Touch Panel Controller User Manual

For CNT 3.6” Touch Panel

Version 0.1

2012/2/13

User Menu Revision History

Version	Page	Data	Data
0.1	First Release, for CNT touch 3.6 Inch Touch Panel		2012/02/13

Feature

- Touch panel size:3.6Inch
- Sensing Channels: 20 (10 pairs)
- Valid Resolution: 2047 2047
- Report Rate: Up to 90Hz(TBD)
- Interface: I2C
- Touch Sensor Operation Mode: Normal Mode, Sleep Mode
- Easy to update MCU program: Build-In flash memory and Is-System-Program hardware block

CNTouch

Pin define

- 1. VDD (Power Input 2.8V)
- 2. IOVDD (IO Voltage 2.8V)
- 3. I2C Data
- 4. I2C Clock
- 5. INT (Normal Low, active high)
- 6. N.C
- 7. Enable **(High (TP Active) ,Low into (Sleep Mode))**
- 8. GND
- 9. ID
- 10. GND

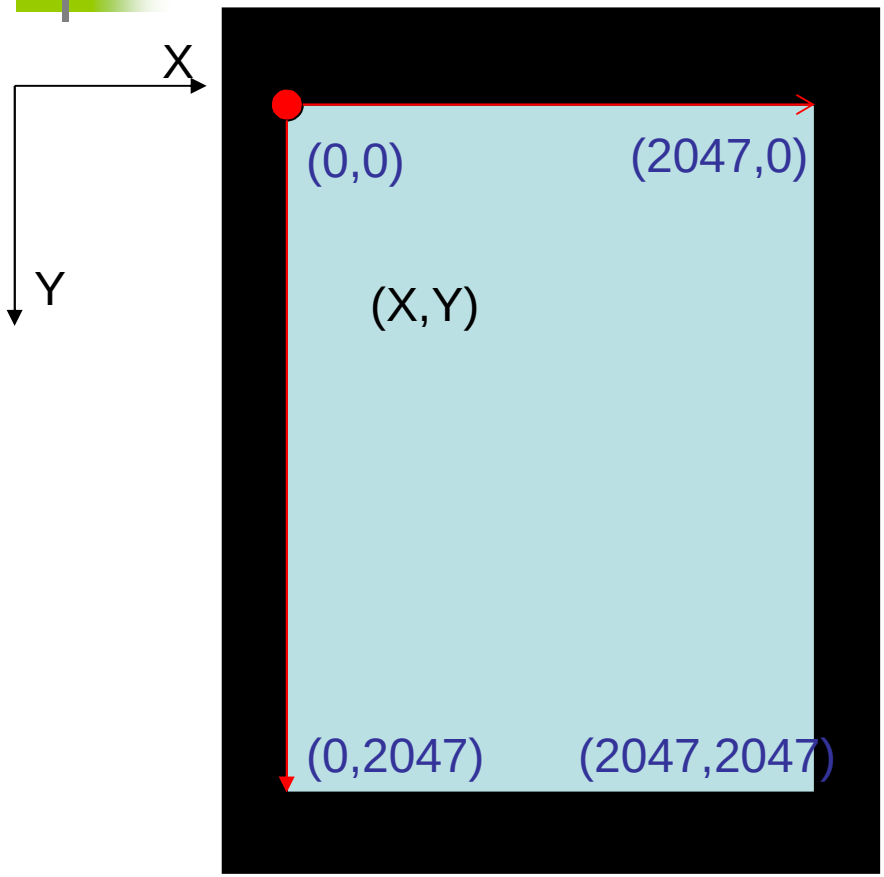
I2C Clock < 400K

Normal I2C read address 0x60h(7-bit)

TP ISP reserve address 0x49h, 0x62h(7-bit)

CNTouch

Touch panel coordinate definition



Touch Panel Coordinate Range
Resolution of X = 0~ 2047
Resolution of Y = 0~ 2047

Data Packet of I2C

Byte 0	**Function [7:0]**	
Byte 1	**Position_X1 [11:8]**	**Position_Y1 [11:8]**
Byte 2	**Position_X1 [7:0]**	
Byte 3	**Position_Y1 [7:0]**	
Byte 4	**Position_X2 [11:8]**	**Position_Y2 [11:8]**
Byte 5	**Position_X2 [7:0]**	
Byte 6	**Position_Y2 [7:0]**	
Byte 7	**Checksum [7:0]**	

Byte0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Bit[7:6]	Bit[5:0]
00	Reverse
01	Scan finger number on panel.
10	Key Function
11	Factory testing

Scan finger number on panel.

Bit[1:0]	
00	No touch.
01	One finger.
10	Two finger.
11	Reverse

Key Function

Bit0	Key 1
Bit1	Key 2
Bit2	Key 3
Bit3	Key 4
Bit4	Key 5
Bit5	Key 6

Position_X(Y)1: first touch

Position_X(Y)2: Second touch

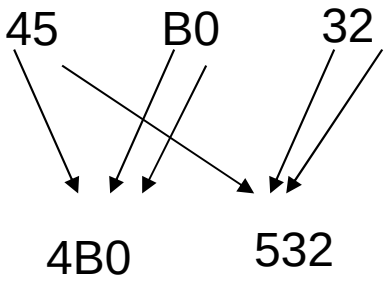
CNTouch

Data Packet of I2C example

Hex Value

- No Touch & Finger Up
  0x(40 FF FF FF FF FF FF C6)

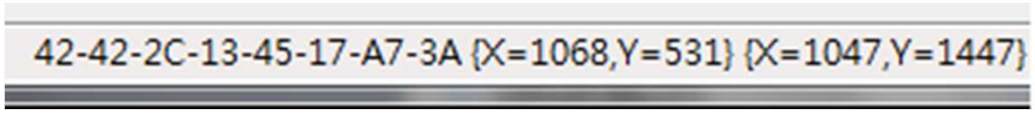
- Touch one point
  0x(41 45 B0 32 FF FF FF 9B)
  touch X,Y = 1200,1330



X,Y=1200,1330

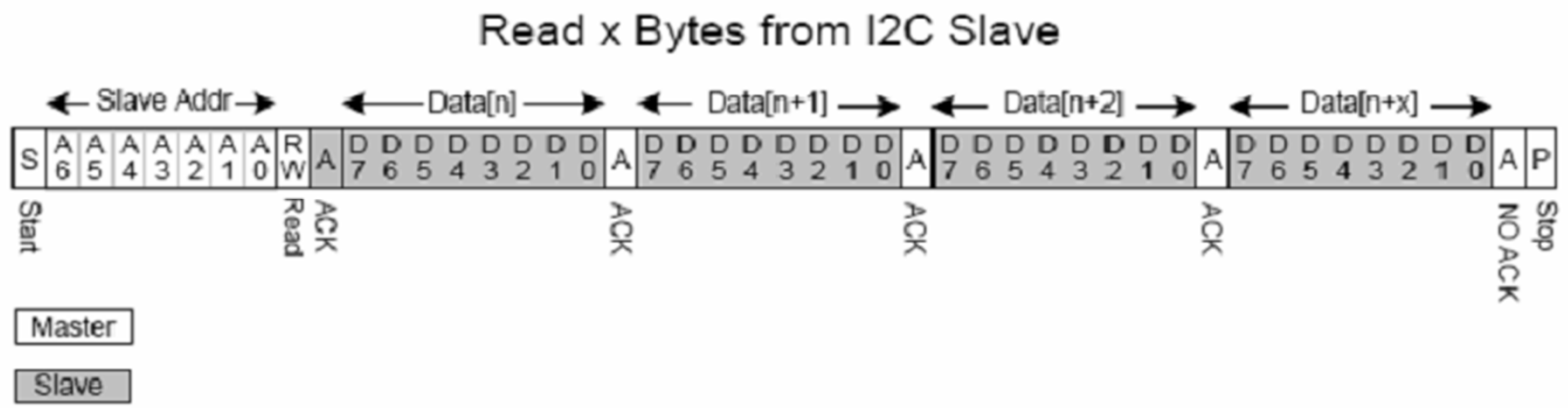
- Touch two point
  0x(42 42 2C 13 45 17 A7 3A)
  touch X1,Y1 = 1068,531
  touch X2,Y2 = 1047,1447

- Check Sum
  Byte0+Byte1+~+Byte6+check sum=0x00

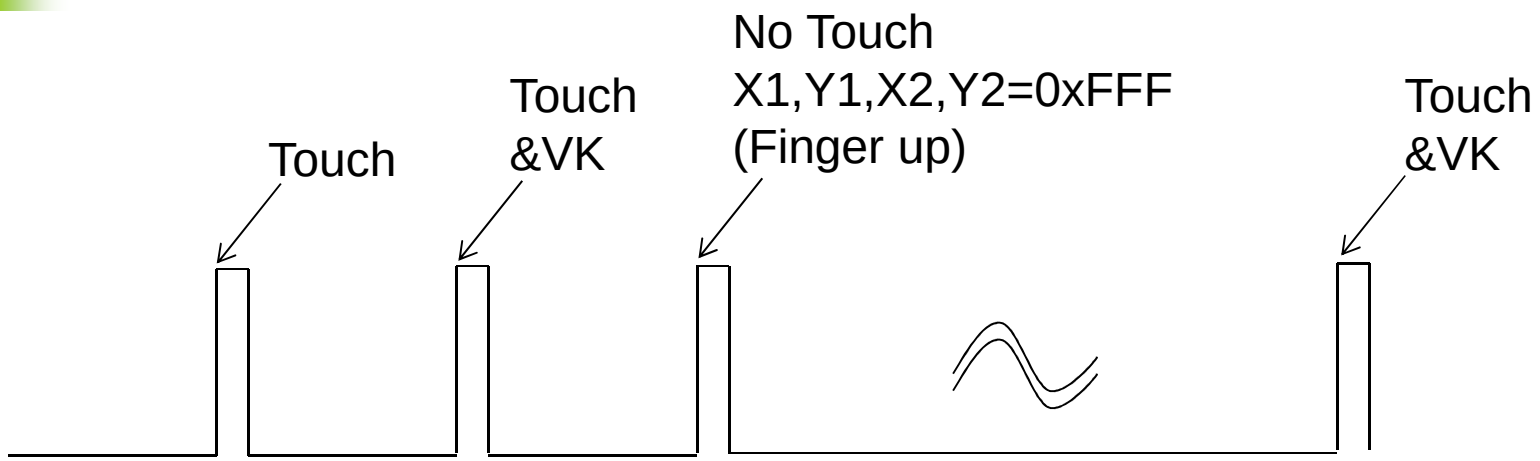


CNTouch

I2C Read Write



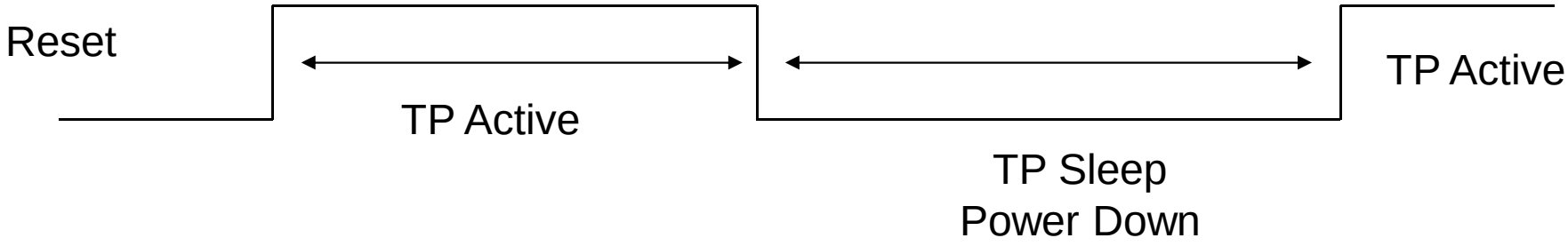
Interrupt Signal



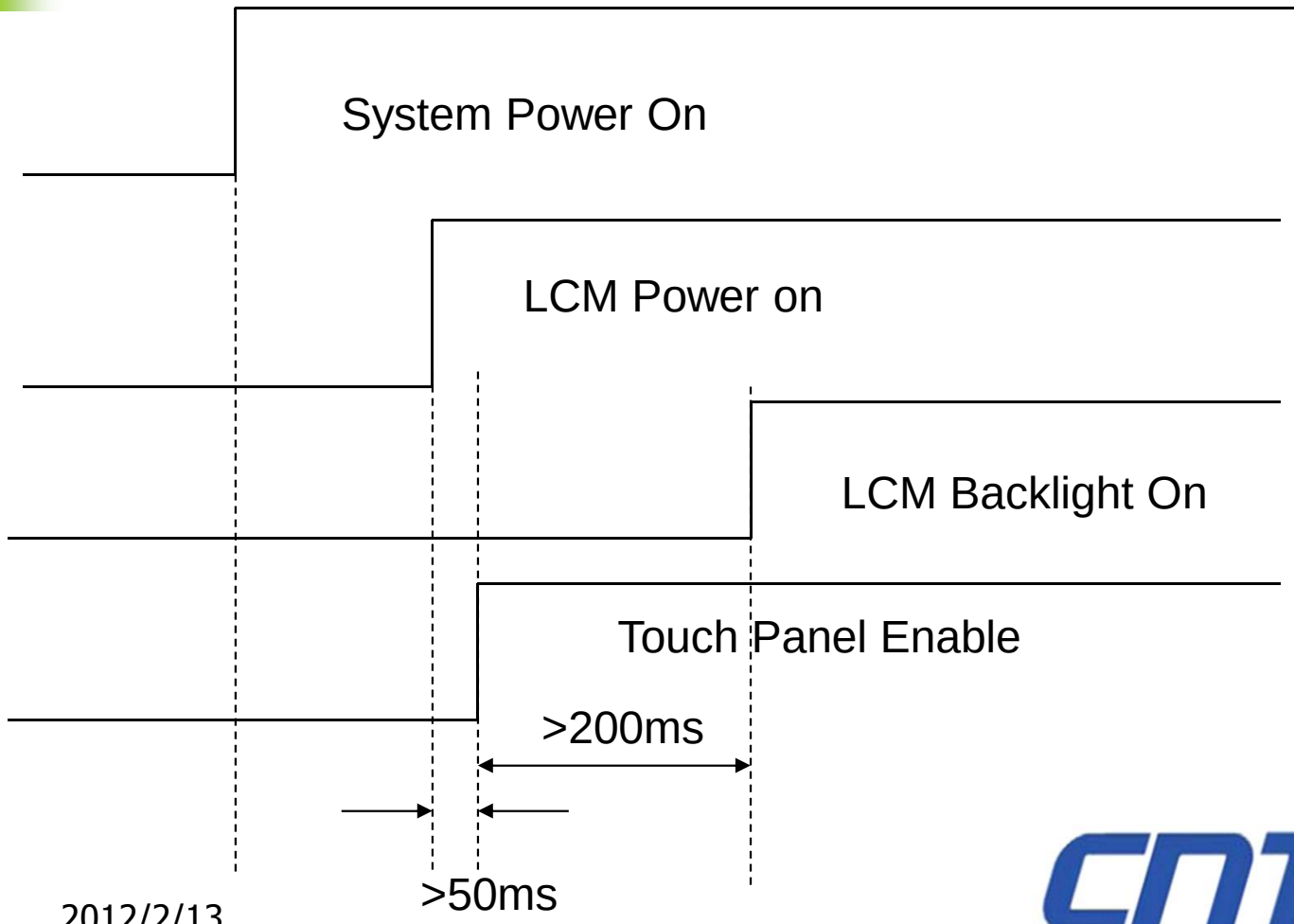
Active & Sleep

•Reset Pin

(High Active ,Low Power Down)



Power On sequence



DC Electrical

No.	Item		Symbol	Specification			Unit	Remark
				MIN.	TYP.	MAX.		
1	Interface		--		I2C		--	--
2	Power Supply		V_{VDD}	2.7		3.6	V	
3	Input Signal Voltage	H Level	V_{IH}	1		VDD	V	
		L Level	V_{IL}	GND	-	0.3		
4	Supply Current	I_{CI}	--		-	7	mA	V_{DD}=3.0V, 25°C
5	Sleep Current	I_{CI}				100	uA	V_{DD}=3.0V, 25°C
6	Report Rate		--	60	80		Hz	
7	Linearity		--	--	--	2	mm mm	non-Border area
8	Accuracy 8 mm Copper stick		--			2	mm	non-Border area
			--			+/- 2.5	mm	border area
9	Jitter 8 mm Copper stick		--			+/- 1	mm	non-border area
10	Sensitivity		--	8			mm	Copper stick

CNTouch