

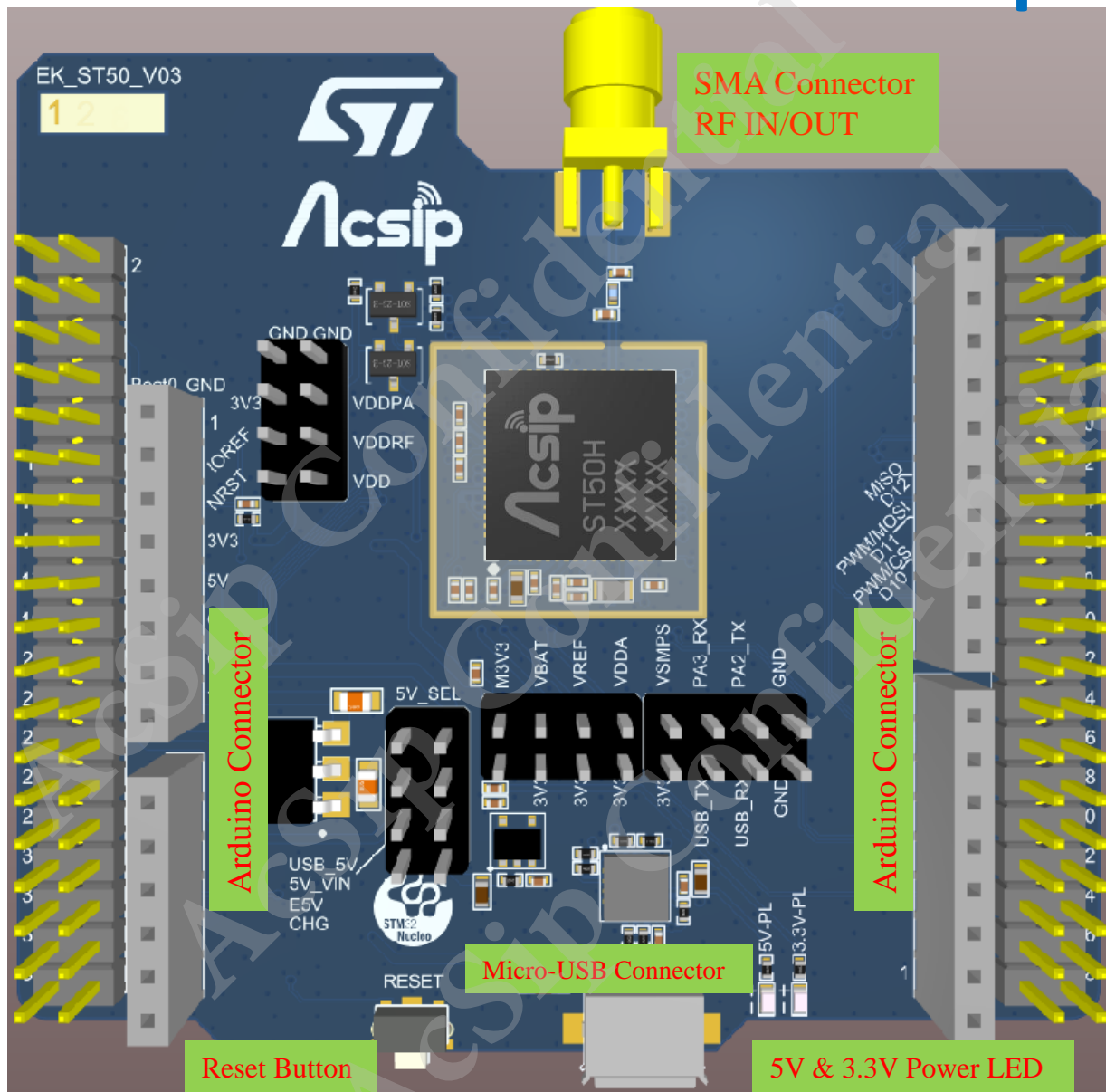
EK-ST50 User Guide



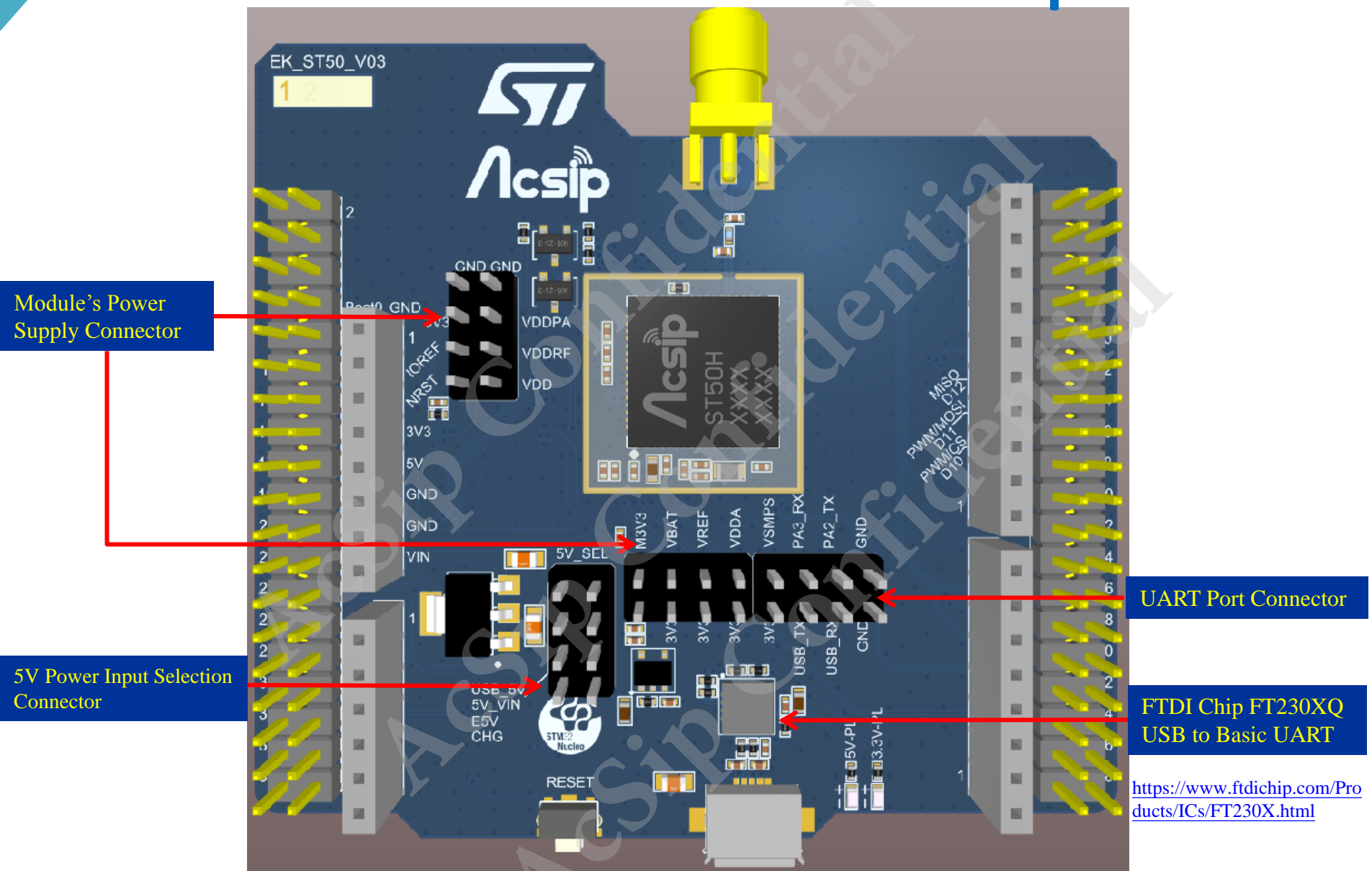
AcSiP Technology Corp.

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EK-ST50 PCB Connector Description



EK-ST50 PCB Connector Description



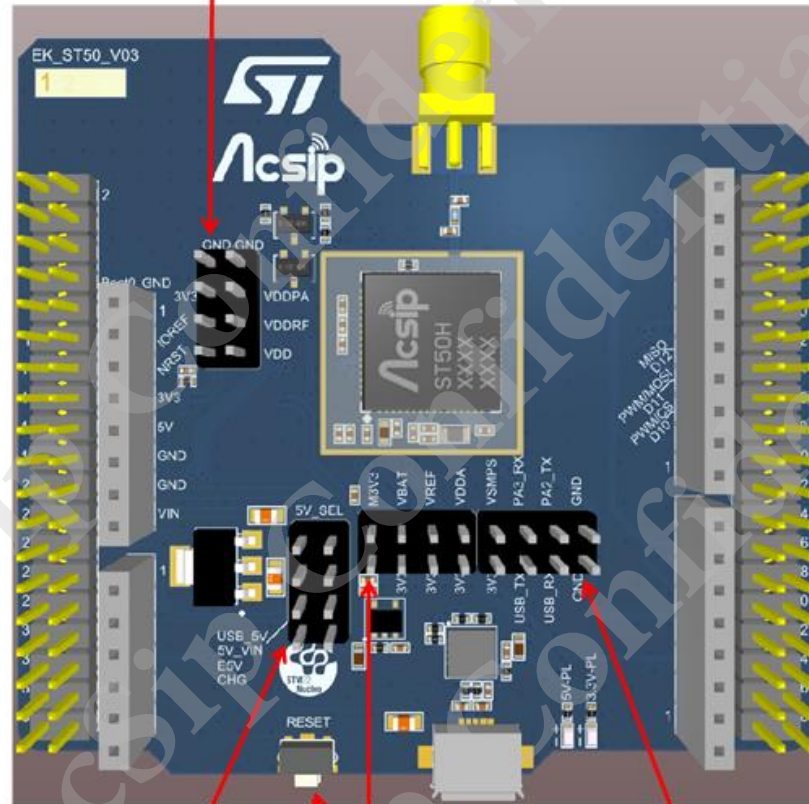
EK-ST50 PCB Connector Description

GND	GND
3V3	VDDPA
3V3	VDDRF
3V3	VDD

1	NC	NC	2
3	NC	NC	
5	VDD_MCU	E5V	
7	BOOT0	GND	
9	NC	NC	
11	NC	IOREF	
13	PA13_SWDI0	NRST	
15	PA14_SWCLK	3V3	
17	PA15	5V	
19	GND	GND	
21	NC	GND	
23	PC13	VIN	
25	NC	NC	
27	NC	PB1	
29	NC	PB2	
31	NC	PA10	
33	VBAT	PB4	
35	NC	PB14	
37	NC	PB13	

1	5V VIN	1
	IOREF	
	NRST	
	3V3	
	5V	
	GND	
	GND	
	VIN	

1	PB1	1
	PB2	
	PA10	
	PB4	
	PB14	
	PB13	



1	NC	PC1	2
	PA12	PC3	4
	PA11	NC	6
	AVDD	AVDD	8
		5V USB_CHGR	
	GND	GND	10
	PA5	PA5	12
	PA6	PC0	14
	PA7	PA8	16
	PA4	NC	18
	PA9	GND	20
	PC2	NC	22
	PC1	NC	24
	PB10	PB9	26
	PB8	PB15	28
	PB5	PB11	30
	PB3	GND	32
	PB12	NC	34
	PB6	NC	36
	PB7	PC3	38

Note: This 3V3 pin is preset to be disconnected. If you want to use this 3.3V, you need to connect the SB202 on the back of the PCB, please refer to the circuit diagram on page 10.

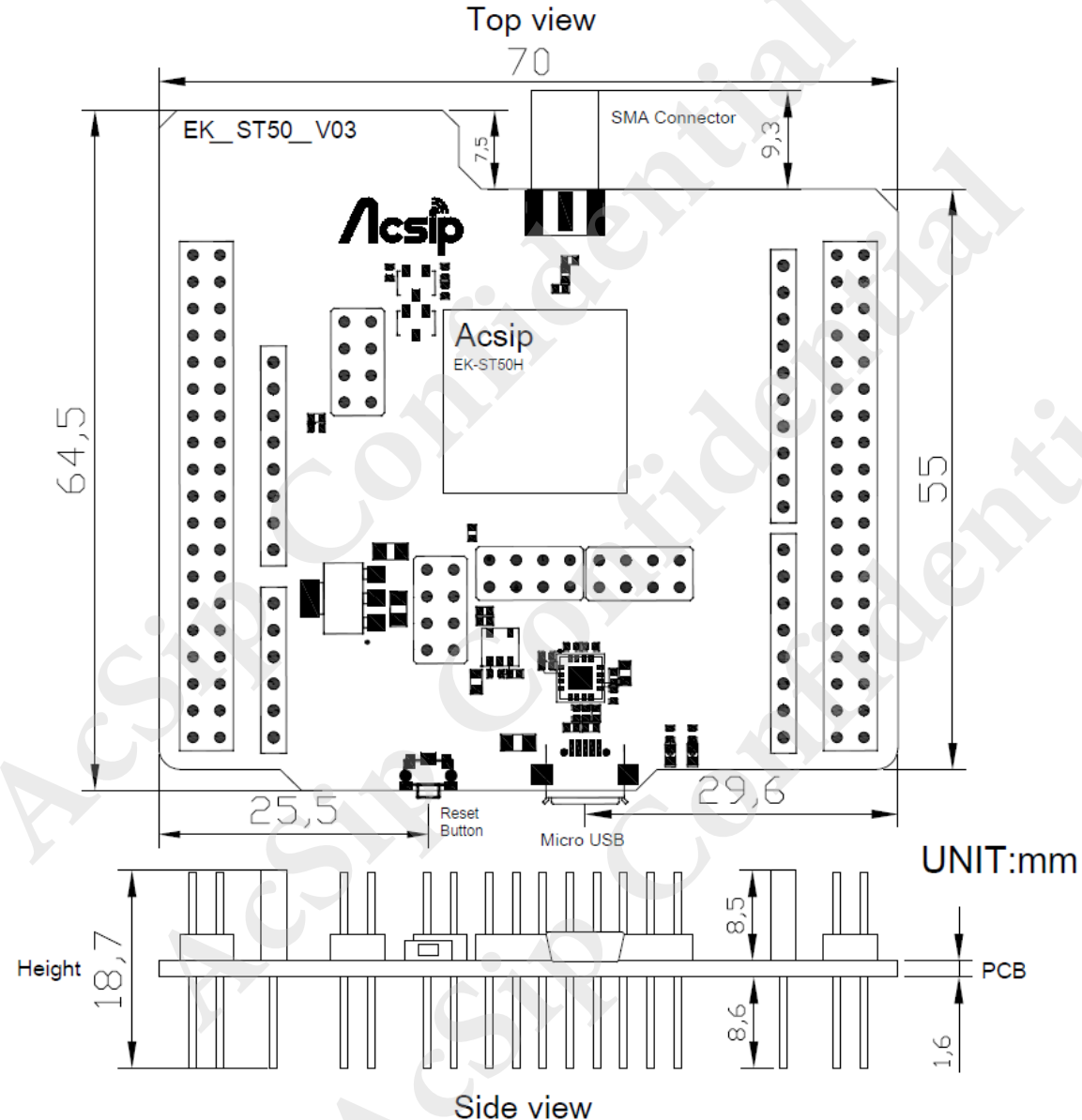
USB 5V	5V
5V VIN	5V
E5V	5V
5V_CHG	5V

M3V3	VBAT	VREF	VDDA	VSMPS	PA3_RX	PA2_TX	GND
LDO-3V3	3V3	3V3	3V3	3V3	FT230-TX	FT230-RX	GND

Note : M3V3=3V3

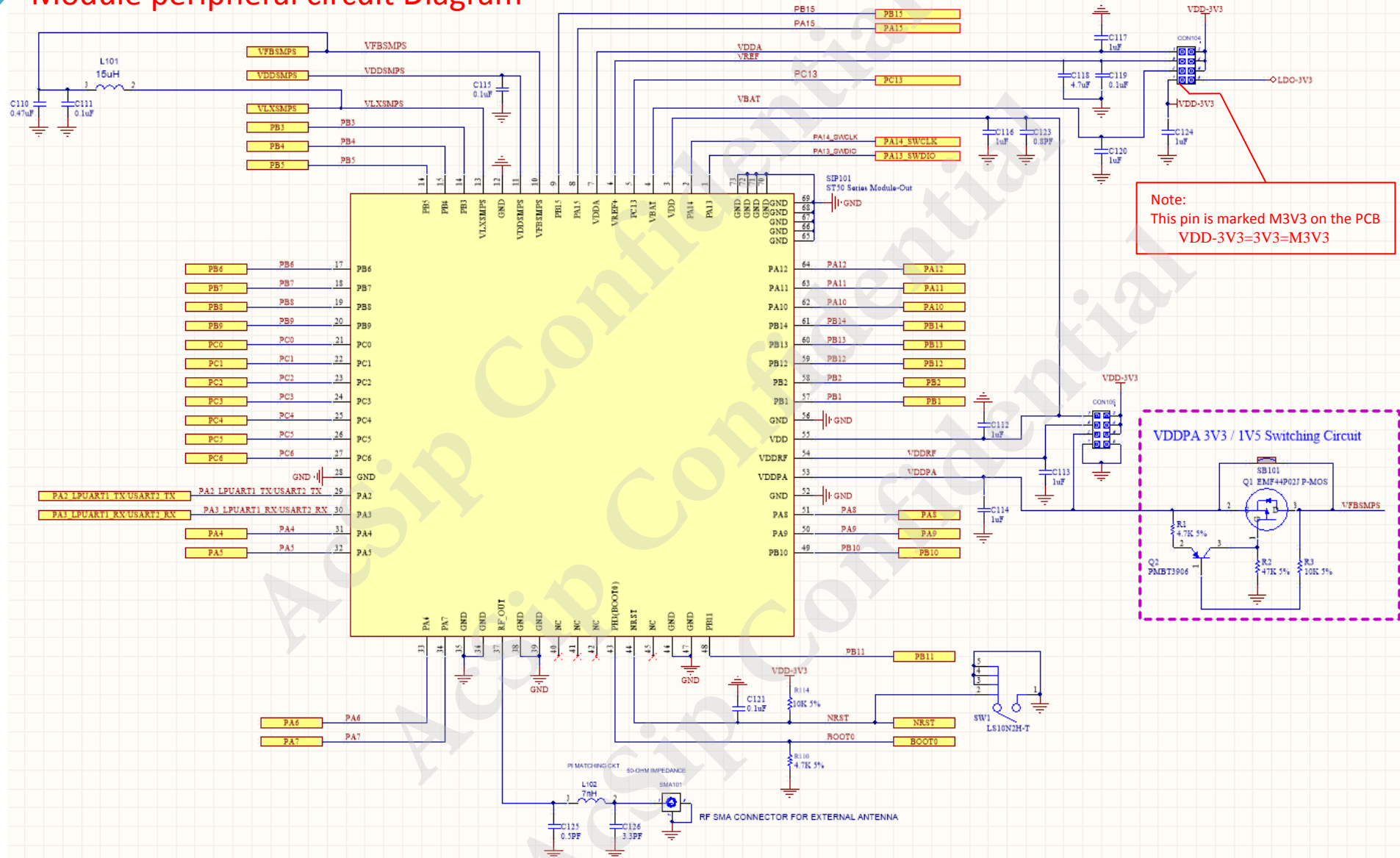
Reset Button

EK-ST50 PCB Dimension

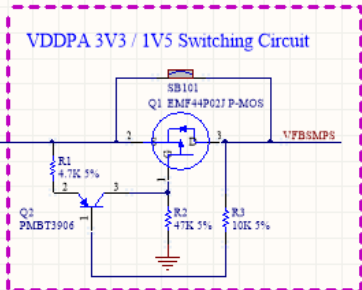


EK-ST50 Schematic Diagram

Module peripheral circuit Diagram



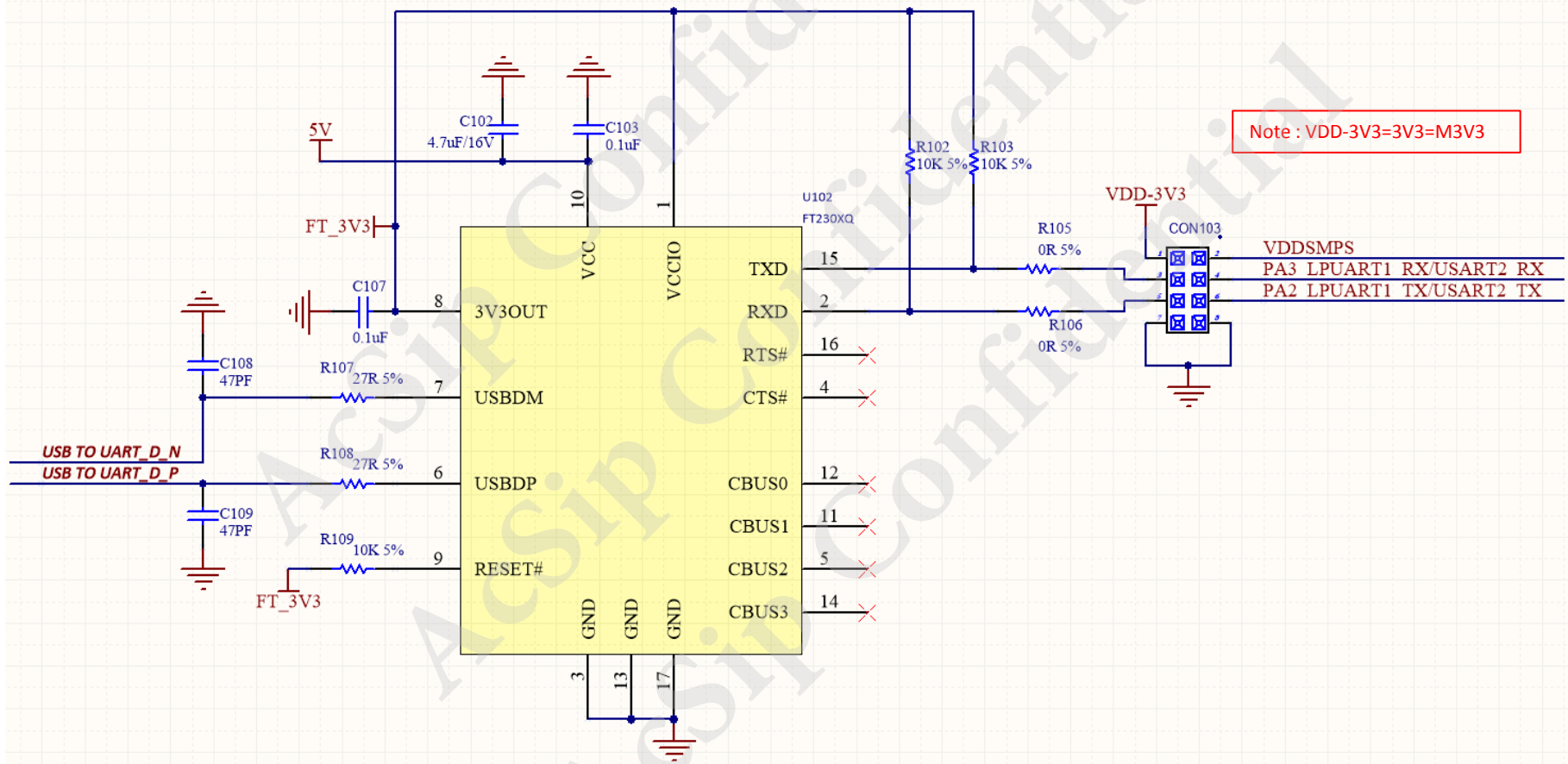
Note:
This pin is marked M3V3 on the PCB
VDD-3V3=3V3=M3V3



EK-ST50 Schematic Diagram

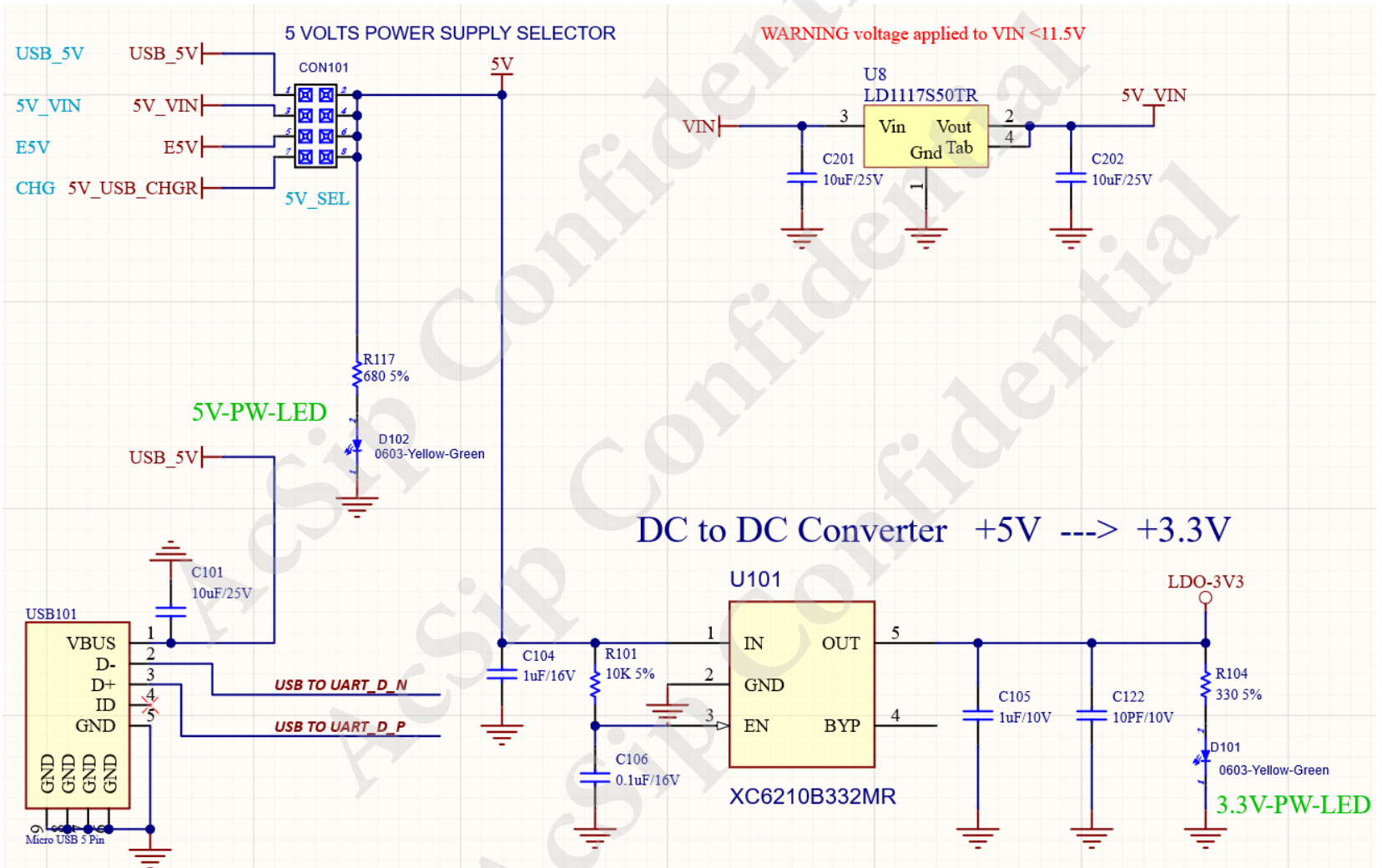
USB to UART Circuit Diagram

Uart to USB



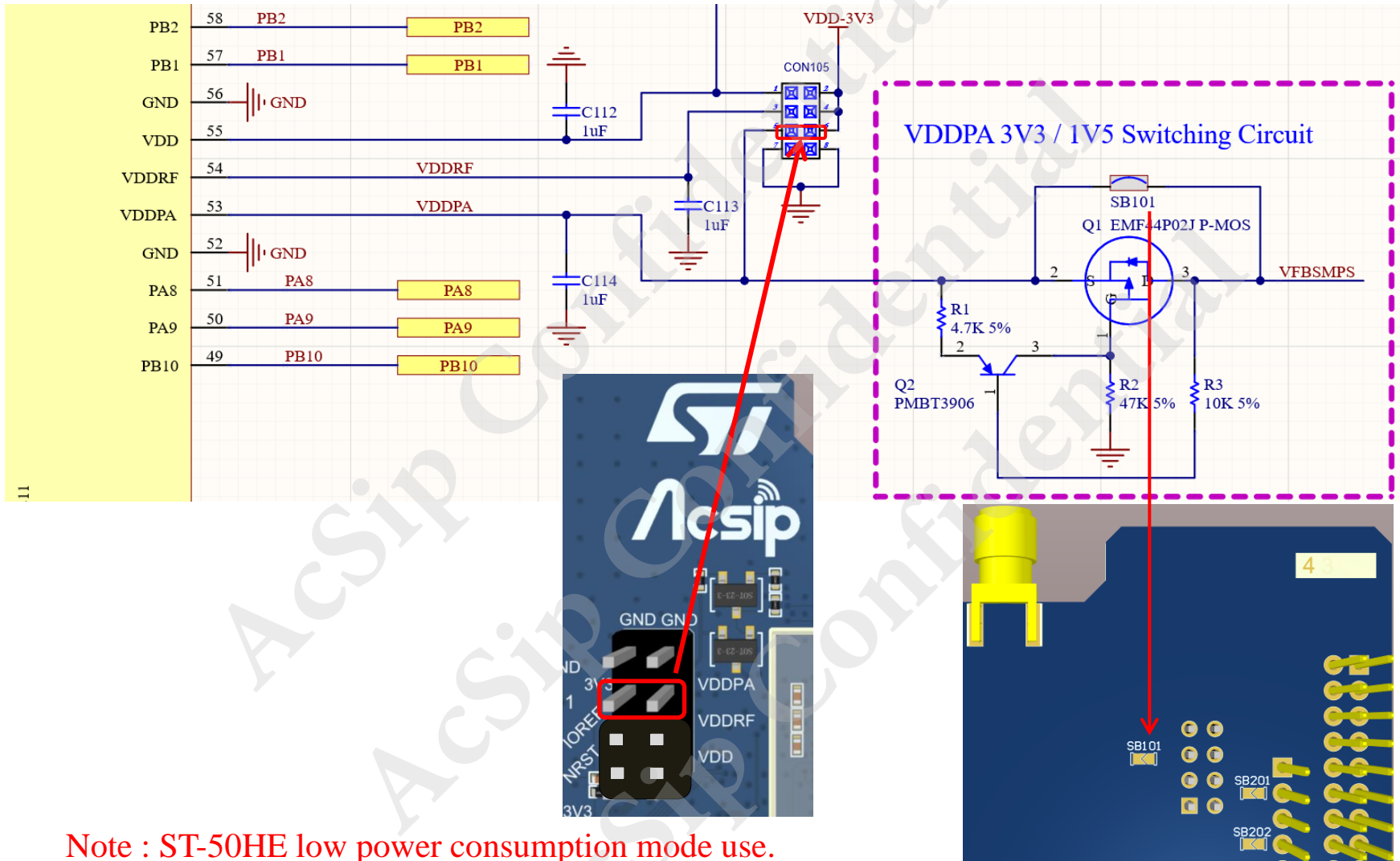
EK-ST50 Schematic Diagram

Power Supply Circuit Diagram



EK-ST50 Schematic Diagram

VDDPA Switching Circuit Diagram

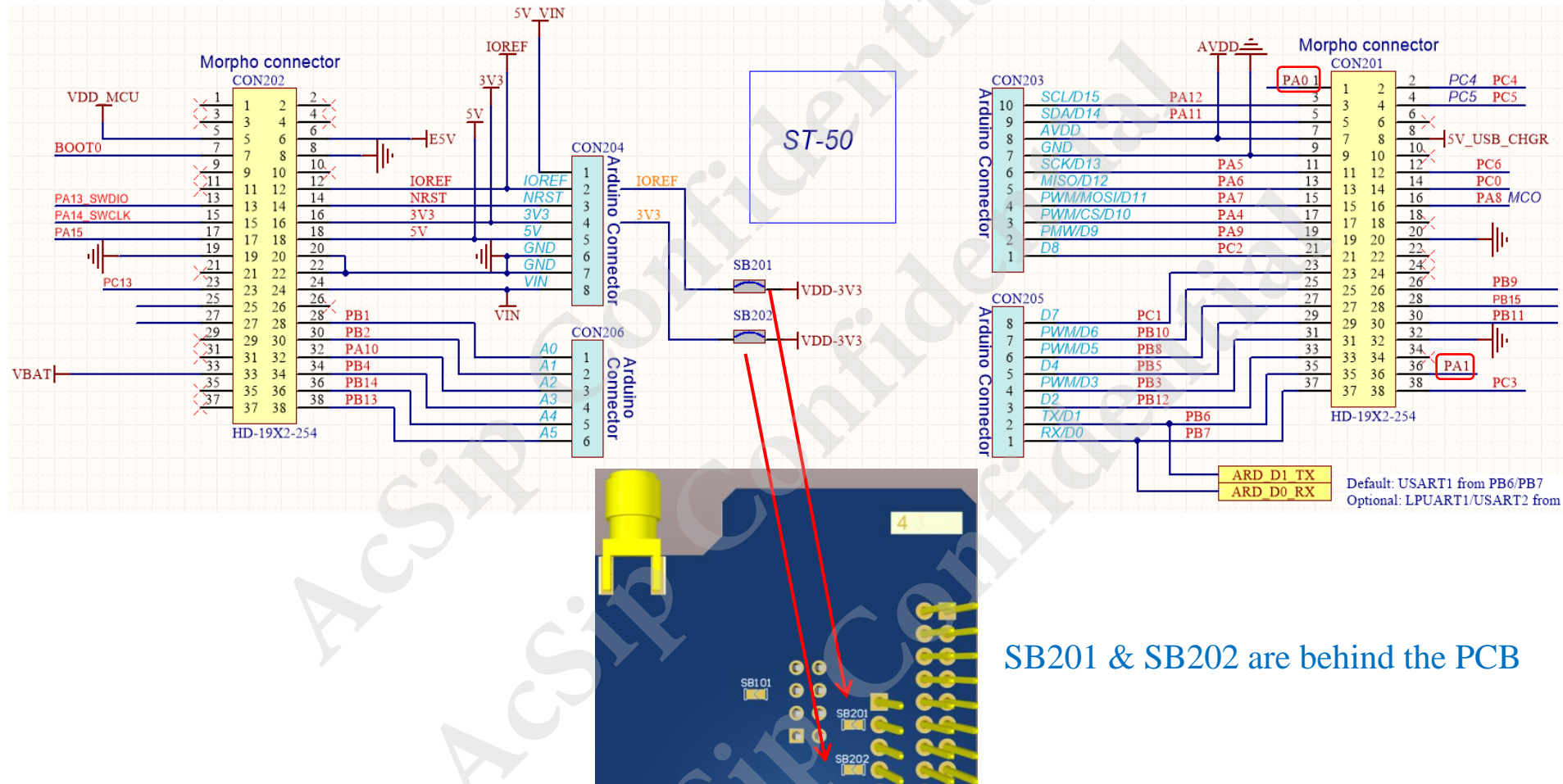


Note : ST-50HE low power consumption mode use.
(Jumper must be remove)

SB101 is behind the PCB

EK-ST50 Schematic Diagram

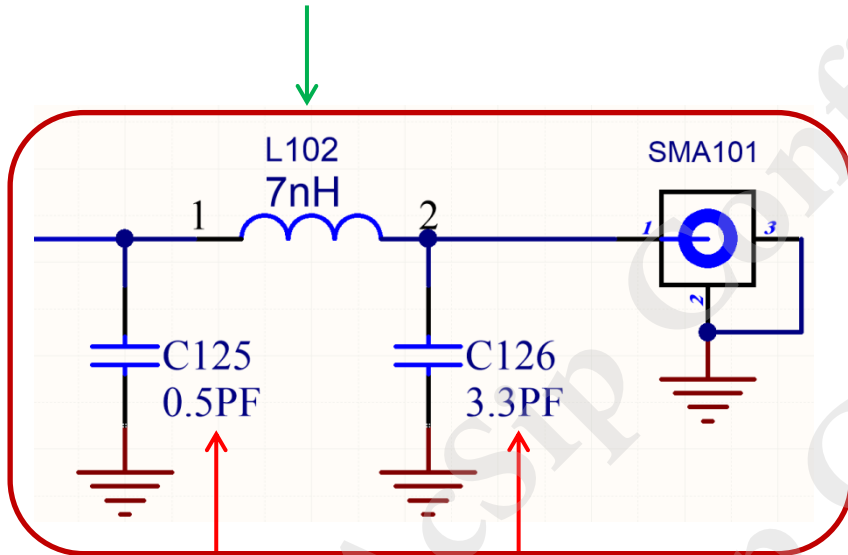
Pin definition Circuit Diagram



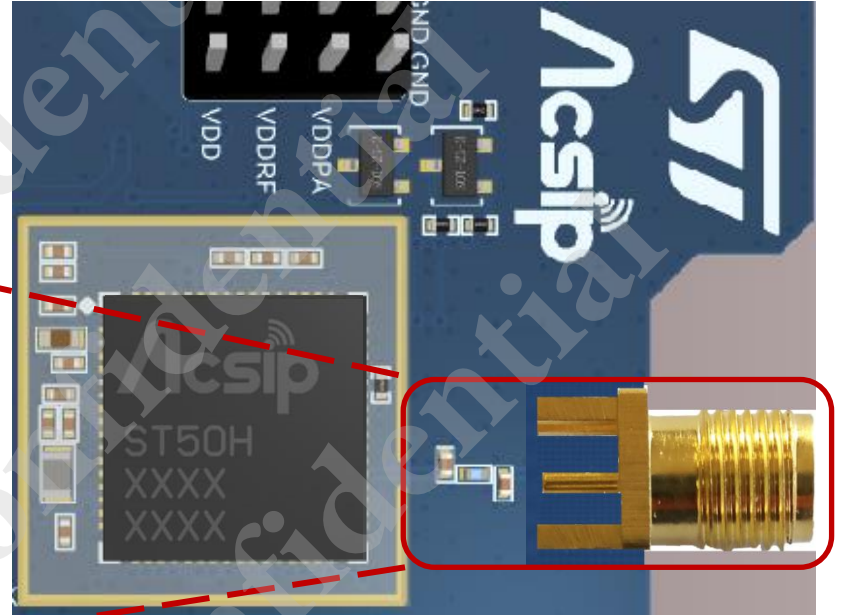
Note : The PA0 and PA1 pins in ST50H have been controlled by Acsip's software , So these two pins on the PCB are NC pins.

Low-Pass Filter Circuit for EMI Test

Inductor : Murata LQW15AN7N0G00



Capacitor : Murata GRM1555C1HR50BA01D
GRM1555C1H3R3CA01D



The screwed and glue-fixed antenna to connect on the SMA connector and provided in the blister is Antenna (RFA-08-C58-U-B70) from ARISTOTLE company. This antenna have been used for the FCC/CE certifications. This antenna must be used as a reference antenna for radiation test on EK-ST50 board.

Antenna Specifications

ARISTOTLE
ENTERPRISES INC.

Specifications

RFA-08-C58-U-B70

Specifications

Frequency range	863 –928 MHz
Peak gain	1.6dBi
Average gain	0.8dBi
VSWR	2.5 : 1 Max.
Polarization	Linear, vertical
Impedance	50 Ω
Connector	SMA PLUG

Environment & Mechanical Characteristics

Temperature	- 10°C to +55°C
Humidity	95% @ 25°C



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