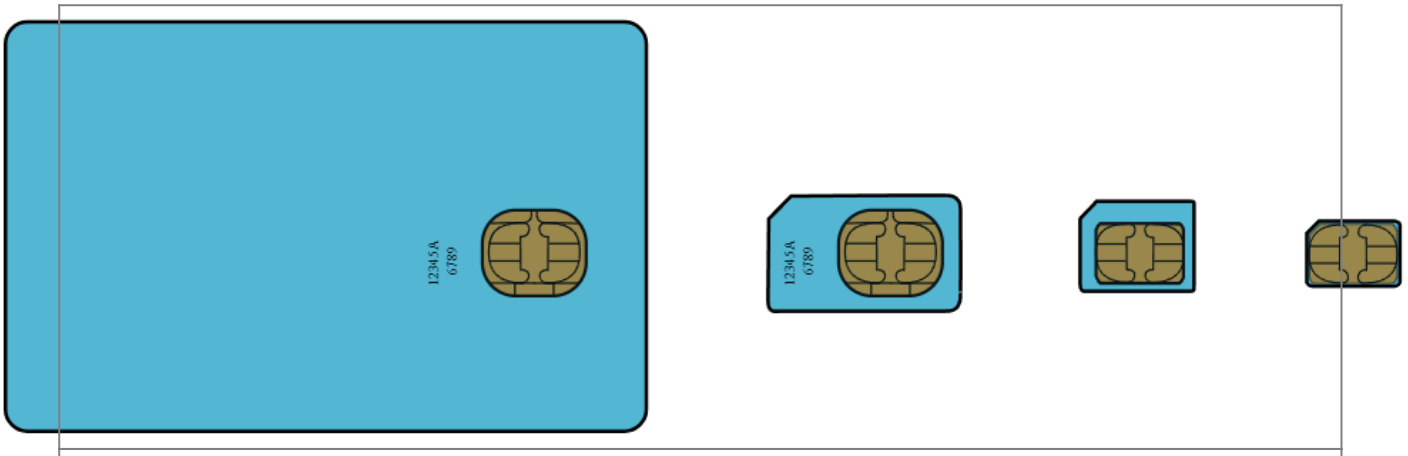
# Содержание

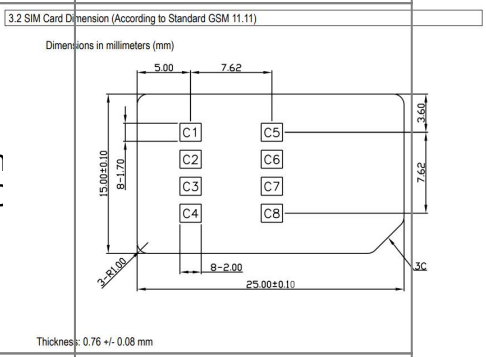
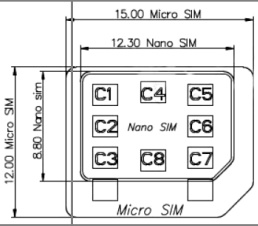
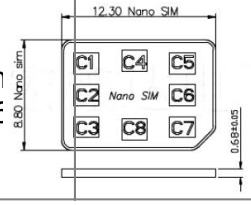
# SIM card

https://en.wikipedia.org/wiki/SIM_card

## Form factors

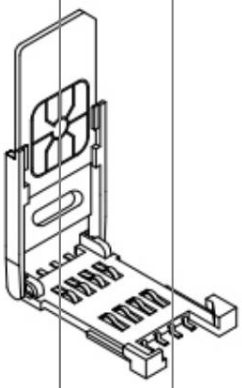


From left, full-size SIM (1FF), mini-SIM (2FF), micro-SIM (3FF), and nano-SIM (4FF)

| SIM card format | Introduced | Standard reference | Length | Width | Thickness | |
|---|---|---|---|---|---|---|
| Full-size (1FF) | 1991 | ISO/IEC 7810:2003, ID-1 | 85.6 mm (3.37 in) | 53.98 mm (2.125 in) | 0.76 mm (0.030 in) | |
| Mini-SIM (2FF) | 1996 | ISO/IEC 7810:2003, ID-000 | 25 mm (0.98 in) | 15 mm (0.59 in) | 0.76 n (0.03( |  |
| Micro-SIM (3FF) | 2003 | ETSI TS 102 221 V9.0.0, Mini-UICC | 15 mm (0.59 in) | 12 mm (0.47 in) | 0.76 n (0.03( |  |
| Nano-SIM (4FF) | early 2012 | ETSI TS 102 221 V11.0.0 | 12.3 mm (0.48 in) | 8.8 mm (0.35 in) | 0.67 n (0.026 |  |

| SIM card format | Introduced | Standard reference | Length | Width | Thickness | |
|---|---|---|---|---|---|---|
| Embedded-SIM (eSIM) | 2016 | ETSI TS 102.671 V9.0.0 JEDEC Design Guide 4.8, SON-8 GSMA SGP.22 V1.0 | — | — | — | |

# Connectors

| | | |
|---|---|---|
| PUSH-PUSH | with ejection mechanizm | |
| PUSH-PULL | no ejection mechanizm | |
| HINGE | no ejection mechan |  |
| GUIDE AND HOLDER | | |

| | |
|---|---|
| KLS | https://www.klsele.com/products/connectors/Card-connectors/SIM-card-connectors.html |
| KLS | https://www.klsele.com/products/connectors/Card-connectors/Micro-SIM-card-connectors.html |
| KLS | https://www.klsele.com/products/connectors/Card-connectors/Nano-SIM-card-connectors.html |
| HSM | |
| Connfly | |
| Attend | |

# Pinout

At first we need to understand SIM Pinouts:

- 6-pin includes VCC, GND, I/O, VPP, RST, CLK
- 8-pin includes VCC, GND, I/O, VPP, RST, CLK, SIM_PRESENCE, GND

| Contact No | Assignment | Description |
|---|---|---|
| C1 | VCC | Power Voltage. |
| C2 | RST | Reset Signal. |
| C3 | CLK | Clocking Signal. |
| C4 | RFU | Reserved for Feature Use. |
| C5 | GND | Power and Signal Ground. |

| Contact No | Assignment | Description |
|---|---|---|
| C6 | VPP | Programming Voltage. |
| C7 | I/O | Serial Data input/output. |
| C8 | RFU | Reserved for Feature Use |