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Document ID: ECS-057-20220812-1

EXC81H5680STAG

**Projected Capacitive Touchscreen
Controller Board**

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Revision History

Document ID	Date	Revision Description
ECS-057-20220812-1	2022/08/10	Preliminary



EXC81H5680STAG

Projected Capacitive Touchscreen Controller Board

The EXC81H5680STAG is a projected capacitive (PCAP) touch screen controller that is powered by EETI's high performance chip EXC81H84. By integrating the advantages of mutual capacitance sensing technology, built-in high driving voltage transceiver and a powerful MCU, this controller incorporates the most desired features to boost the noise immunity and support high demand applications in most categories.

OS	Version	Interfaces
Windows	Windows 11, 10, 8, 7, XP Windows Embedded, WEC2013, WEC7, WinCE6	RS232 / USB / I2C
Linux	Support Kernel 2.4.x / 2.6.x / 3.x.x / 4.x.x / 5.x.x, and most Linux distribution versions, including Ubuntu, Debian, Fedora, Red Hat, CentOS, SuSE (OpenSuSE), Arch, Slackware, etc.	RS232 / USB / I2C
Android	2.3.x upwards (from Gingerbread to the latest Android version)	RS232 / USB / I2C
Mac	macOS9 to the latest 12.x.x	USB

* macOS9 support only Resistive Touch Controllers

Features

- USB, RS232, and I2C interface
- Noise immunity
- Support advanced water resistance
- Support active stylus
- Support RS232 flow control
- Support OGS, SITO, DITO, G/F, G/F/F, G/G, and mesh sensors.
- Comprehensive driver support
- eGalaxTouchManager plus tool support
- API support
- RoHS compliant

Specifications:

Circuit Board Dimension	100mm x 33mm x 7.5mm
Channels of Panel	Max.Tx:48 Rx:80 channels (include shielding pin)
Input Voltage	5V
Operating Temperature	-25 to 85 °C
Storage Temperature	-25 to 85 °C
Relative Humidity	95% at 60 °C, RH Non-condensing
Accuracy and Linearity ¹	<= +/- 1mm (outside 3.5mm from edges) <= +/- 2mm (within 3.5mm of all edges) (Refer to Win10 Touch Requirement)
Interface	USB 1.1 Full Speed (USB 2.0 compliant full speed) RS232: No parity, 8 data bits, 1 stop bit, baud rate 115200bps, support hardware flow control I2C: up to 400KHz, Voltage level 3.3V
Regulatory approvals	CE, FCC-B
ESD	Air Discharge 8KV, Contact Discharge 4KV
Resolution	16384 x 16384 resolution
Power consumption (mA)	Active Mode: Typically <90mA
Report rate ² (points/sec)	> 100 Hz
Response time	Average < 25ms

¹ Requires a corresponding touch sensor design. (Sensor pitch <=5.5mm)

² Report rate is varied by touch sensor channel number, cover thickness, system condition, and other parameters

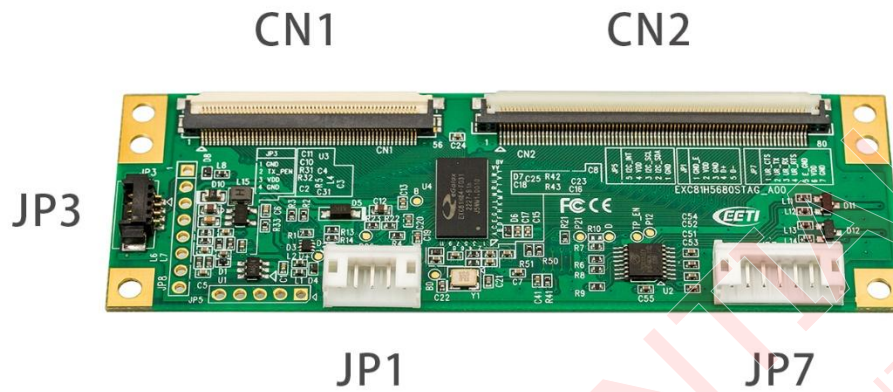
Disclaimer

- For products that require Windows logo certification (WHQL), please contact your supplier for a specifically designed touch module.
- Special input performance can vary depending on module conditions, contact materials, sizes and subjects, including thick glass touch, gloved-hand input, water resistance, noise immunity, etc.
- Special features need to be pre-defined and pre-tuned during project development.

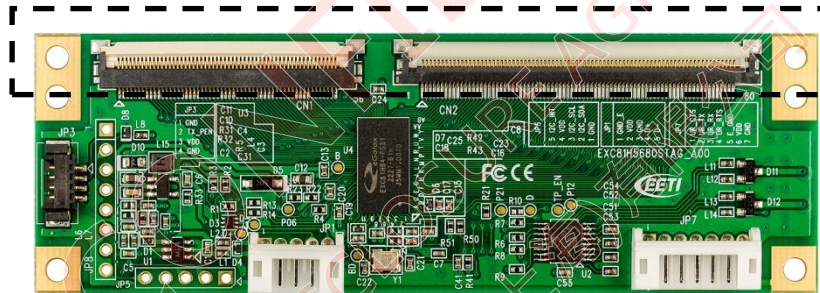
Accessory Cables

- ETP-CB-SXU00, External USB cable
- ETP-CB-SXU01, Internal USB cable
- ETP-CB-SXR17, External RS232 cable

Product Photo



Connector CN1/CN2



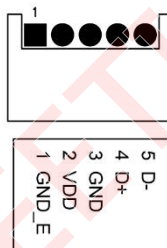
FPC Pin Description

CN1					
PN		PN		PN	
1	NC	21	TX34	41	TX14
2	NC	22	TX33	42	TX13
3	NC	23	TX32	43	TX12
4	NC	24	TX31	44	TX11
5	NC	25	TX30	45	TX10
6	NC	26	TX29	46	TX9
7	NC	27	TX28	47	TX8
8	NC	28	TX27	48	TX7
9	TX_S1	29	TX26	49	TX6
10	TX45	30	TX25	50	TX5
11	TX44	31	TX24	51	TX4
12	TX43	32	TX23	52	TX3
13	TX42	33	TX22	53	TX2
14	TX41	34	TX21	54	TX1
15	TX40	35	TX20	55	TX0
16	TX39	36	TX19	56	TX_S0
17	TX38	37	TX18		
18	TX37	38	TX17		
19	TX36	39	TX16		
20	TX35	40	TX15		

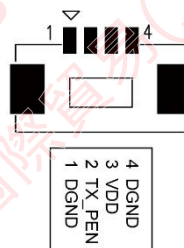
CN2							
PN		PN		PN		PN	
1	RX_S1	21	RX58	41	RX38	61	RX18
2	RX77	22	RX57	42	RX37	62	RX17
3	RX76	23	RX56	43	RX36	63	RX16
4	RX75	24	RX55	44	RX35	64	RX15
5	RX74	25	RX54	45	RX34	65	RX14
6	RX73	26	RX53	46	RX33	66	RX13
7	RX72	27	RX52	47	RX32	67	RX12
8	RX71	28	RX51	48	RX31	68	RX11
9	RX70	29	RX50	49	RX30	69	RX10
10	RX69	30	RX49	50	RX29	70	RX9
11	RX68	31	RX48	51	RX28	71	RX8
12	RX67	32	RX47	52	RX27	72	RX7
13	RX66	33	RX46	53	RX26	73	RX6
14	RX65	34	RX45	54	RX25	74	RX5
15	RX64	35	RX44	55	RX24	75	RX4
16	RX63	36	RX43	56	RX23	76	RX3
17	RX62	37	RX42	57	RX22	77	RX2
18	RX61	38	RX41	58	RX21	78	RX1
19	RX60	39	RX40	59	RX20	79	RX0
20	RX59	40	RX39	60	RX19	80	RX_S0

Connector Pin Configuration

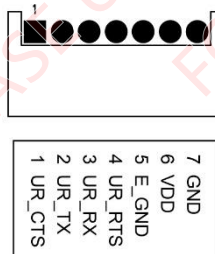
JP1 USB Connector



JP3 GPIO Connector



JP7 RS232 Connector



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*Dimensions without individual tolerance are $\pm 0.10\text{mm}$



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