Power & Power Consumption Measurement 3.3VA && 3.3V && 1.8V

VBUS To 5V --- SWITCH

Power LEDs

3V3 Power Source Only for Digital parts

1V8 Power Source

3V3 Power Source Only for Analog parts

<--- LC filter

The main go is avoiding the digital ICs produce any noise that could have some negative effects do with the Analog part.Here i seperated the VDD and VDDA power. The main purpose is to ensure the ADC chip's measurement precision.

Current Measurement pre-amp with INA240A2PWR

Current measurement range designed to be [0.00mA, 120.00mA]

AKINA VDDA Current

20V/V

to load

For backup

To ADC --->

Current measurement range designed to be [0.00mA, 120.00mA]

AKINA VDD Current

20V/V

to load

For backup

To ADC --->

TM7707 24bits extreme high precision ADC IC

Selectable Voltage Reference

LC filter

3V Voltage Reference

2.5V Voltage Reference

1.25V Voltage Reference

RC Filter

RC Filter

To avoid the Pre-AMPs INA240 introduce new noise to the signal from here.

FT4232 JTAG Debugger

DUT USART

ST USART

Ehernet USART

JTAG Port

Mode Selection Table

Mode	A	B	C	D
Chain	1	0	0	1
STM32	1	0	1	0
AKINA	0	1	0	1

Ethernet Ports for STM32 & AKINA

Backup Modules for any other SoC test

RTC Battery

BTB Board PIN

STM32F429ZET6 Main Control

Expand PINs For STM32

Decoupling Capacitors

AKINA IC Board-to-Board 200PINs Port

Expand PINs For AKINA

EEPROM I2C1

Flash SPI1

Screen SPI2

DUT KEYs

DUT LEDs

Gyroscope I2C2

BLDC Motor Driver Related Ports

MCPWM PWM Output Ports

CMP Signal Inputs

OPAMP Signal Input

STM32F429ZET6 BOOT Mode Selection

BOOT0	BOOT1	MODE
0	X	FLASH
1	0	ROM
1	1	SRAM

Test Points Near STM32

AKINA BOOT Mode Selection

BOOT0	BOOT1	MODE
0	X	FLASH
1	0	ROM
1	1	SRAM

Test Points Near AKINA

HALL Inputs

Use the jumpers to choose the HALL source signal

M3 Screws' Wholes

Extended Ways for Interconnections

USB Port (STM32)

ADC simple test signal source

Use the jumper to select the signal source

OPAMP output test

AKINA Single Ended OPAMP Output

SD Card Port (STM32)

STM32 LEDs

AKINA USART Selection

CH395Q USART Selection

STM32 BEEP

STM32 KEYs

PSVB_EvalCoreBoard_V1.0

ZGOO