Working Experience @Himax

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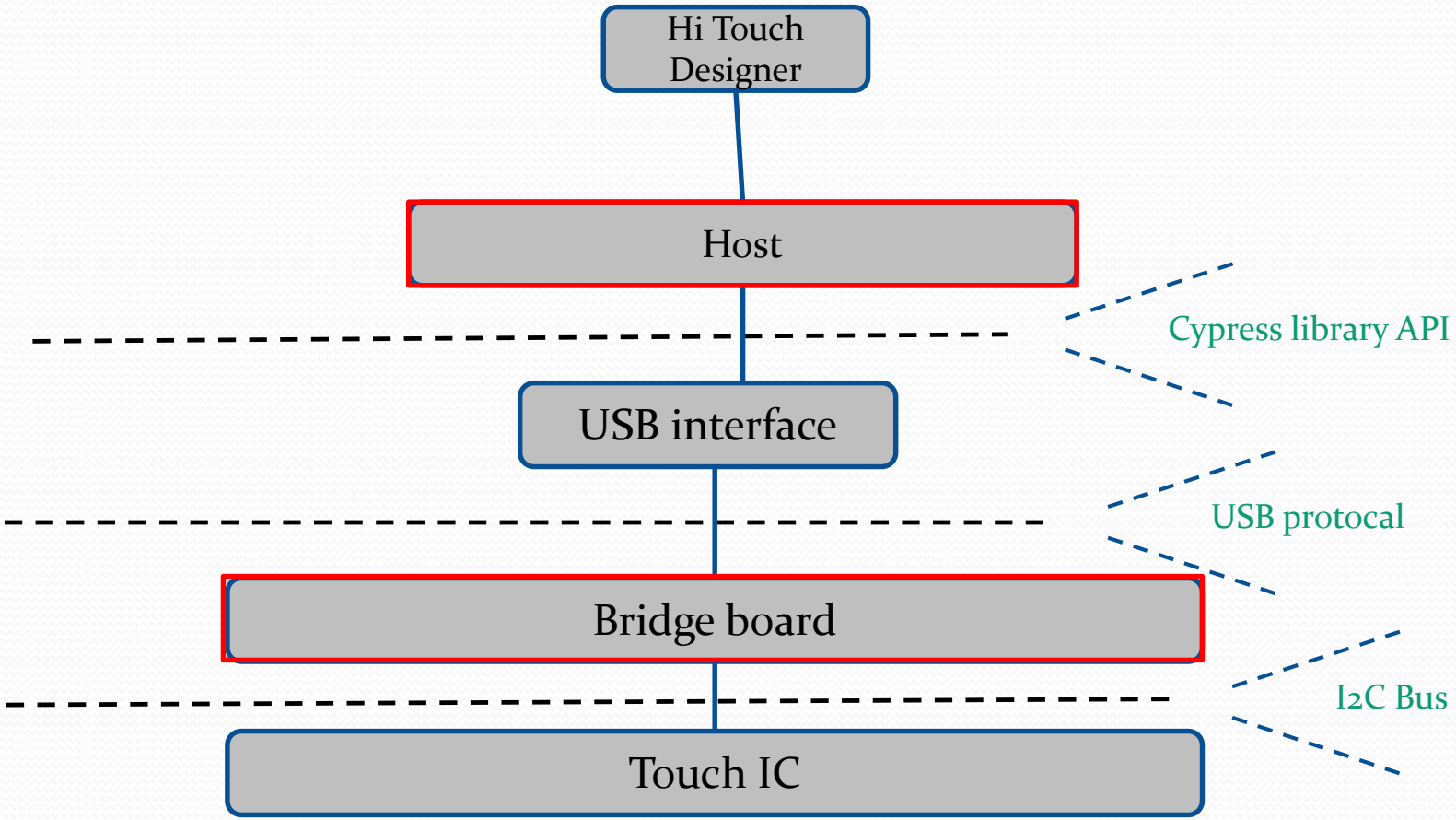
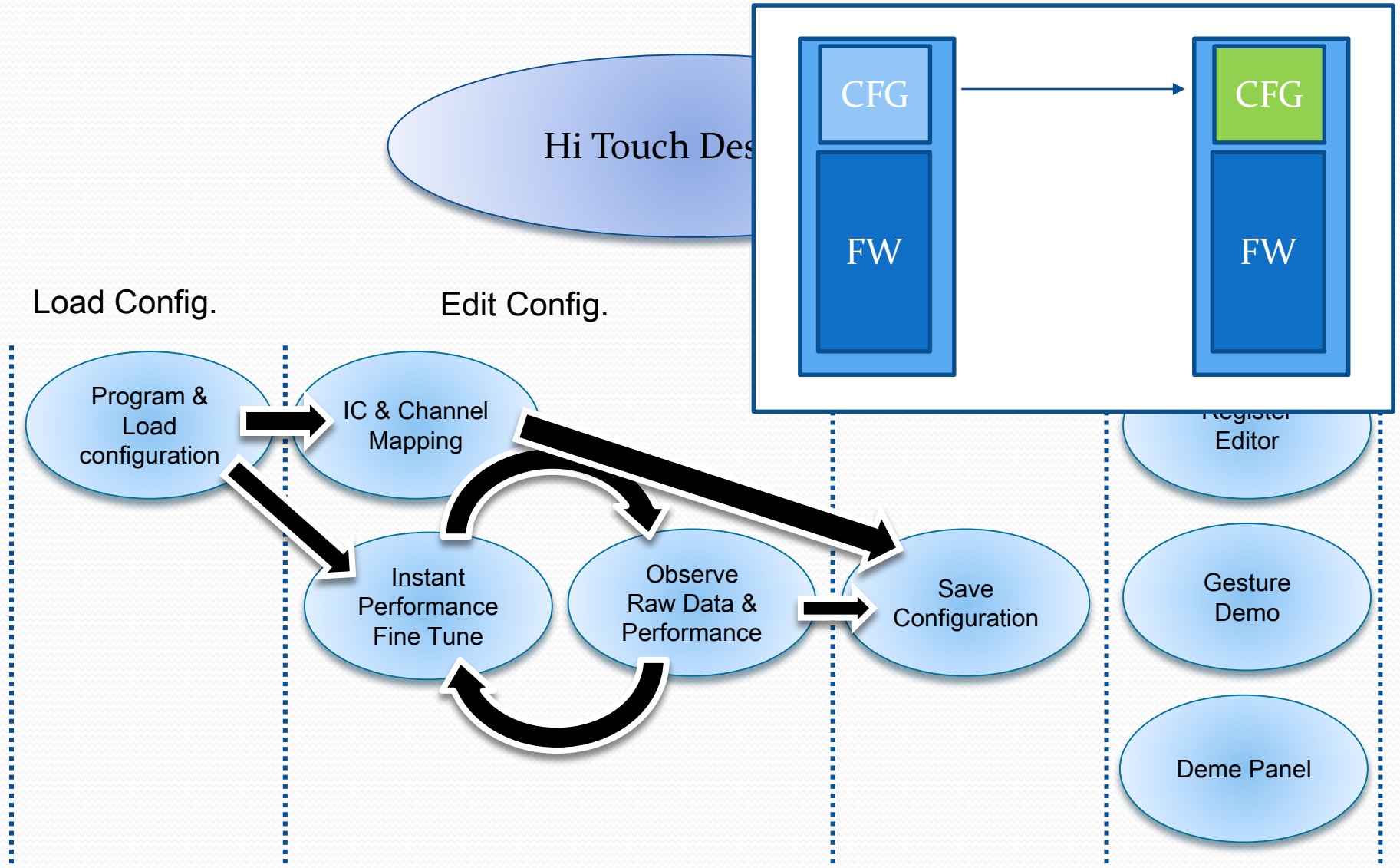
Outline

- Hi Touch Designer
- Bridge Board FW
- Windows-based application
- 2nd bridge board FW

Hi Touch Designer



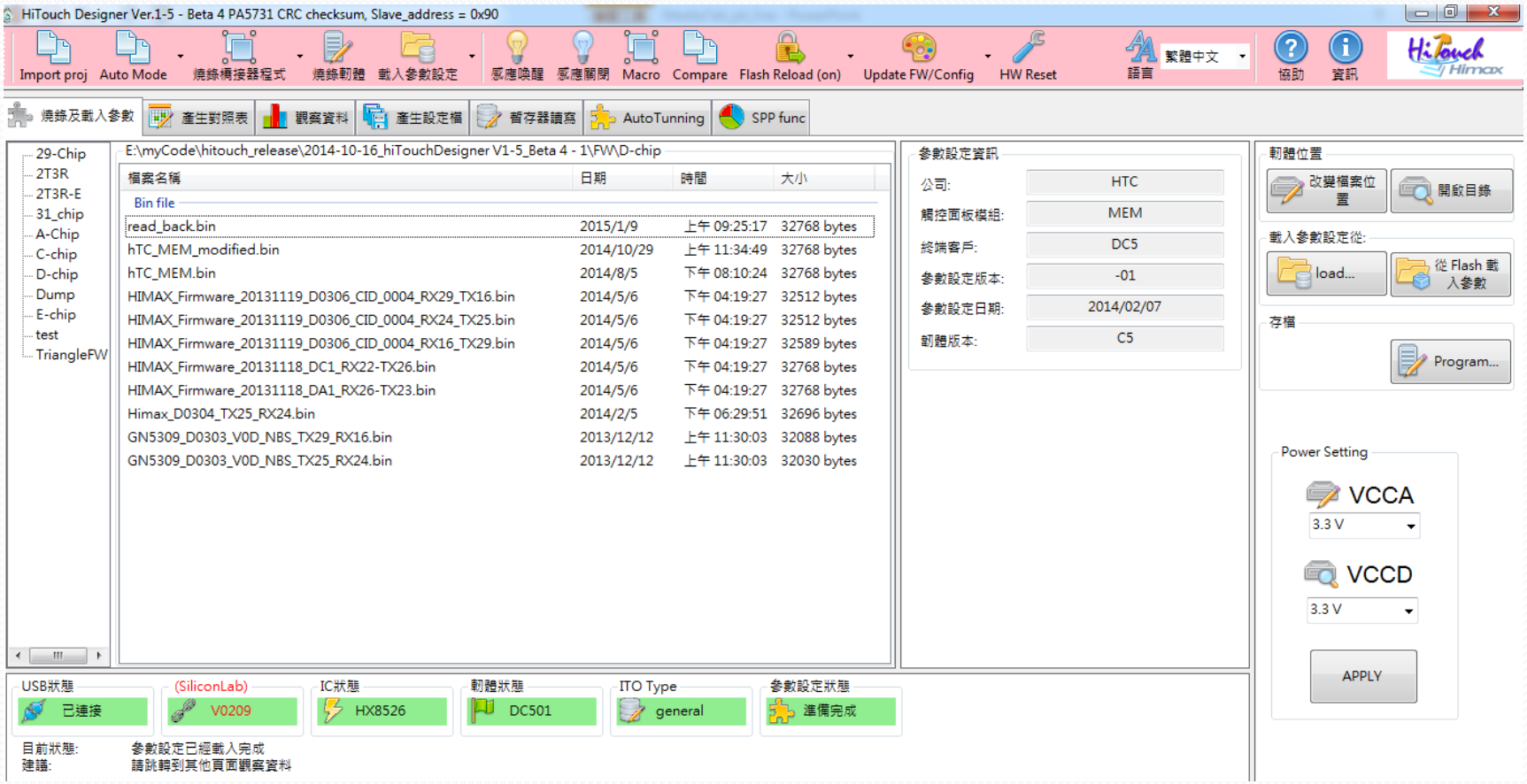

Hi Touch Des
CFG
FW
CFG
FW
Load Config.
Edit Config.
Program & Load configuration
IC & Channel Mapping
Instant Performance Fine Tune
Observe Raw Data & Performance
Save Configuration
Editor
Gesture Demo
Deme Panel

Hi Touch Designer

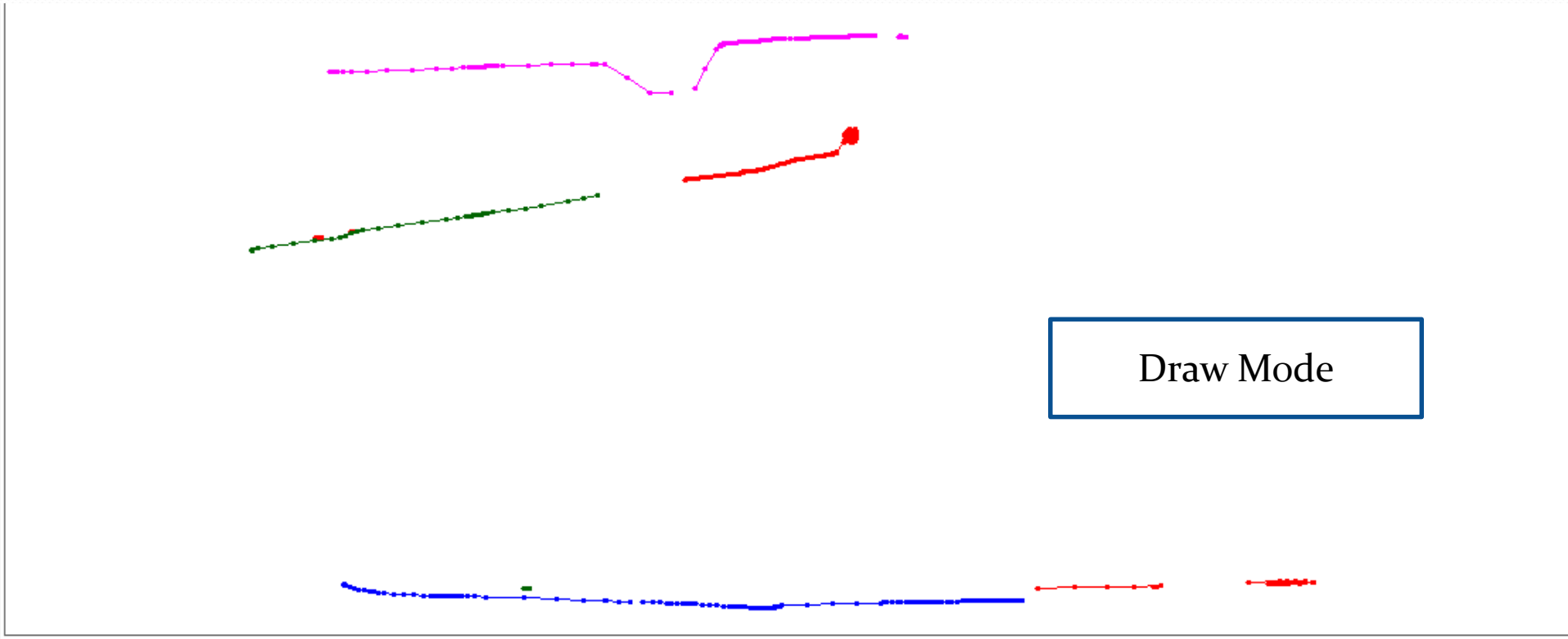
- Developed and maintained a large-scale windows-based program.
  - Communicate with the bridge board
  - Set the voltage and launch register r/w command.
  - Get touch IC data from the bridge board for observation
  - Fine-tune the parameter and save it into exported firmware.
  - Refractor and rework for different IC type and FW version.

Hi Touch Designer

- The outlook of Program & Load FW page



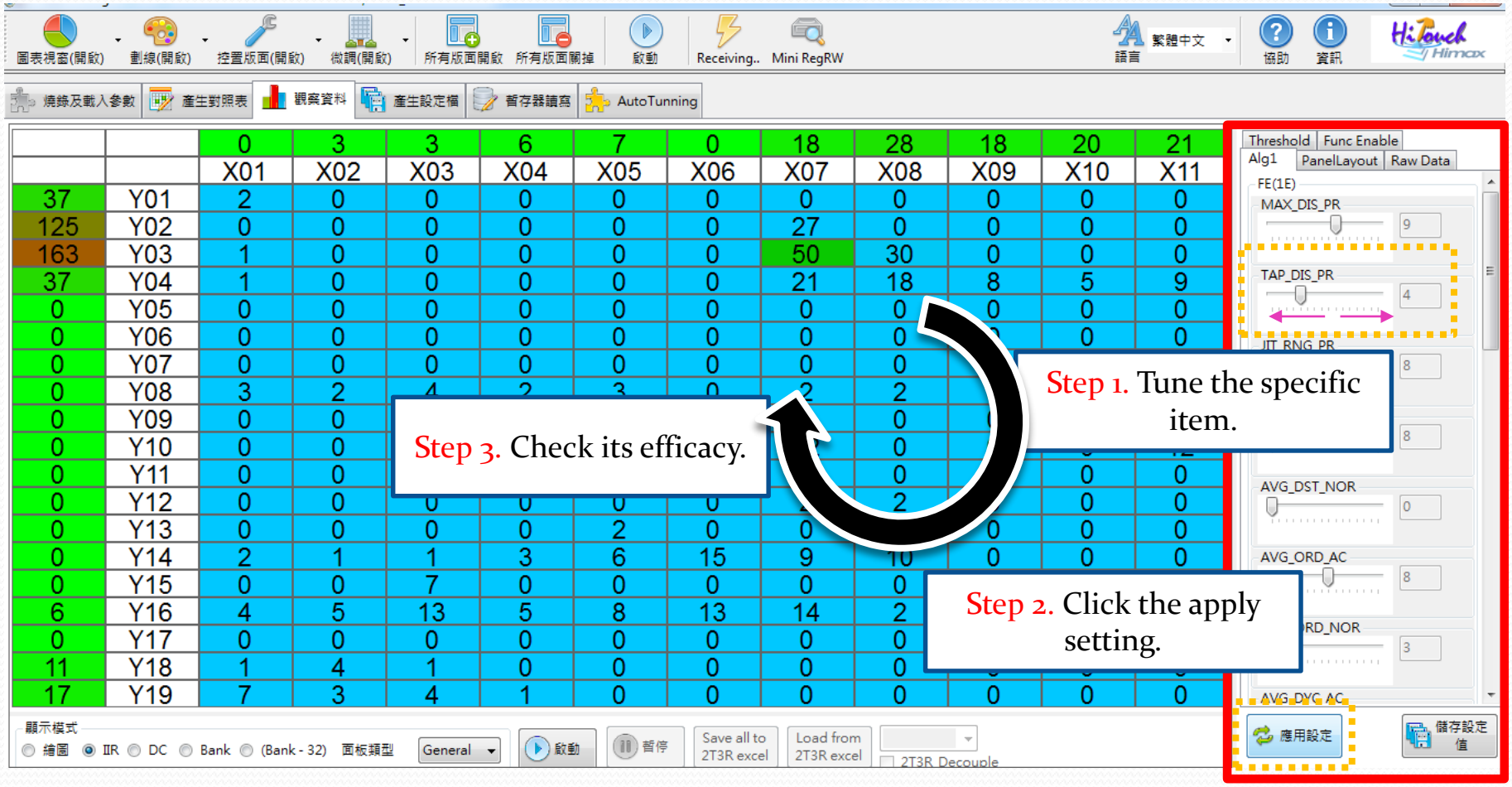
Hi Touch Designer



Report Rate = 14.4 ms (69.3 Hz)

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10
X: 589	X: 709	X: 361	X: 623	X:	X:	X:	X:	X:	X:
Y: 411	Y: 1875	Y: 1837	Y: 114	Y:	Y:	Y:	Y:	Y:	Y:

Hi Touch Designer



		0	3	3	6	7	0	18	28	18	20	21
		X01	X02	X03	X04	X05	X06	X07	X08	X09	X10	X11
37	Y01	2	0	0	0	0	0	0	0	0	0	0
125	Y02	0	0	0	0	0	0	27	0	0	0	0
163	Y03	1	0	0	0	0	0	50	30	0	0	0
37	Y04	1	0	0	0	0	0	21	18	8	5	9
0	Y05	0	0	0	0	0	0	0	0	0	0	0
0	Y06	0	0	0	0	0	0	0	0	0	0	0
0	Y07	0	0	0	0	0	0	0	0			
0	Y08	3	2						2			
0	Y09	0	0						0			
0	Y10	0	0						0			
0	Y11	0	0						0		0	0
0	Y12	0	0						2		0	0
0	Y13	0	0	0	0	2	0	0		0	0	0
0	Y14	2	1	1	3	6	15	9	10	0	0	0
0	Y15	0	0	7	0	0	0	0	0			
6	Y16	4	5	13	5	8	13	14	2			
0	Y17	0	0	0	0	0	0	0	0			
11	Y18	1	4	1	0	0	0	0	0			
17	Y19	7	3	4	1	0	0	0	0	0	0	0

Bridge Board FW

- Maintain and develop Cypress FX2 firmware
  - Reduce code size down to 8k so for getting rid of the external ram
  - Auto-polling slave address.
  - Polling PC command from PC and transfer them into I2C signal
  - By monitor interrupt pin, receive Touch IC data and send them into host application.
  - Become HID device by modifying the descriptor table

Windows-based application

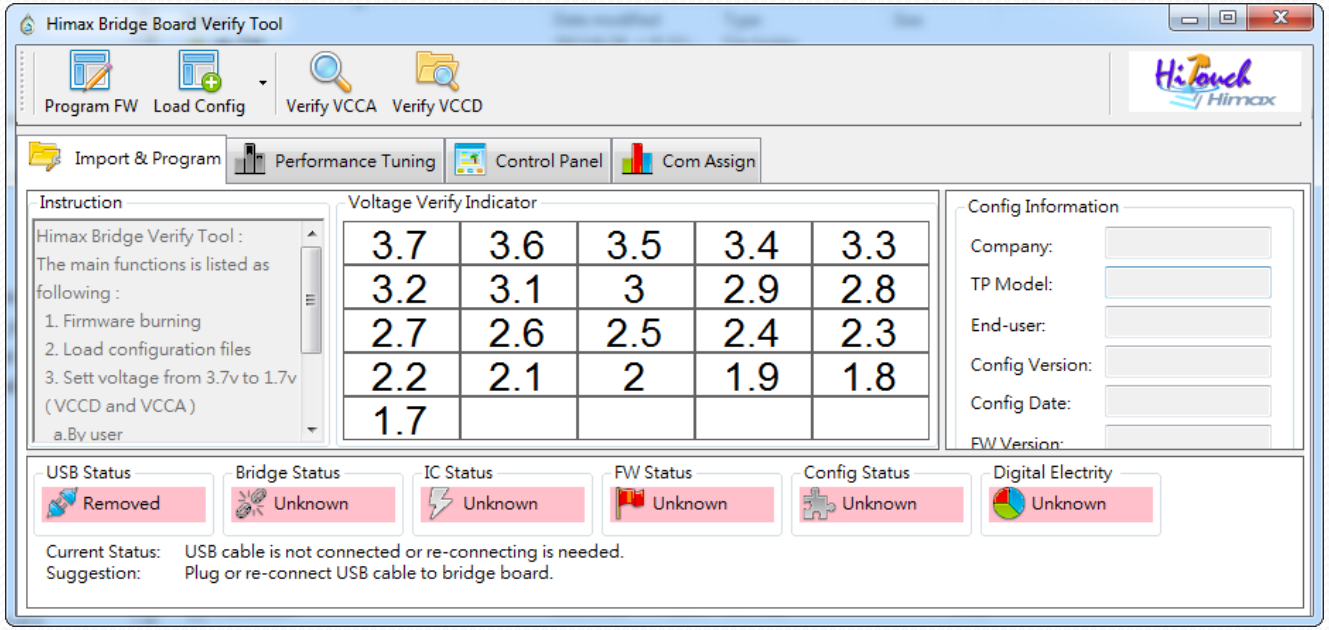
- Incorporate Himax IC and Silicon lab chip to work on Win 8 environment
  - Modified from "USBPcap" open source project to catch the USB packet from USB hub and compose it as a two dimension array.
  - Windows-based multi-thread program.
- BCB program
  - Modified from “simple HID” open source project
  - Has capability to do flash programming and register R/W

2nd generation bridge board FW

- Porting FW code from Cypress FX2 platform into Silicon Lab chip
  - Since the change of High speed device to full speed device, the composing and dividing operation is necessary.
  - Modify the code of the Host AP and FW, so that the interaction would be compatible.
  - 1-4 flash programming by SW I2C manipulation.
  - Program Touch FW by HW button click without connecting to PC.

Bridge Board Verification tool

- HiBridge Tool :
  - Verification of the voltage setting of analog and digital by connecting with the digital-Multimeter



Q&A