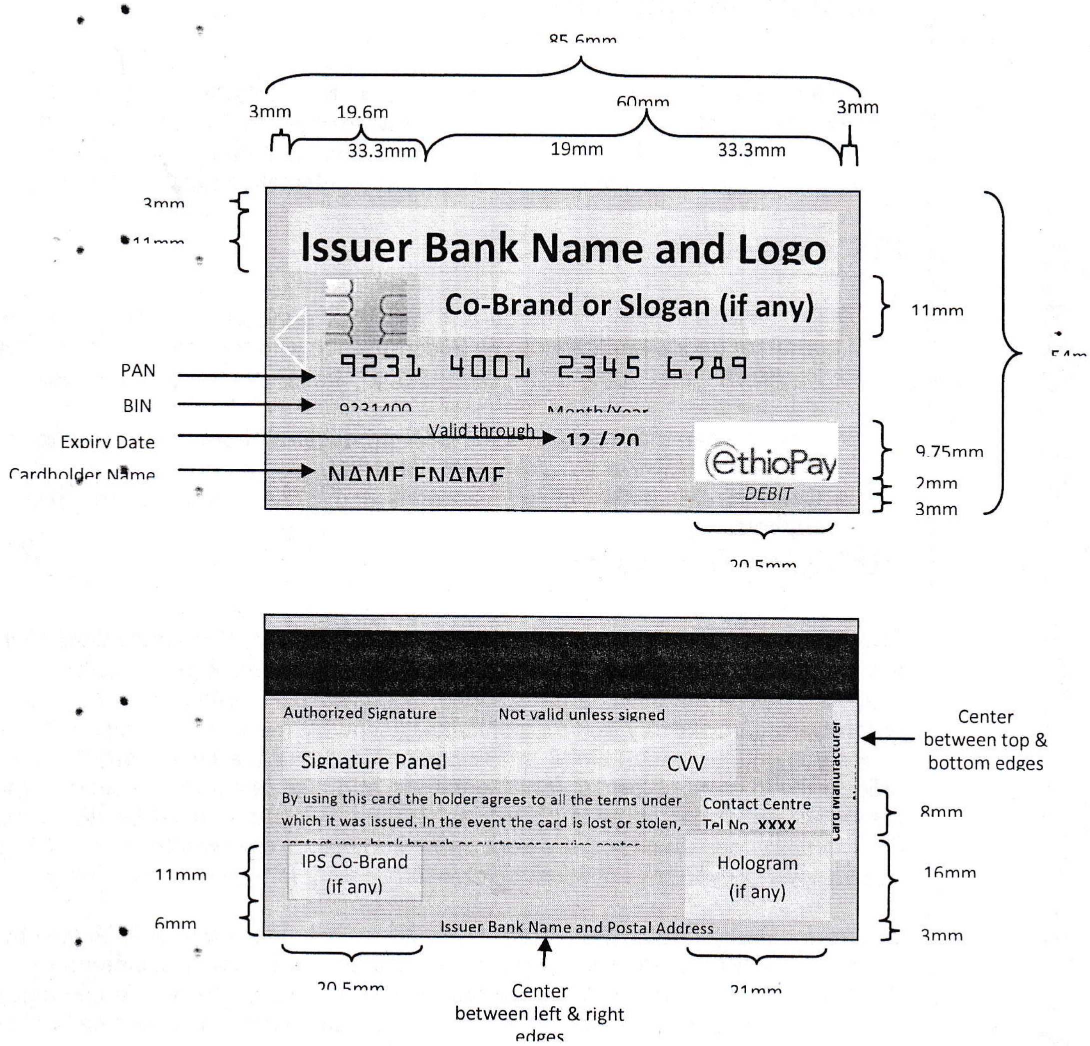
4.2.4.3.6. The card manufacturer name shall be printed on 3mm space from right edge and the center from top to bottom edges of the card.

4.2.4.3.7. If the card also works with an International Card Scheme (ICS) the ICS logo shall be printed on 20.5mm width and 11mm length space, located on the bottom left side of the card, 3mm from left edge and 6mm from bottom edge of the card. If the ICS logo is printed the phrase "Valid only in Ethiopia" on the front top of the card shall not be printed.

4.2.4.3.8. If hologram is added to the card it shall be located on the 21mm width and 16mm length space on the bottom right side of the card, 3mm from the right edge and 3mm from bottom edge of the card.

4.2.4.3.9. The issuer financial institutions name and postal address shall be printed at the center of the 3mm space from bottom edge of the card.

Annex A
(Normative)
Common layout design of domestic payment cards



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INSTITUTE OF ETHIOPIAN STANDARDS

Organization and Objectives

The Institute of Ethiopian Standards (IES) is the national standards body of Ethiopia. IES is re-named by the proclamation number 1263/2021, from Ethiopian Standards Agency (ESA) to Institute of Ethiopian standards, with the mandate given by the regulation Number, 193/2010 and proclamation number, 1263/2021.

IES's objectives are:

- Develop Ethiopian standards and establish a system that enable to check whether goods and service are in compliance with the required standards,
- Facilitate the country's technology transfer through the use of standards,
- Develop national standards for local products and services so as to make them competitive in the international market.
- Conduct standards related research and provide training and technical support.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational and research institutes, governmental organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/ or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.

Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices). A catalogue of Ethiopian Standards is also available freely and can be accessed from our website.

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