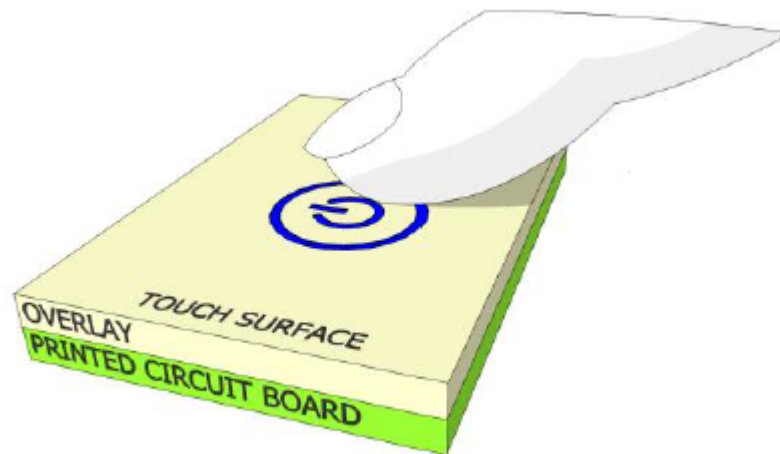
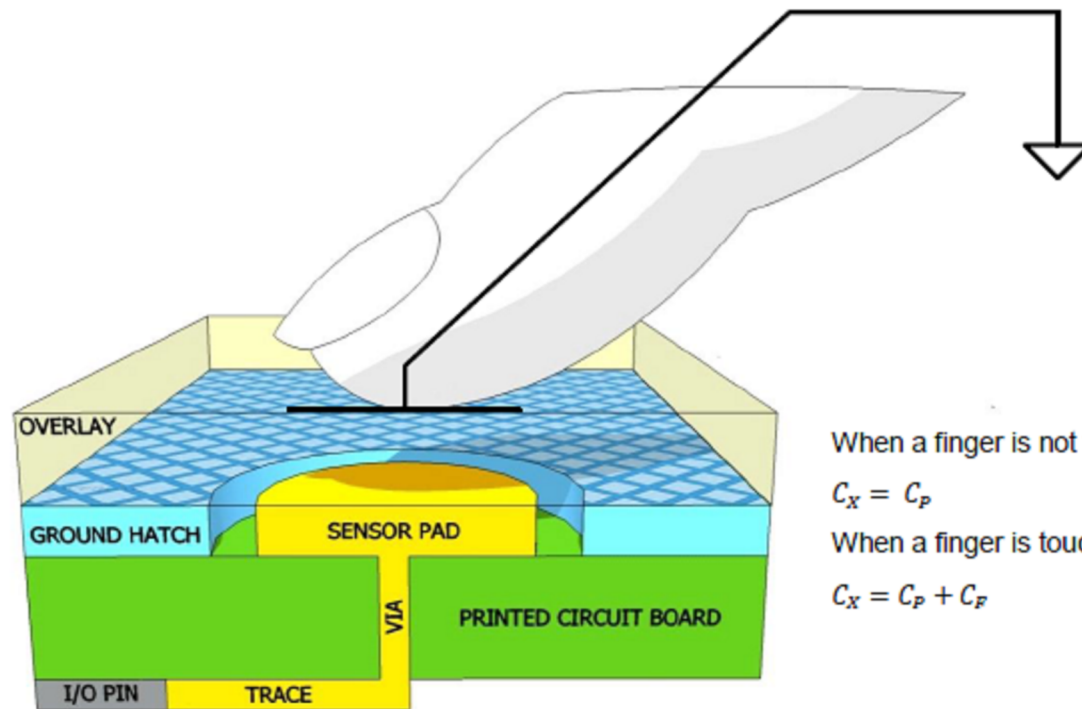


CapSense



Działanie

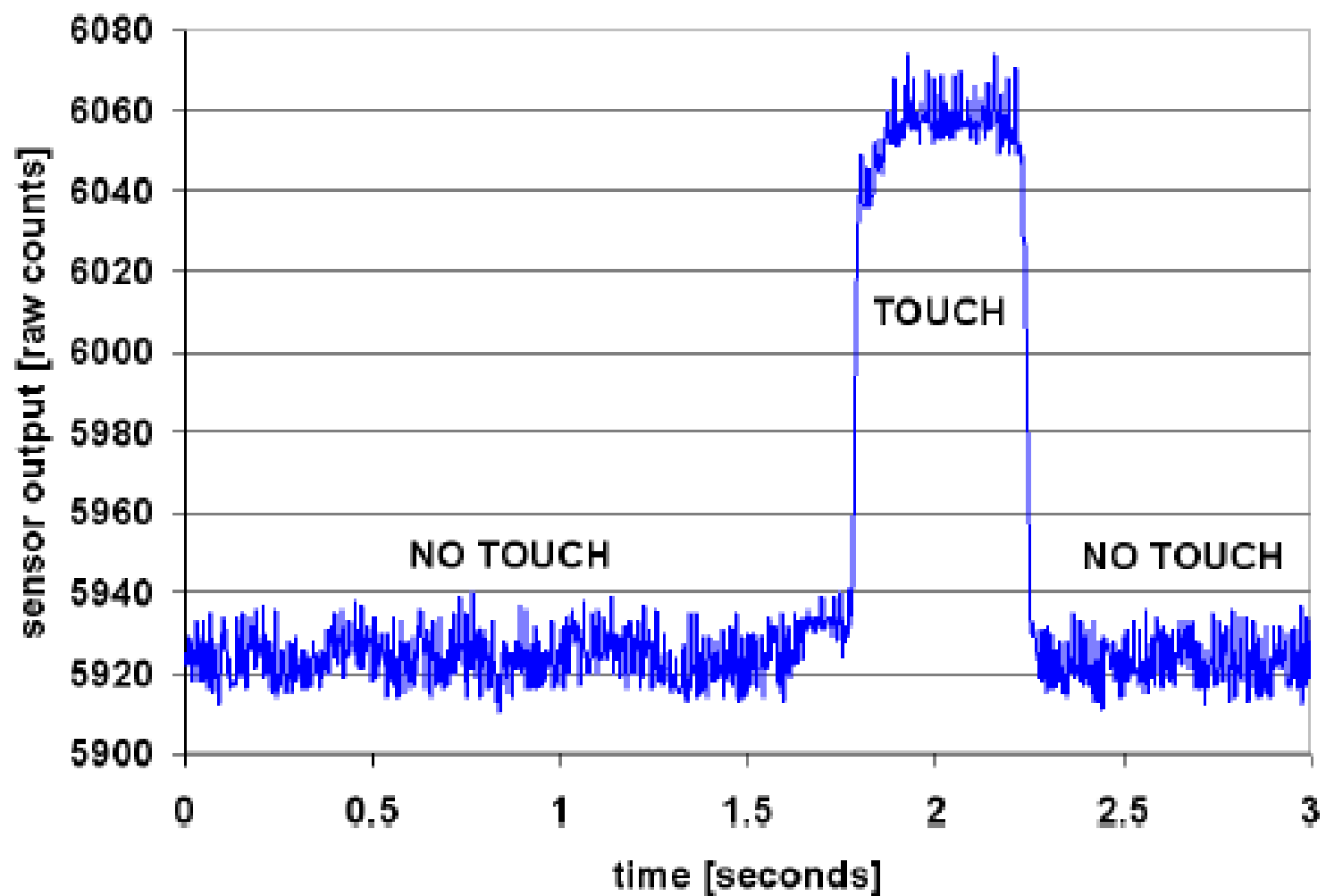


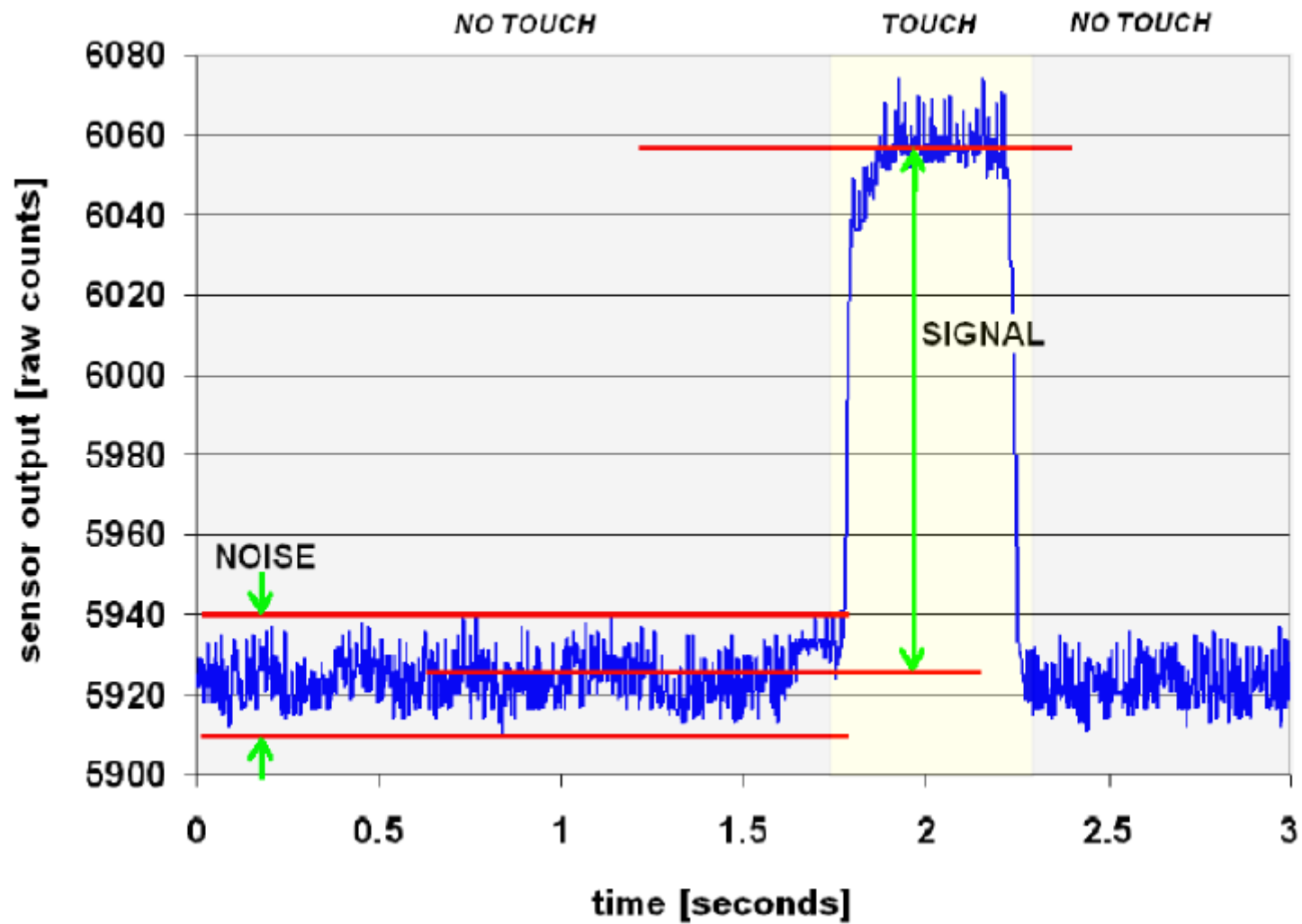
When a finger is not touching the sensor:

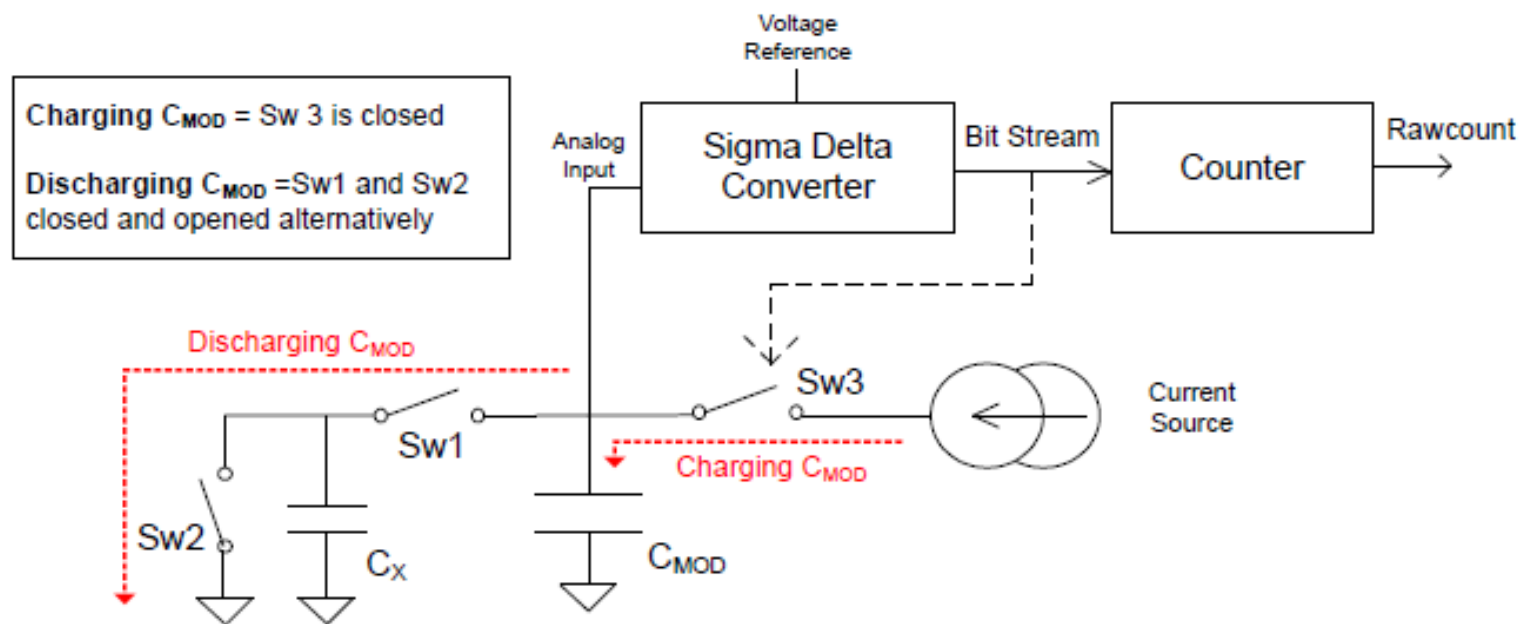
$$C_x = C_p$$

When a finger is touching the sensor:

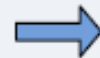
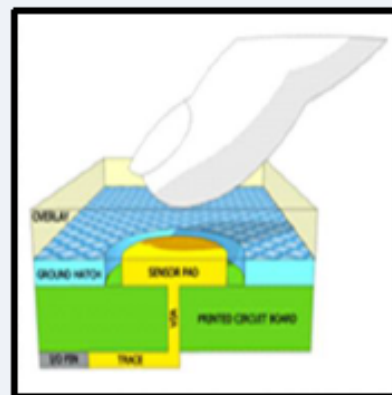
$$C_x = C_p + C_f$$



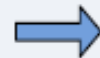




CapSense_CSD Component



Raw Count



Data Processing

Sensor
Data

Widget
Data



Button ON/OFF
OR
Finger Position

Configure 'CapSense_CSD'



Name: CapSense_1

General

Widgets Config

Scan Order

Advanced

Tune Helper

Built-in 4 ▶



Load Settings



Save Settings

Tuning method:

None

Number of channels:

1 (default)

Raw data noise filter:

First Order IIR 1/4 (default)



Water proofing and detection

Clock settings



Enable clock input

Scan clock:

12 MHz

3 MHz

6 MHz

12 MHz

24 MHz

BUS_CLK: 24 MHz

Datasheet

OK

Apply

Cancel



Tuning method

- Auto (SmartSense)
 - Manual
 - None
-



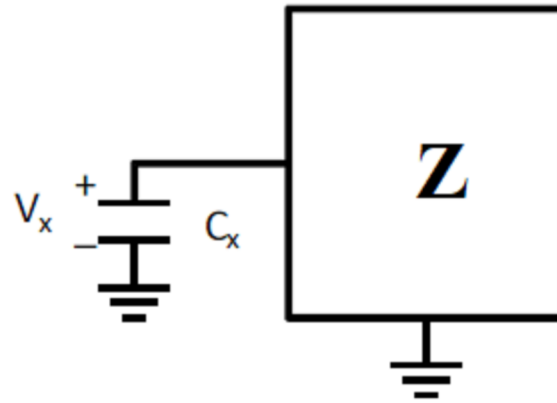
Liczba kanałów

- 1 (do 20 czujników)
- 2 (od 20 czujników)

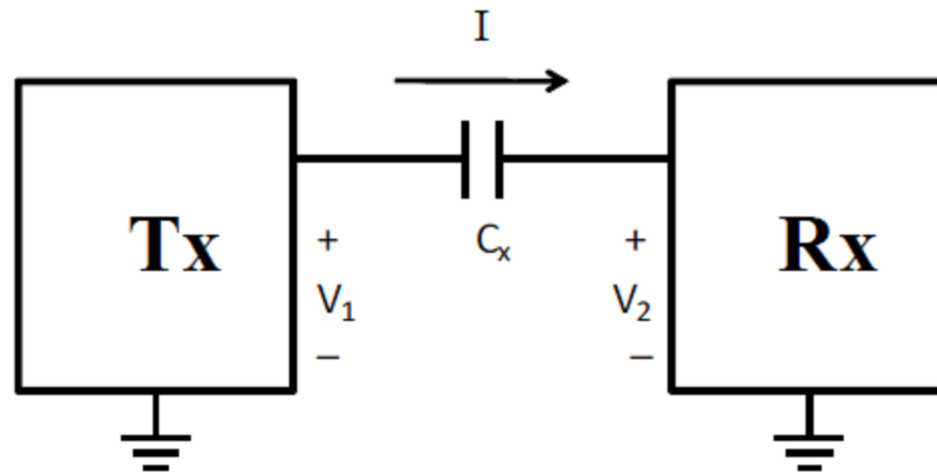


Filtrowanie danych

- Brak
- Mediana
- Średnia
- First order ($1/2, 1/4, 1/8, 1/16$)



Self Capacitance



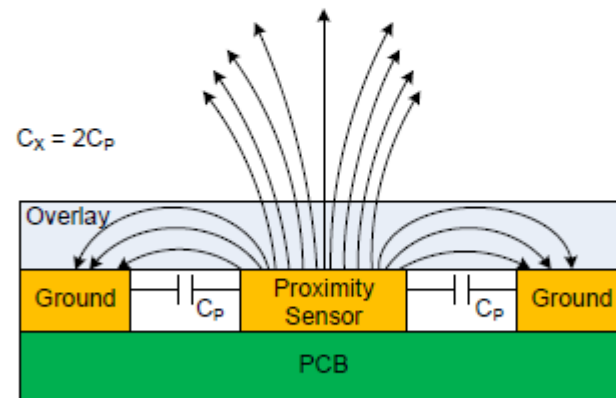
Mutual Capacitance



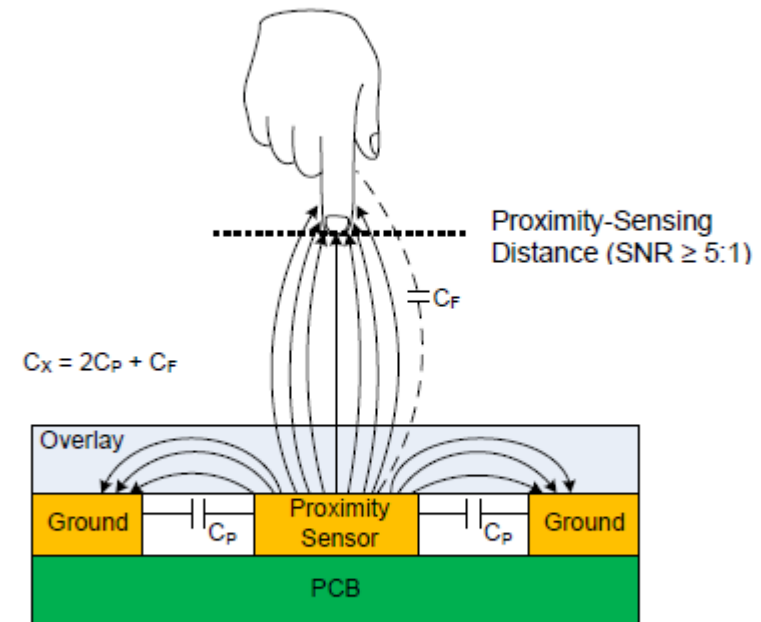
Widgety

- Button
 - Linear
 - Radial
 - Matrix
 - Touchpad
 - Proximity
 - Generic
-

(a) Proximity Sensor Without a Finger Nearby



(b) Proximity Sensor with a Finger Nearby



C_X = Total capacitance measured by the proximity-sensing system based on CapSense

C_p = Sensor parasitic capacitance

C_F = Capacitance added by a nearby target object

Tuning:

- FT
- NT
- Hysteresis
- Debounce

☐ Tuning

Finger Threshold (FT)	80
Noise Threshold	20
Hysteresis	10
Debounce	5
Scan Resolution	10 bits (default)



Tune Helper

- I2C connection through EZI2C component
- Potrzebny dodatkowy programator albo złącze

