



M5STACK

Cap CC1101

1. Description

Cap CC1101 is an expansion module integrating Sub-1 GHz RF and NFC functionality. The RF section is based on the TI CC1101 transceiver. Through built-in single-pole triple-throw (SP3T) RF switches and multi-band RF matching circuits, it converges the four frequency bands of 315MHz, 433MHz, and 915MHz to a single RP-SMA antenna port, supporting modulation schemes such as 2-FSK. The NFC section adopts the ST25R3916 chip, supporting ISO14443A/B, FeliCa™, and ISO15693 protocols. It can operate in reader/writer or card emulation mode, with a maximum reading distance of up to 45mm. The module communicates via SPI, features an onboard DC-DC buck circuit, and provides a standard Grove interface for easy sensor expansion. It is suitable for scenarios such as remote control signal capturing and replaying, reading and emulating access cards/transit cards, and smart home DIY.



2. Specifications

Specification	Parameters
RF Chip	CC1101
Operating Frequency	315/433/915 MHz
TX Power	-21 dBm
RX Sensitivity	Up to -99.5 dBm
NFC Chip	ST25R3916
NFC Protocol	Reader/Writer Mode: NFC-A/B (ISO14443A/B), NFC-F (FeliCa™), NFC-V (ISO15693) Card Emulation Mode: NFC-A / NFC-F
Communication Interface	SPI
Sleep Power Consumption	DC 5V@140.87uA (CC1101 and NFC both in sleep)
Operating Power Consumption	DC 5V@96mA (CC1101 transmitting at max power continuously, NFC continuously reading)

3. Quick Start

Connect the Cap CC1101 to the main testing control device Cardputer-Adv, and burn the test firmware program for testing.



4. FCC Warning

FCC Caution.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

*RF warning for Mobile device:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.