

The Classic of Touch Solution!

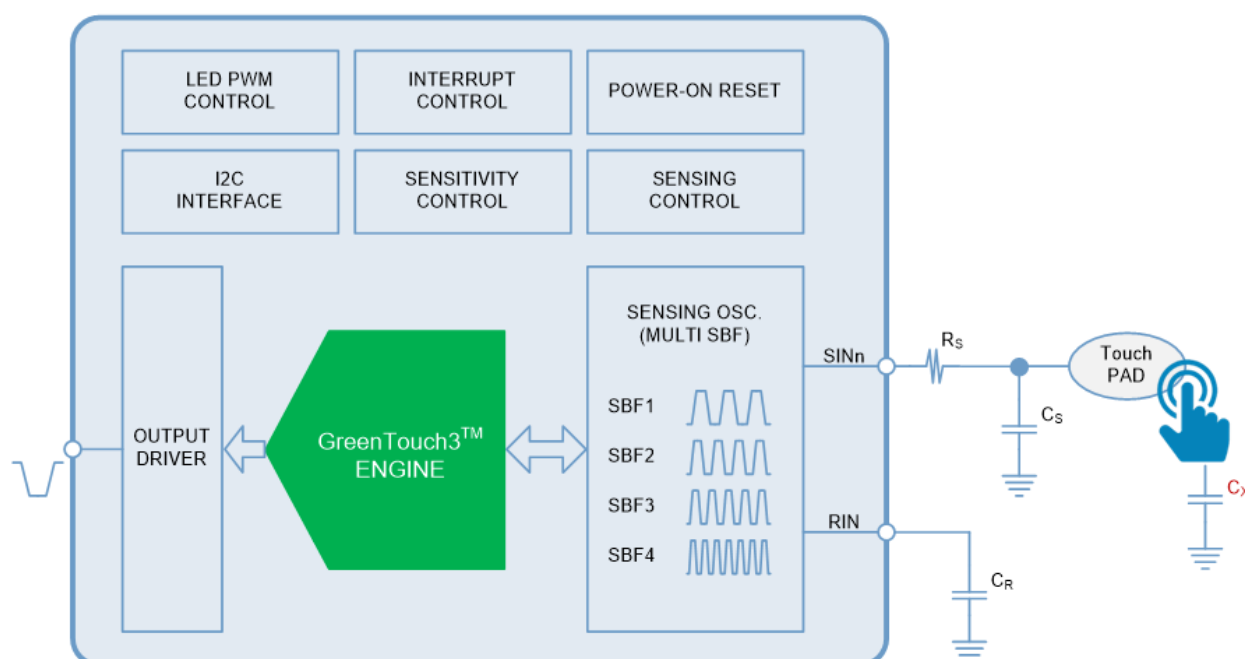
GREENCHIP

Demo Board User manual GreenTouch3™ Series

Version 2.1

GENERAL

The GreenTouch3™ engine is an environmental compensation circuit. Thanks to GreenTouch3™ engine, the application will be more robust and problem free against EMC, EMI, H/W variation, voltage disturbance, temperature drift, humidity drift and so on.



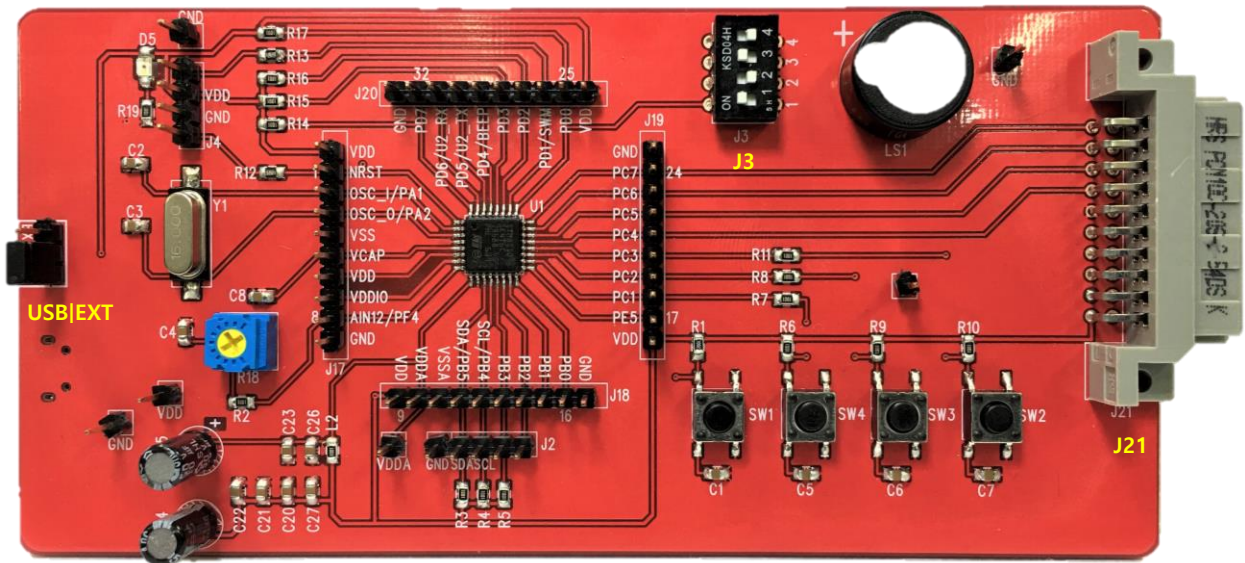
APPLICATIONS

- Portable Electronics - Mobile phone, MP3, PMP, PDA, Navigation, Digital Camera, Video Camera and Etc.
- Multimedia Devices - TV, DVD player, Blue ray player, Digital photo frame, Home theater system and Etc.
- Home Appliance - Refrigerator, Air cleaner, Air conditioner, Washing machine, Micro wave oven and Etc.
- PC, OA and Others - PC, LCD monitor, Fax, Copy machine, Door lock, Lighting controls, Remote control, Toys, Gaming devices and Etc.
- Level Sensor, Seat Sensor - Water purifier, Hot mats, Humidifier, Bidet seating sensor and Etc.

ORDERING INFORMATION

Part No.	Remarks
DB01-GT304L	GT304L Demo Board
DB01-GT308L	GT308L Demo Board
DB01-GT316L	GT316L Demo Board
DB01-GT301L	GT301L Demo Board
DB01-GT3LS01L	GT3LS01L Demo Board
DB01-MCU	MCU Demo Board

1. MCU Board H/W Description



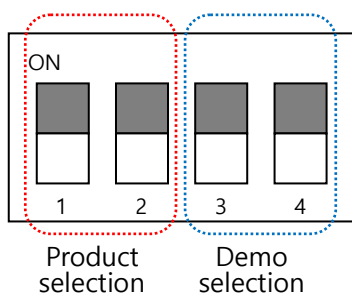
1.1 Tact Switch SW1, SW2, SW3, SW4

- SW1: MCU reset
- SW2: Demo function switch
- SW3: Demo function switch
- SW4: Demo function switch

1.2 J21 GreenTouch™ Demo Board Connector

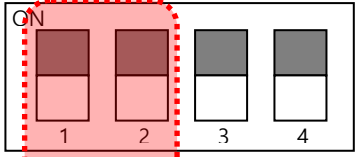
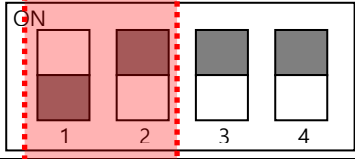
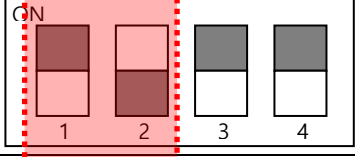
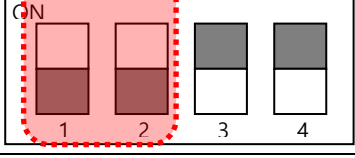
1.3 USB | EXT Power Connector

1.4 J3 Product & Demo Selection Switch

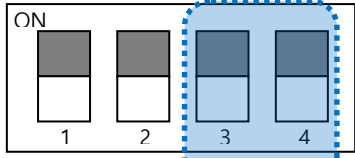
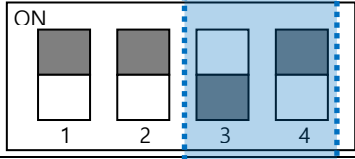
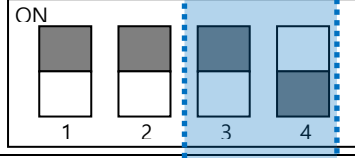
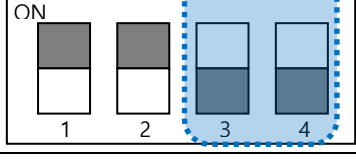


※ Each function is mapped as shown in the following table. (1.4.1 and 1.4.2)

1.4.1 Product Selection Table

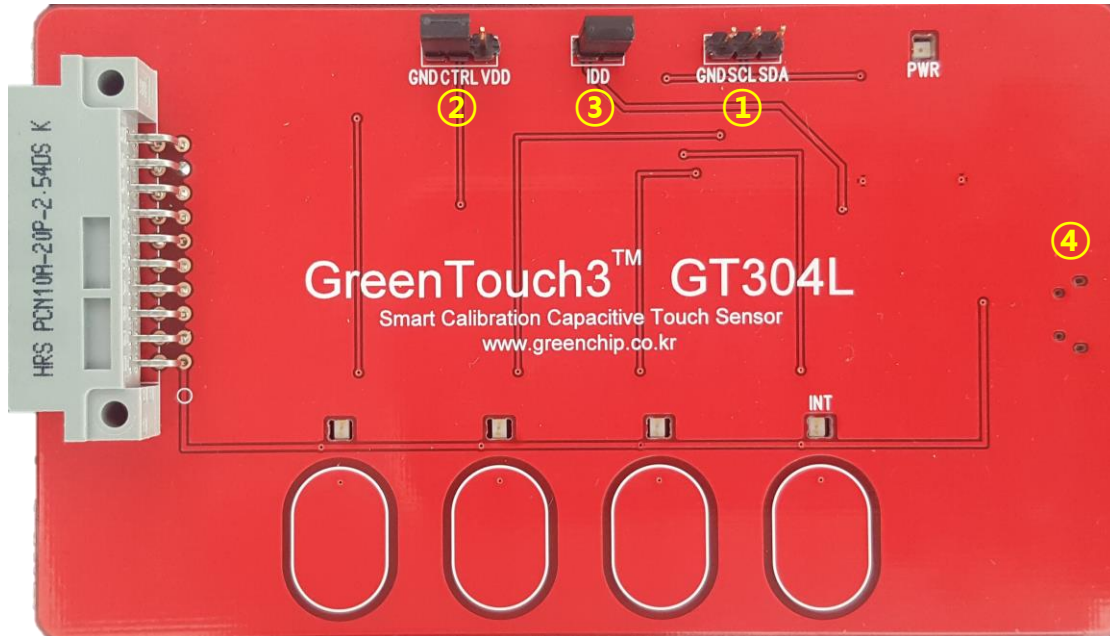
Product Selection	1	2	Remarks
GT304L	ON	ON	
GT308L	OFF	ON	
GT316L	ON	OFF	
T.B.D.	OFF	OFF	

1.4.2 Demo Selection Table

Demo Selection	3	4	Remarks
Demo #1	ON	ON	
Demo #2	OFF	ON	
Demo #3	ON	OFF	
Demo #4	OFF	OFF	

2. Demo Board H/W & S/W Description

2.1 GT304L Demo Board



- ① I2C Interface pin
- ② CTRL option pin
- ③ IDD measure pin
- ④ USB | External power input

** CTRL option should be stand on GND connection for Demo wit MCU board.

2.1.1 Demo #1

Check the status of the touch using I2C communication and turn on the LED by using the PWM function of the output pin of the corresponding channel until the value of Touch Output register (0x02) becomes 0x00. When the value of Register 0x02 becomes 0x00 (all touches are canceled), all the LEDs are turned off.

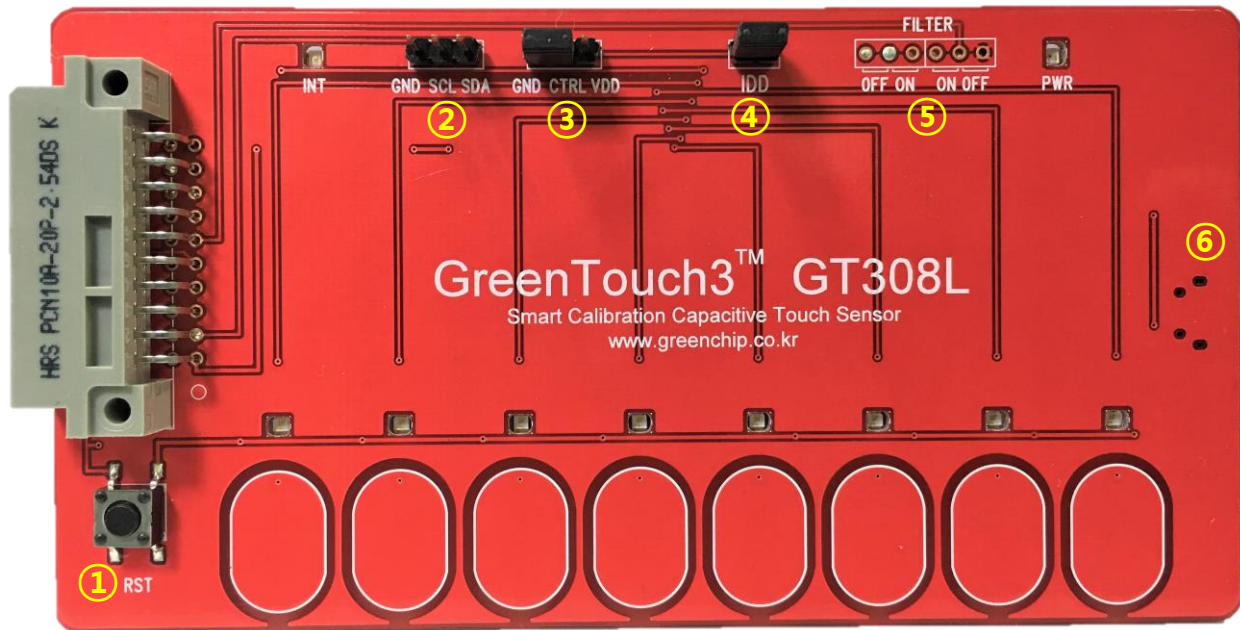
- SW1: MCU reset
- SW2: Soft reset On / Off is repeatedly changed each time it is pressed.
- SW3: Touch (Multi / Single) mode is repeatedly changed each time it is pressed.
- SW4: The INT and OUT mode is repeatedly changed each time it is pressed.

2.1.2 Demo #2

Read the Touch output register value using I2C communication and turn on the output pin LED of corresponding channel while touching.

- SW1: MCU reset
- SW2: LED dimming with PWM function - pattern1
(When one of SIN1 ~ SIN4 channels is touched, dimming stops.)
- SW3: LED dimming with PWM function - pattern2
(When one of SIN1 ~ SIN4 channels is touched, dimming stops.)
- SW4: LED dimming using PWM function - pattern3
(When one of SIN1 ~ SIN4 channels is touched, dimming stops.)

2.2 GT308L Demo Board



- ① GT308L reset switch
- ② I2C Interface pin
- ③ CTRL option pin
- ④ IDD measure pin
- ⑤ Filter option pin on power line
- ⑥ USB | External power input

** CTRL option should be stand on GND connection for Demo wit MCU board.

2.2.1 Demo #1

Check the status of the touch using I2C communication and turn on the LED by using the PWM function of the output pin of the corresponding channel until the value of Touch Output register (0x2A) becomes 0x00. When the value of Register 0x2A becomes 0x00 (all touches are canceled), all the LEDs are turned off.

- SW1: MCU reset
- SW2: Soft reset On / Off is repeatedly changed each time it is pressed.
- SW3: Touch (Multi / Single) mode is repeatedly changed each time it is pressed.
- SW4: The INT (Pulse / Level) mode is repeatedly changed each time it is pressed.

2.2.2 Demo #2

Read the Touch output register value using I2C communication and turn on the output pin LED of corresponding channel while touching.

- SW1: MCU reset
- SW2: LED dimming with PWM function - pattern1
(When one of SIN1 ~ SIN8 channels is touched, dimming stops.)
- SW3: LED dimming with PWM function - pattern2
(When one of SIN1 ~ SIN8 channels is touched, dimming stops.)
- SW4: LED dimming using PWM function - pattern3
(When one of SIN1 ~ SIN8 channels is touched, dimming stops.)

2.3 GT316L Demo Board



- ① GT316L reset switch
- ② I2C Interface pin
- ③ CTRL option pin
- ④ IDD measure pin
- ⑤ LEDs on PWMOUT1~4 port
- ⑥ USB | External power input

** CTRL option should be stand on GND connection for Demo wit MCU board.

2.3.1 Demo #1

I2C communication is used to check the touch status through registers 0x02 and 0x03, and when it is touch, it controls ON / OFF of LED by using PWM output through PWMOUT1 ~ PWMOUT4 pin of GT316L simultaneously with beep sound.

- SW1: MCU reset
- SW2: Soft reset On / Off is repeatedly changed each time it is pressed.
- SW3: Touch (Multi / Single) mode is repeatedly changed each time it is pressed.
- SW4: The INT (Pulse / Level) mode is repeatedly changed each time it is pressed.

2.3.2 Demo #2

When you touch the top 4 buttons, LED dimming demo using PWM is executed. (When one of the number keys of door lock type is touched, dimming is stopped.)

2.3.3 Demo #3

Door Lock demo: Touch the number key part for more than 0.5 seconds after turning on the power to switch from power save mode to fast mode and upper LED will turn on. If there is no touch for about 10 seconds, the upper LED will turn off and switch to power save mode.

- SW1: MCU reset
- SW2: To set IDLE TIME with 150ms it is pressed when it is power save mode.
- SW3: To set IDLE TIME with 275ms it is pressed when it is power save mode.
- SW4: To set IDLE TIME with 500ms it is pressed when it is power save mode.

2.4 GT301L Demo Board



- ① VDD connection pin for GT301L Demo (CTRL = GND)
 - ② VDD connection pin for GT301L Demo (CTRL = OPEN)
 - ③ VDD connection pin for GT301L Demo (CTRL = VDD)
 - ④ USB power input
- ** The all demo works on stand-alone (without MCU board).

2.5 GT3LS01L Demo Board



- ① Level Detection input pin for Level Sensor Demo
- ② VDD connection pin for Level Sensor Demo
- ③ VDD connection pin for Seat Sensor Demo (CTRL = OPEN)
- ④ VDD connection pin for Seat Sensor Demo (CTRL = GND)
- ⑤ VDD connection pin for Seat Sensor Demo (CTRL = VDD)
- ⑥ USB power input

** The all demo works on stand-alone (without MCU board).