Chefree Technology Corp.

Projected Capacitive
Touch Control Board Specification

Controller Model	**EE80H321829-UABS-A001** (Default SMT IF: USB) **EE80H321829-IABS-A001** (IF: IIC)
Version	**v.1.0.0**

Customer : _____

Approved By : _____

Date: _____

CHEFREE		
APPROVAL	**CHECKER**	**PREPARE**
Tim	Mark	Jacky

Specification Release Record

Date	Version	Description	Note
20210108	v.1.0.0	First Release	

PCB Release Record

PCB Version	Description	Note
EE80H321829-XABS-A001	First Release	

CHEFREE will provide a warranty period of 1 year from the date of shipment under normal circumstances (non-human factor damage).

CHEFREE reserves the right to modify, insert and remove any part of the terms and conditions.

Control Board

This P-Cap touch control board (EE80H321829-XABS-A001) designed from CHEFREE for projective capacitive touch screen is applicable to industrial, commercial and consumer markets which may need driver support as well as Windows OS. And its user interface condition suits the traditional mouse-like click operation, beepers and multi-windows support.

This controller board supports high voltage driving signal to achieve high SNR and better wideband interference susceptibility. EXC80H84 is a MCU based projected capacitive touch screen controller designed for commercial, industrial, and automotive application. EXC80H46 needs an external DC/DC booster chip to generate high voltage.

EXC80H32 provides different working frequencies to avoid narrow band interference. With high voltage driving and different working frequencies, EXC80H32 provides an excellent interference susceptibility performance. With eGalaxTouch software package, EXC80H32

supports different touch sensor structures - OGS, SITO, DITO, G/F, G/F/F and G/G structure. With high SNR, EXC80H46 provides an excellent solution not only for finger operation but also for gloves, thicker glass, etc application.

Driver Support

| OS	Version
Windows	*Windows 10 IOT / *Windows 10 / *Windows 8 / Windows 7 Windows Vista / Windows 2000 / Windows XP
Win CE	Win Embedded Compact 2013 / Win Embedded Compact 7 WinCE 6 / WinCE.Net
Linux	CentOS, Debian, Fedora, Gentoo, Mandrake (Mandriva), Meego, Red Hat, Slackware, SuSE (OpenSuSE), Ubuntu (Xubuntu) and Yellow Dog etc. *Support most 32/64 bit Linux distribution versions, including Kernel 2.4.x / 2.6.x / 3.x.x / 4.x.x*
Android	Android 2.3 to 7
Mac	OS 9 to 10.12
QNX	RTOS V6.3 to V6.6

Feature:

I. Clocks
1. External 12 MHz crystal
2. Internal PLL
3. Internal 32 bits RTC
4. Clock generator for digital modules
5. Clock generator for analog modules

II. Power Management
1. Power Supply: USB/RS232 IF: 5V; IIC IF: 3.3V
2. Internal regulator for analog block
3. Internal regulator for digital core
4. Idle mode
5. Sleep mode

III. Power consumption(mA)

1. Active Mode: < 90mA
2. Idle Mode: depends on firmware

IV. Memory

1. 256KB embedded flash
2. 128KB SRAM + 1KB USB FIFO

V. ESD: 2000V(HBM)

VI. Channels of Panel: Max. Tx:18 Rx:29 channels

VI. Communication Interface

1. USB 2.0 compliant full speed with LPM L1 supported.
2. I2C up to 400 KHz, support 3.3V

VII. Digital Modules

1. Timers, watch dog Timer
2. Multi-touch algorithm engine
3. Hardware algorithm accelerator
4. Hardware scan engine

VIII. Response time: Average < 25 ms

IX. Report rate(points/sec): >100 Hz

X. Resolution: 16384×16384 resolution

XI. Electronic Parts Features

1. Operating Temperature: -20℃ ~ 70℃
2. Storage Temperature: -30℃ ~ 80℃
3. Relative Humidity: 95% at 60℃, RH Non-condensing

Controller Dimension

Controller Dimension: 28.6 x 18.0mm (+-0.2mm)
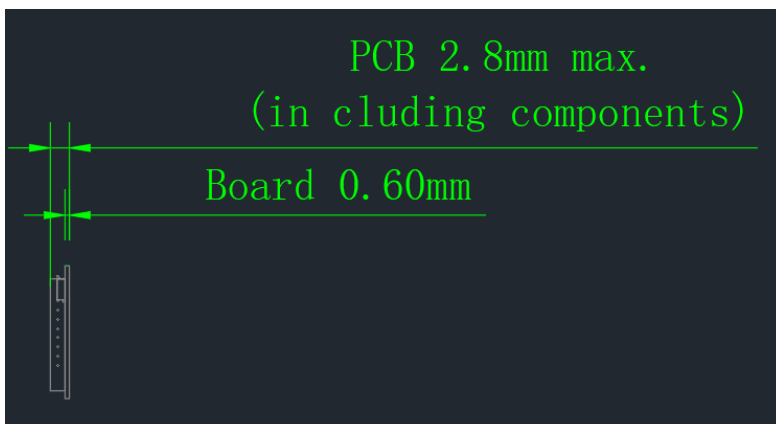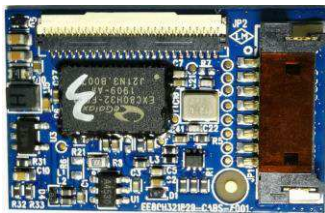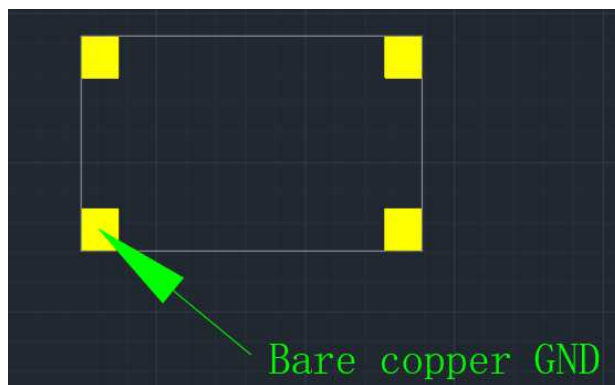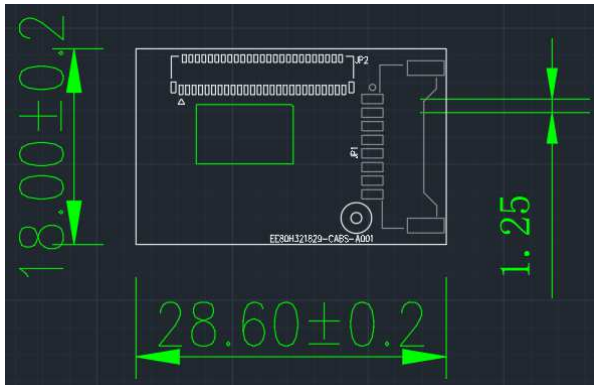
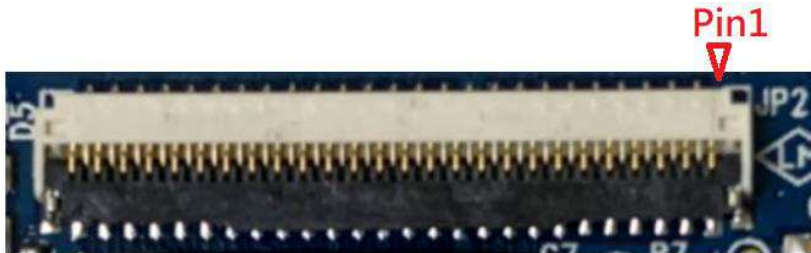**Default SMT is USB interface, IIC interface is customized SMT.**

Note1: JP1 WTB Connector: BFRS125-S08-1LR / 50278-00801-001 or compatible

Note2: JP2 FPC Connector: 51607-0510M-001 or compatible

Thickness: PCB 2.8mm max. (including components)

FPC Connector Pin Assignment
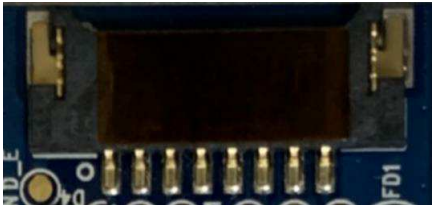
FPC Connector Pin Define: JP2

Pin	Define	Pin	Define	Pin	Define
Pin1	GND	Pin21	GND	Pin41	RX20
Pin2	TX1	Pin22	RX1	Pin42	RX21
Pin3	TX2	Pin23	RX2	Pin43	RX22
Pin4	TX3	Pin24	RX3	Pin44	RX23
Pin5	TX4	Pin25	RX4	Pin45	RX24
Pin6	TX5	Pin26	RX5	Pin46	RX25
Pin7	TX6	Pin27	RX6	Pin47	RX26
Pin8	TX7	Pin28	RX7	Pin48	RX27
Pin9	TX8	Pin29	RX8	Pin49	RX28
Pin10	TX9	Pin30	RX9	Pin50	RX29
Pin11	TX10	Pin31	RX10	Pin51	GND
Pin12	TX11	Pin32	RX11		
Pin13	TX12	Pin33	RX12		
Pin14	TX13	Pin34	RX13		
Pin15	TX14	Pin35	RX14		
Pin16	TX15	Pin36	RX15		
Pin17	TX16	Pin37	RX16		
Pin18	TX17	Pin38	RX17		
Pin19	TX18	Pin39	RX18		
Pin20	GND	Pin40	RX19		

Interface Connector

Pin definition: JP1 (USB/IIC)

Default interface is USB, IIC interface should customized SMT.

JP1 Connector Pin Define(USB)	
Pin1	VDD_5V
Pin2	D+
Pin3	D-
Pin4	GND
Pin5	NC
Pin6	NC
Pin7	NC
Pin8	NC

JP1 Connector Pin Define (IIC)	
Pin1	VDD_3.3V
Pin2	NC
Pin3	NC
Pin4	GND
Pin5	RST
Pin6	INT
Pin7	SDA
Pin8	SCL