

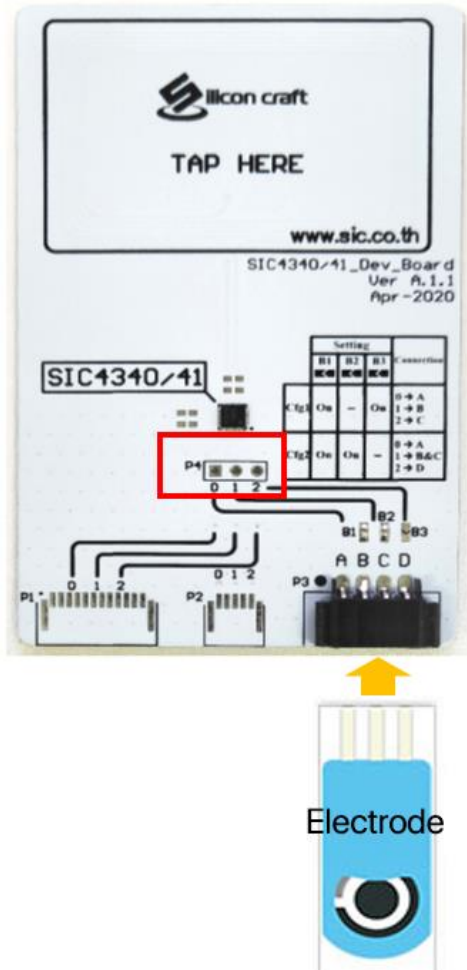
A glowing microchip is shown on a circuit board, with light emanating from its edges. The background is a dark blue with faint circuit patterns and glowing dots.

Getting Start with SIC4341 Flexsense Development Kit

Dec 2022



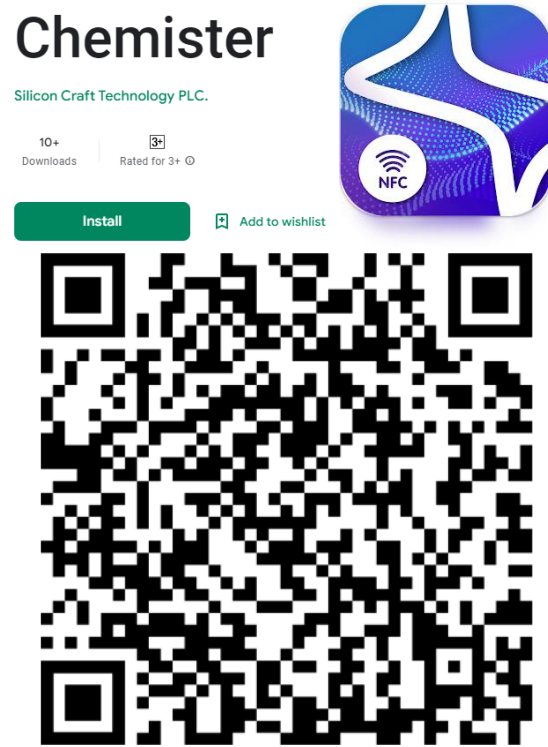
Prepare SIC4341 Flexsense Board



For Flexsense board, electrode pin position can be configured in mobile application

- WE can connect to any within the three pins (red rectangular)
 - IO[0]
 - IO[1]
 - IO[2]
- Set WE, CE, RE pins in the application (Page 4) to match with the electrode connection.

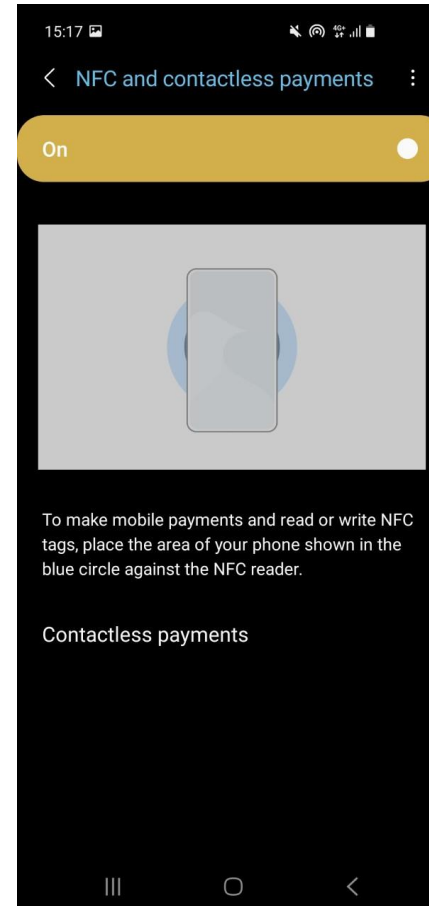
Install and open Android Application



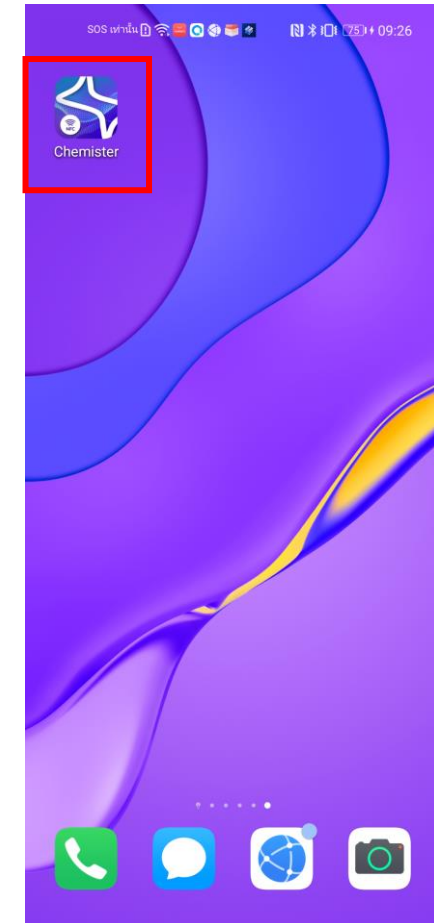
'Chemister' app on Play Store (Android)
For SIC4341 chip

1. Install Android Application from Google Play

https://play.google.com/store/apps/details?id=th.co.sic.nfc.app.flutter.chemister_ver2

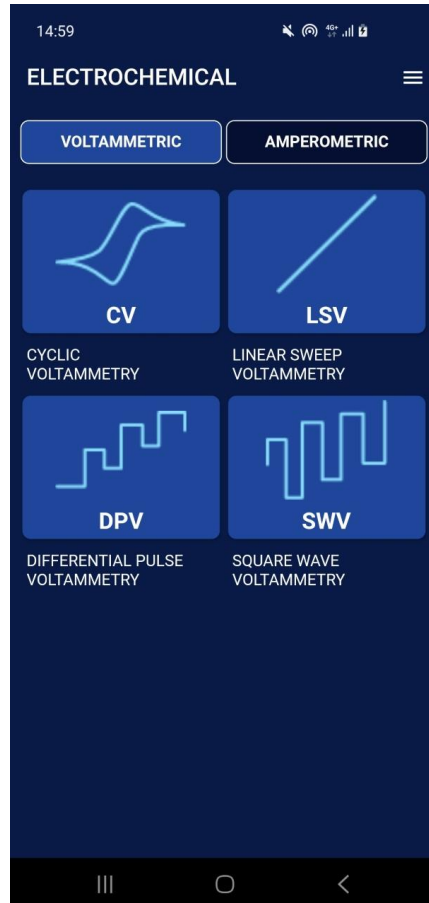


2. Turn on NFC on the phone

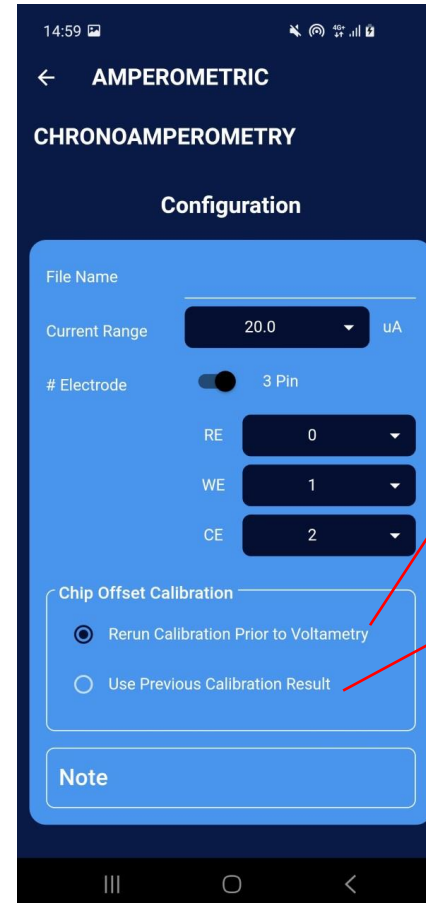


3. Launch the application

Choose measurement mode and setting



Choose the electrochemical method



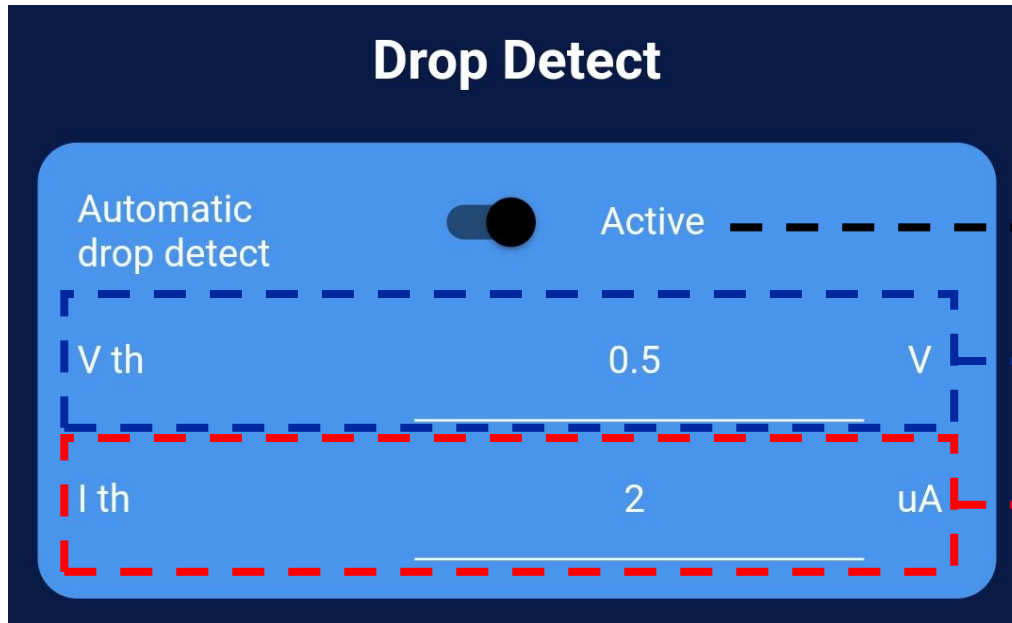
Calibrate the chip before dropping solution

Use calibration data from previous measurement when performing the consecutive test on the same chip without changing any setting.

Set file name, configure the parameters and configure the pin related with electrode, Then click the "Next" button

Drop Detect Feature in Chronoamperometry Mode

Chronoamperometry (CA) mode support auto drop detection feature to start the measurement automatically after drop sample



Enable/Disable drop detection feature

Bias voltage during drop detection process

Threshold current: drop will be detected when current result is higher than this setting

The app will be delayed for 1 second after the detection, then process the next step (as next page)

Parameter Definition - CA

CA Mode

AMPEROMETRIC

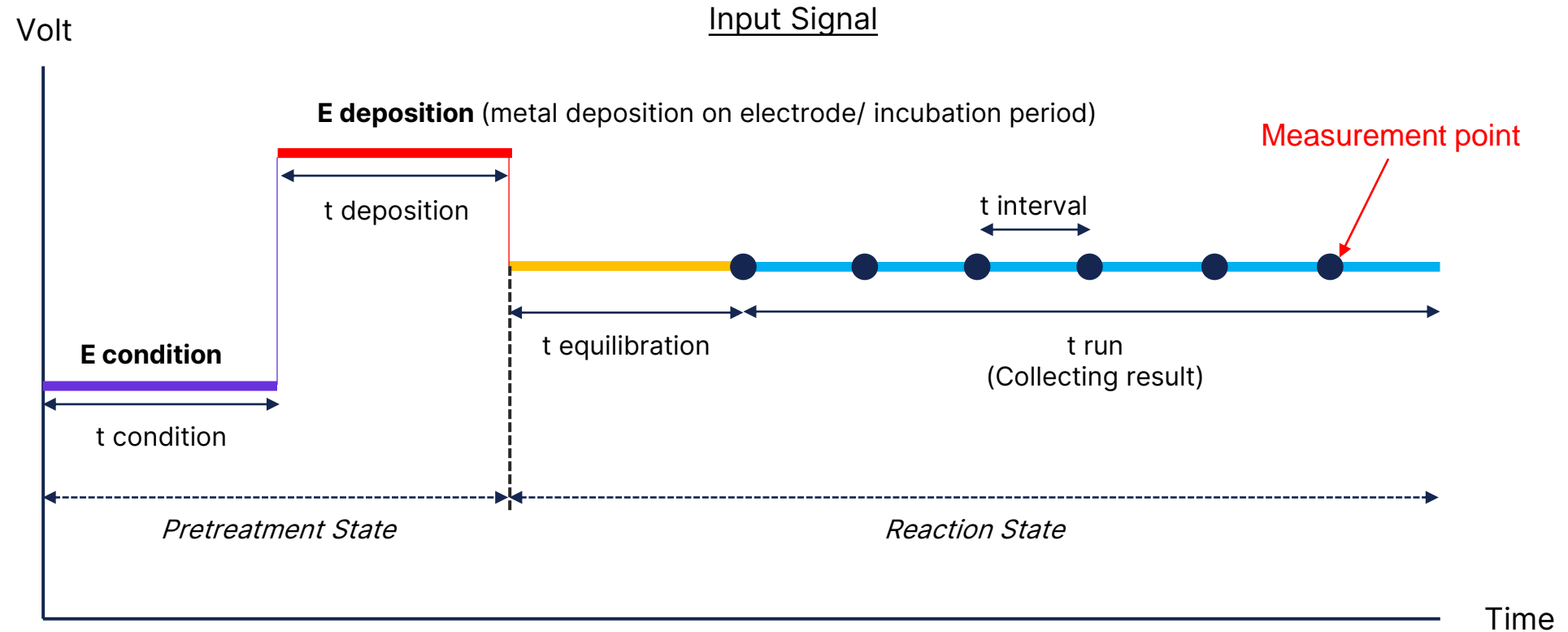
Pretreatment State

E condition	0.0	V
t condition	0	s
E deposition	0.0	V
t deposition	0.0	s

Reaction State

t equilibration	0	s
E dc	0	V
T Run	0	s
T Interval	100	ms

Operation duration is 0.0 s

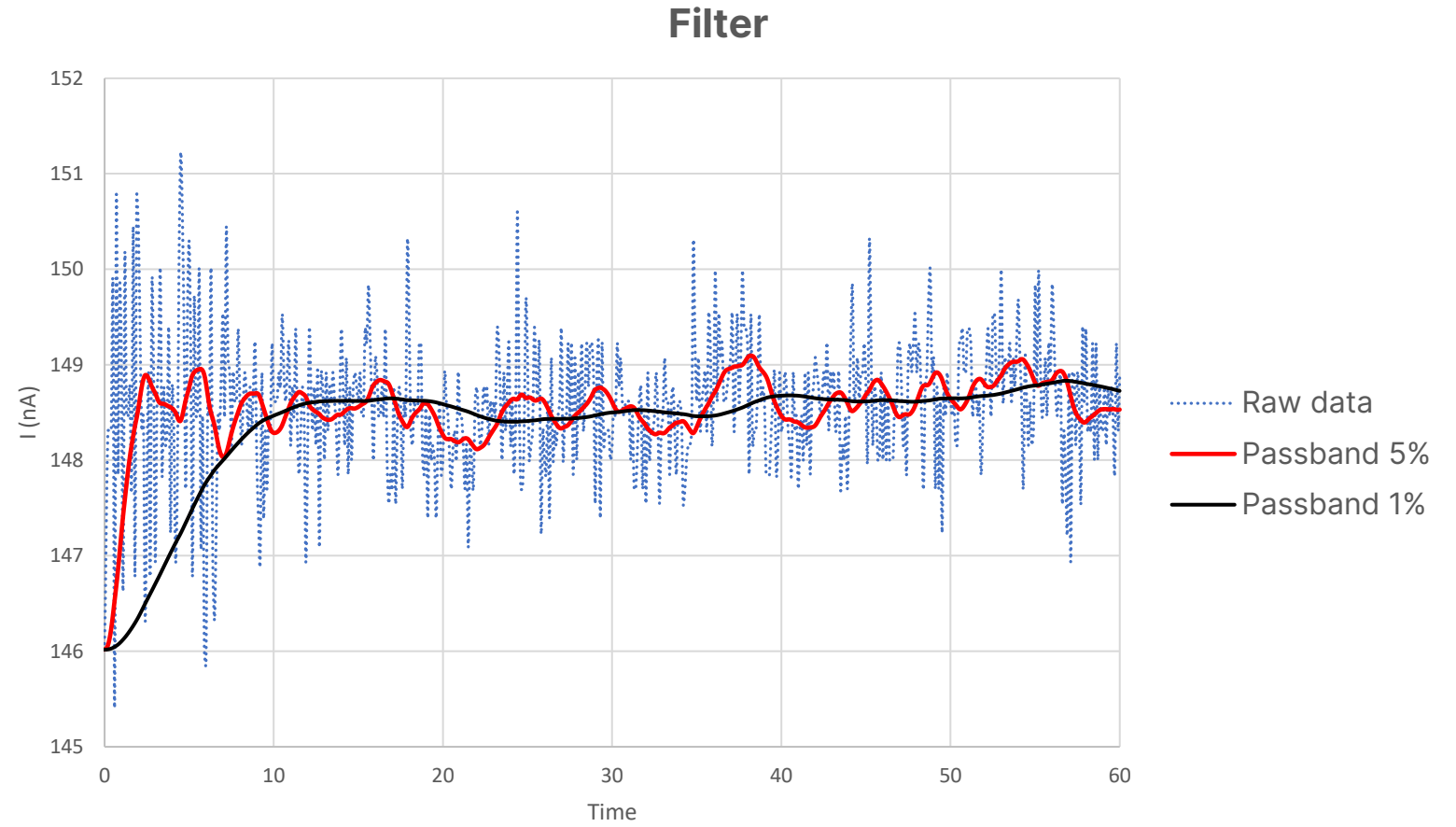


Parameter Definition - CA

CA Mode

Filter

Passband %



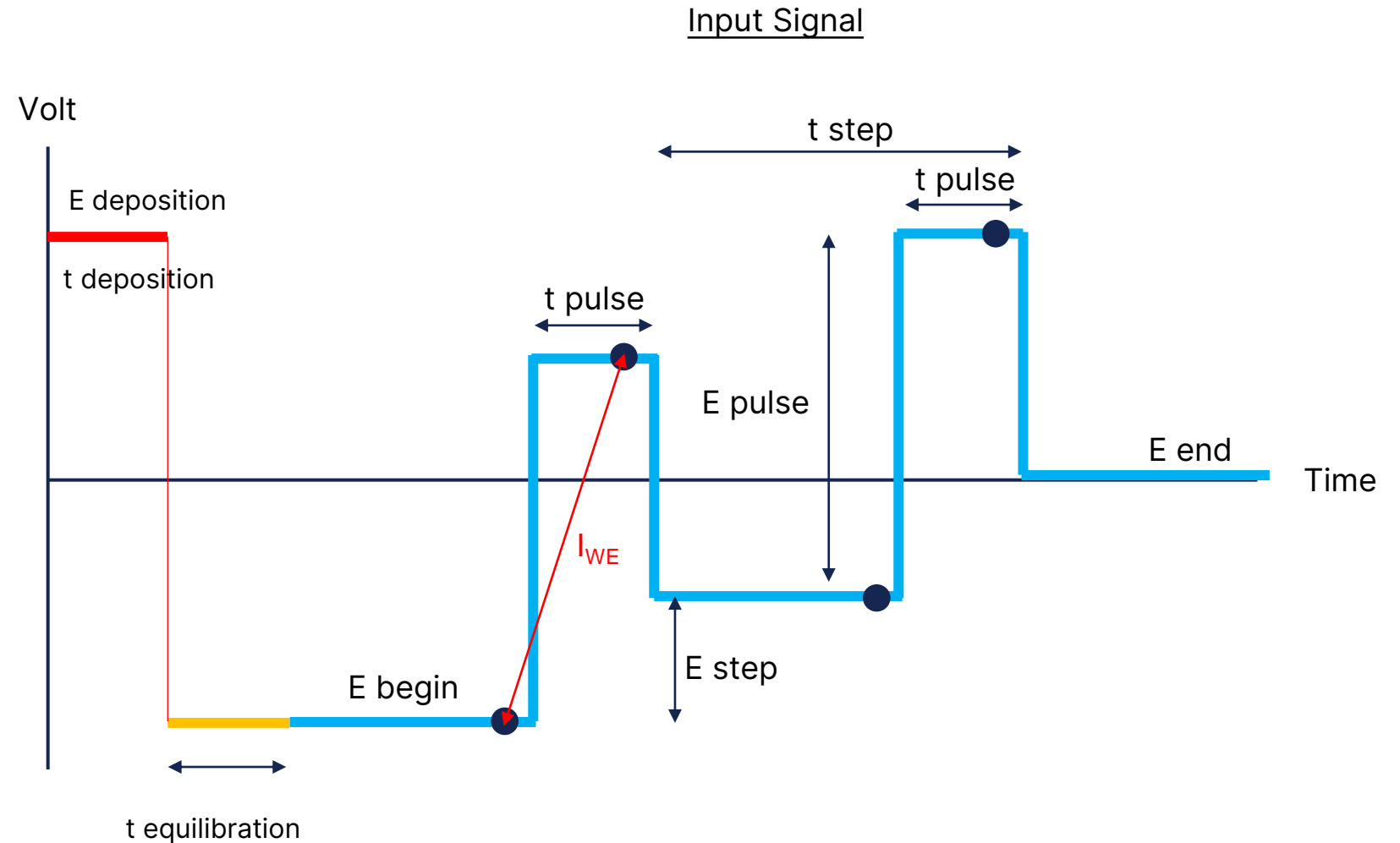
Parameter Definition - DPV

DPV Mode

Pretreatment		
E deposition	-0.8	V
t deposition	10	s

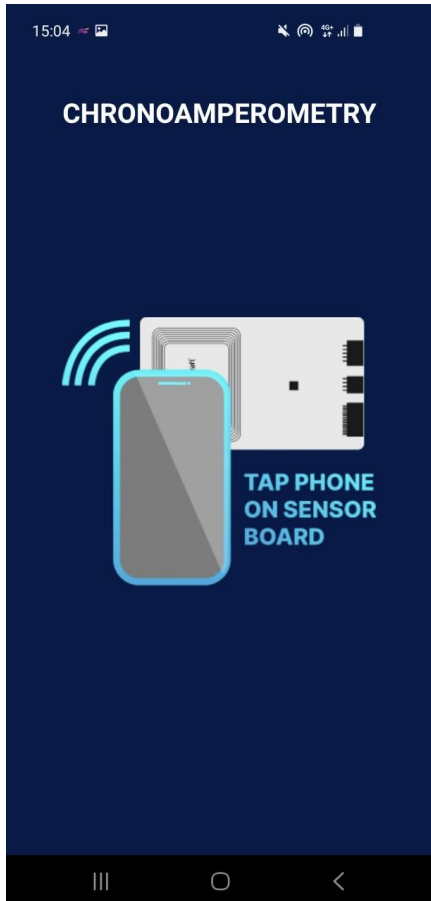
Reaction		
t equilibration		
E begin	-0.8	V
E end	0.8	V
E pulse	0.05	V
t pulse	100	ms
E step	10	mV
t step	200	ms

Scan rate is 0.050 V/s
Operation duration is 42 s

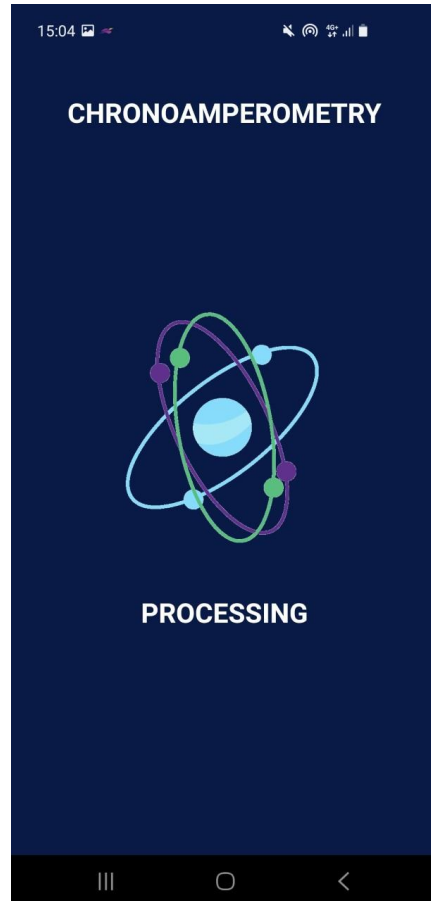


Tap phone and Drop solution

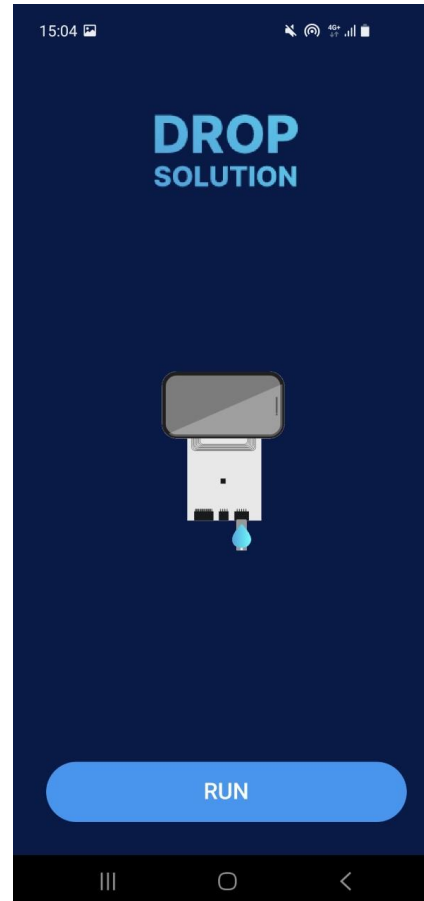
1



2

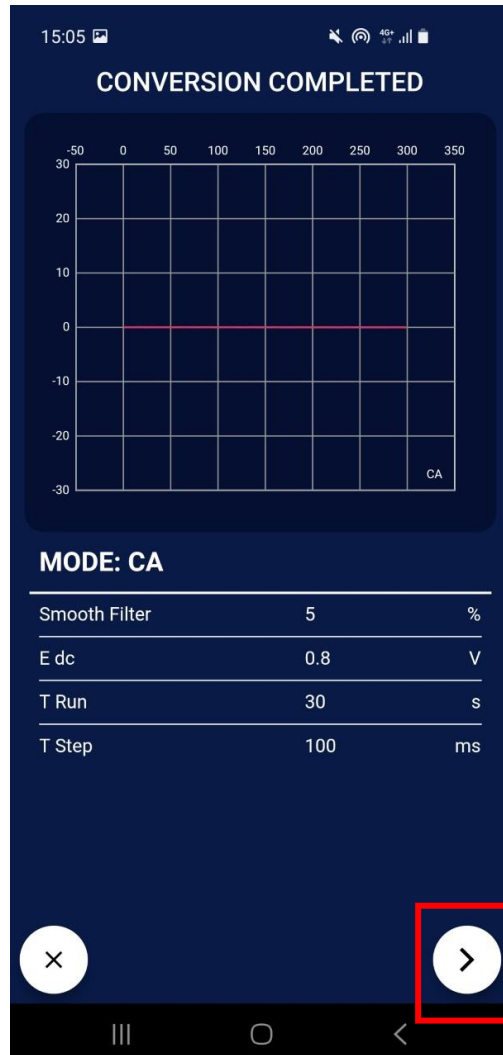


3



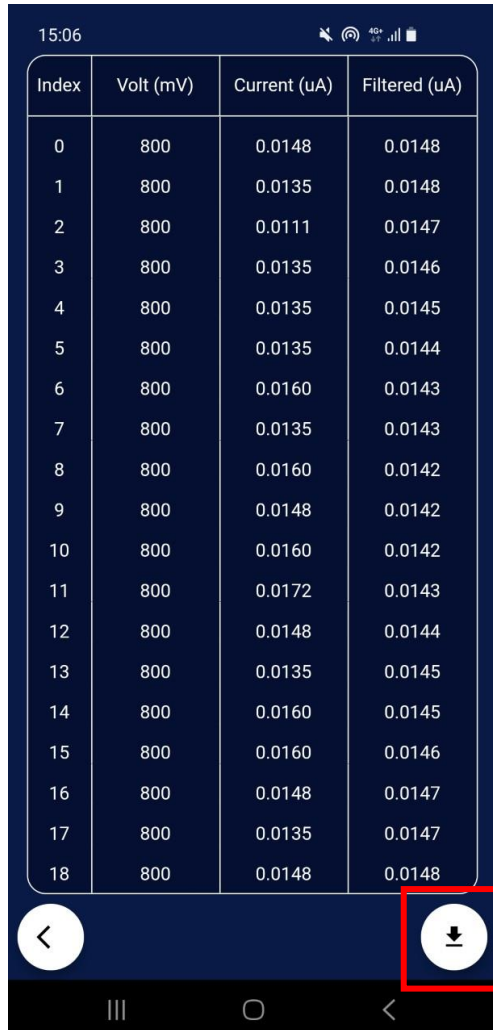
1. Place the phone on the card. It will vibrate when it is connected to the card.
2. Wait for calibration
3. Drop the solution, after dropping press the "RUN" button.

Measurement



Keep waiting until the display shows 'CONVERSION COMPLETED'. Click the "Next" button.

Save the log file



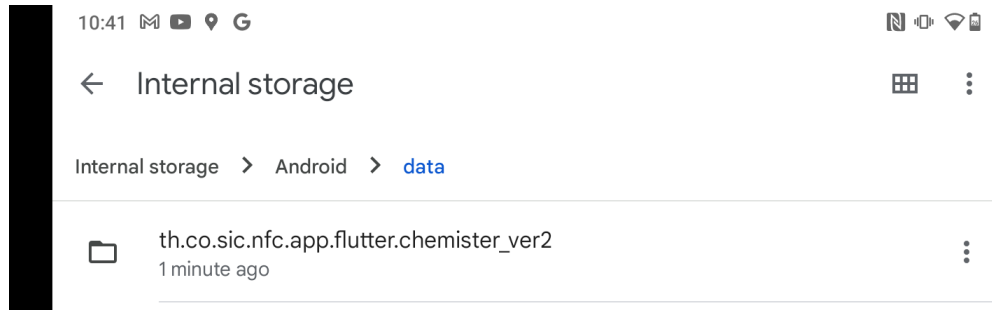
15:06

Index	Volt (mV)	Current (uA)	Filtered (uA)
0	800	0.0148	0.0148
1	800	0.0135	0.0148
2	800	0.0111	0.0147
3	800	0.0135	0.0146
4	800	0.0135	0.0145
5	800	0.0135	0.0144
6	800	0.0160	0.0143
7	800	0.0135	0.0143
8	800	0.0160	0.0142
9	800	0.0148	0.0142
10	800	0.0160	0.0142
11	800	0.0172	0.0143
12	800	0.0148	0.0144
13	800	0.0135	0.0145
14	800	0.0160	0.0145
15	800	0.0160	0.0146
16	800	0.0148	0.0147
17	800	0.0135	0.0147
18	800	0.0148	0.0148

Click download button to save the log file to the phone

Open Log file

From phone



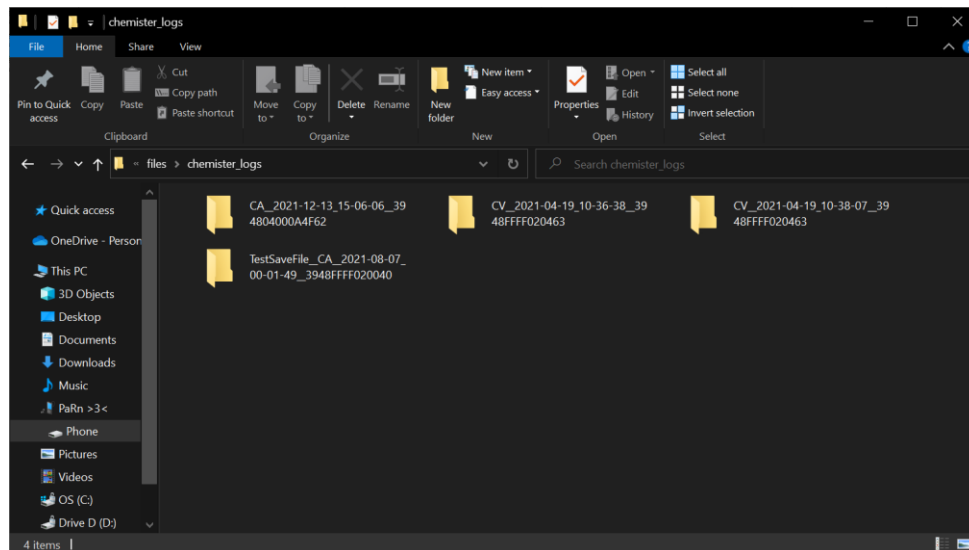
Get a log file from

'Phone\Android\data\th.co.sic.nfc.app.flutter.chemister_ver2\files\chemister_logs'



Some phones need to be connected with PC to access this directory.

From PC



PLEASE CONTACT



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