Hardware Features

Operating Characteristics

• Voltage:
  - Class A, B, C (1.8V – 5.0V ±10%)
• Temperature Range:
  -25 to + 85 °C

CPU

• 32-bit CPU core

Memory

• 340 – 480 kB Flash
• 10 - 13 kB RAM
• Min. 100,000 erase/write cycles for page at room temperature
• Data retention of 25 years at room temperature

Serial I/O

• Hardware UART (conforms to ISO7816)

DES

• Built-in hardware DES/TDES

Other Chip Features

• 16-bit random number generator (RNG)
• Parity calculator for 8/16/32 bit CRC-16/32 calculator
• 16-bit programmable interval timers
• Dividers: 8, 16, 32, 64, 372
• Form factors: ID-1, 2FF (Standard SIM), 3FF (Micro SIM), 4FF (Nano SIM), Triple SIM

Software Features

Key Features

• Release 12 LTE
• 2G / 3G / LTE / CDMA
• Milenage, TUAK, COMP 128-1/2/3/4, CAVE
• DPA-/SPA-resistant
• DES, AES, SHA-1/256-Hashing, MD5
• Protocols: T=0 / T=1
• Java Card: 3.0.1
• Java™ API:
  - UICC and USAT API
  - Smart de-fragmentation
  - Support of Integer for Java
• GP 2.2.1:
  - GP Key Management
  - GP SD and Hierarchy
  - GP Card Life Cycle States
• OTA Rel. 9+:
  - OTA via SMS / HTTPs / BIP CAT-TP
  - Remote File Management (RFM)
  - Remote Applet Management (RAM)
• Browsers: WIB 1.3 / WIB 2.0 / S@T v4
• R-UIM / CSIM
• ISIM / GBA
• EAP AKA / EAP SIM
• ProSe
• GeoLocation API Rel. 13
• Enhanced Administrative Commands
• Enhanced memory management for 3rd party applications
• Intelligent memory management system to enhance erase/ write cycles
Key Standard Compliance

ETSI

- 101220 ETSI numbering system for telecommunication application providers
- 102127 Transport protocol for CAT applications Stage 2
- 102221 UICC-Terminal interface; Physical and logical characteristics
- 102222 Administrative commands for telecommunications applications
- 102223 Card Application Toolkit (CAT)
- 102225 Secured packet structure for UICC based applications
- 102226 Remote APDU structure for UICC based applications
- 102241 UICC Application Programming Interface (API) for Java Card
- 102268 Test specification for UICC Application Programming Interface (API) for Java Card

3GPP

- 43.019 Subscriber Identity Module Application Programming Interface (SIM API) for Java Card Stage 2
- 51.011 Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface
- 51.013 Test specification for Subscriber Identity Module (SIM) Application Programming Interface (API) for Java Card
- 51.014 Specification of the SIM Application Toolkit for the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface
- 51.017 Subscriber Identity Module (SIM) conformance test specification
- 31.048 Security mechanisms for the (U)SIM application toolkit; Test specification
- 31.01 UICC-Terminal Interface; Physical and Logical Characteristics
- 31.02 Characteristics of the USIM Application
- 31.03 Characteristics of the IP Multimedia Services Identity Module (ISIM) application
- 31.11 USIM Application Toolkit (USAT)
- 31.15 Secured packet structure for (U)SIM Toolkit applications
- 31.16 Remote APDU Structure for (U)SIM Toolkit applications
- 31.22 USIM conformance test specification
- 31.30 (U)SIM API for Java Card
- 31.213 Test Specification: Application Programming Interface (API) for Java Card
- 31.900 SIM/USIM Internal and External Interworking Aspects
- 31.919 2G/3G Java Card
- API based applet internetworking

3GPP2

- C.S0016-C Over-the-Air Service Provisioning of Mobile Stations in Spread Spectrum Standards, Rev.C V2.0
- C.S0023-C Removable User Identity Module for Spread Spectrum Systems, Rev.C V2.0
- C.S0035 CDMA Card Application Toolkit (CCAT), Rev.A V1.0
- C.S0065-A CDMA2000 Application on UICC for Spread Spectrum Systems, Rev.A V1.0

Sun/Oracle Specifications

- JCRE 2.1.1 Java Card 2.1.1 Runtime Environment (JCRE) Specification, Rev. 1.0
- JCRE 2.2.2 Runtime Environment Specification, Java Card Platform, V2.2.2
- JCVM 2.2.2 Virtual Machine Specification, Java Card Platform, V2.2.2
- JCAPI 2.2.2 Application Programming Interface, Java Card Platform, V2.2.2

Global Platform Specifications

- GlobalPlatform Card Specification, V2.11
- GP 2.2 AmdB Remote Application Management over HTTP, Card Specification V2.2 - Amendment B, V1.1

All SIM specifications provided Gliesecke+Devrient