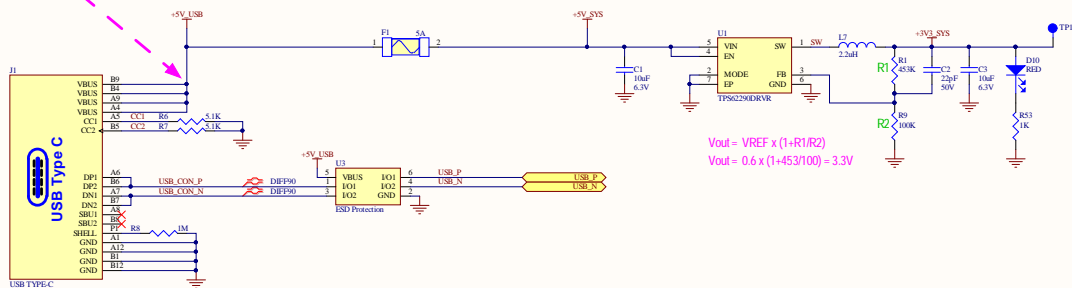


# POWER

Current rating:3A collectively for VBUS pins(i.e.,pinsA4,A9,B4,and B9)

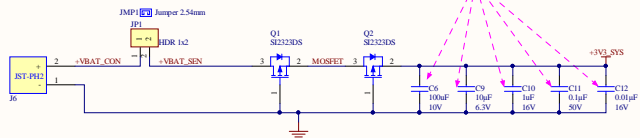


**SYS PWR**

$$V_{out} = V_{REF} \times (1 + R_1/R_2)$$
$$V_{out} = 0.6 \times (1 + 453/100) = 3.3V$$

LOW ESL CAP

**DESIGN NOTE:**  
Reference Design: Low Power CO Gas Sensor w/ BLE Connectivity from Texas Instrument  
**Project Code: TIDA-00756**



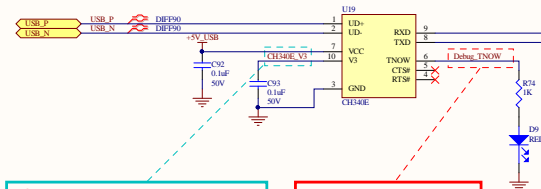
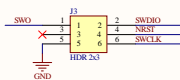
## Useful information

### SAR ADC

The ADC, embedded in STM32 microcontrollers, uses the SAR (successive approximation register) principle, by which the conversion is performed in several steps. The number of conversion steps is equal to the number of bits in the ADC converter.

# MCU

## SWD Programmer

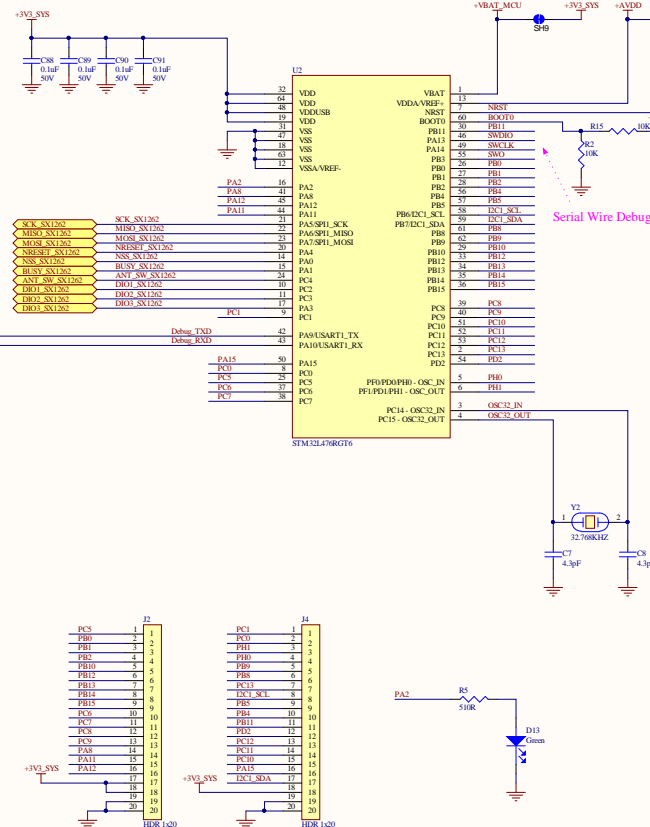


### DESIGN NOTE:

CH400 chip supports 5V and 3.3V power voltage. When using 5V source power, the VCC pin input 5V power and the V2 pin should connect with decoupling 0.1uF capacitor to ground. When using 3.3V power voltage, connects V3 with VCC, both input 3.3V power voltage, and the other circuit voltage which connected with CH400 cannot exceed 3.3V.

### DESIGN NOTE:

TNCW: Pin indicates CH400 is transmitting data from UART when it is high-level and becomes low when transmit over.



## BME280 SENSOR

### DESIGN NOTE:

It controls the lowest bit of the DC address that can be:  
ADDRESS: 0x1101010  
ADDRESS: 0x1101011

### DESIGN NOTE:

DC pull-up Resistors

### DESIGN NOTE:

BME280 has two communication interface: I2C and SPI  
(I2C up to 3.4 MHz) and SPI up to 10 MHz)

### DESIGN NOTE:

Reference Design : Humidity & Temperature Sensor Node for Star Networks Enable from Texas Instrument

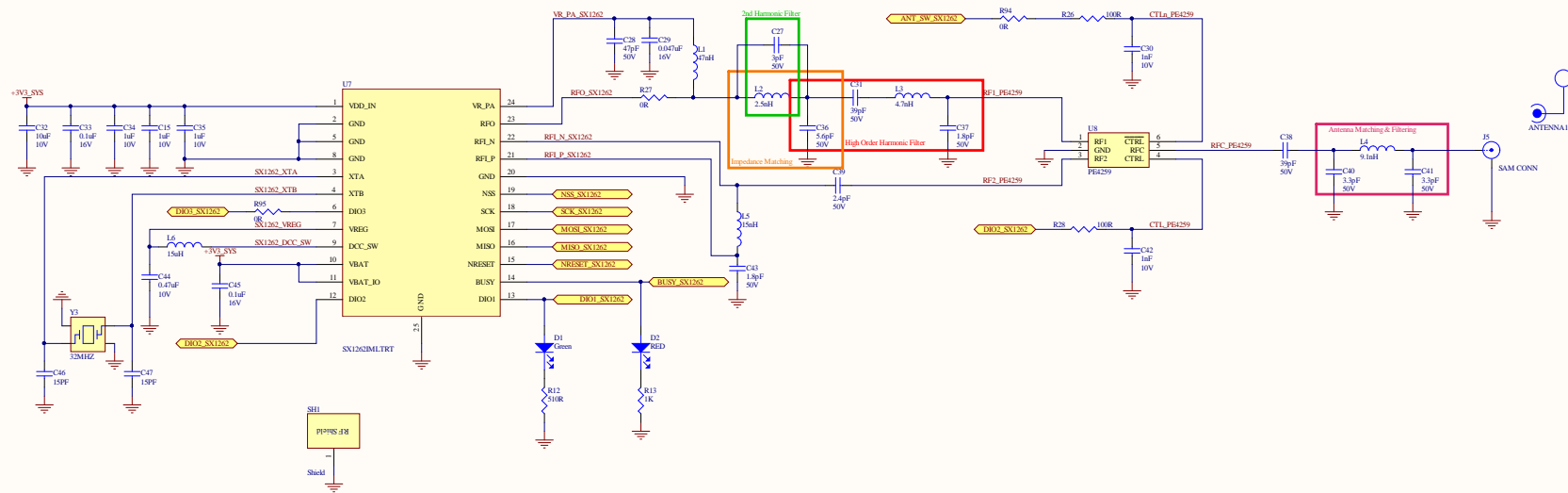
Project Code: TIDA-00374



Designer	SAIED FALLAH	Project Code	IoT_EV-BOARD
Designer	SAIED FALLAH	Page Total	(4)-MCU-ShDoc
Designer	Calibronic	Rev	A2
		Version	[No Variations]
		Date	01/11/2021

# Sx1262/ LoRa

## Sx1262 LoRa IC



1	2	3	4	5	6	7	8																																			
A	<div>Mounting Holes</div> <div>FIDUCIALS</div> <div>Logo_Calibronic</div> <div>Mounting holes 7.6mm pad 3.2mm drill BOARD MOUNTING HOLES ONE IN EACH CORNER</div>						A																																			
B							B																																			
C							C																																			
D	<div><div><div><div><div></div><div>alibronic</div></div></div><table><tr><td>Designer</td><td colspan="2">SAEID FALLAH</td><td colspan="2">Project Title</td><td colspan="2" rowspan="3">IOT EV-BOARD</td></tr><tr><td>Drawn by</td><td colspan="2" rowspan="2">SAEID FALLAH</td><td colspan="4">Page Title</td></tr><tr><td colspan="3"></td><td colspan="4">[6]- Mechanical.SchDoc</td></tr><tr><td>Approved</td><td>Calibronic</td><td>Size</td><td>A2</td><td>Version</td><td colspan="2">[No Variations]</td></tr><tr><td colspan="2"></td><td>Date</td><td colspan="2">6/11/2021</td><td>Sheet</td><td>10 of 11</td></tr></table></div></div>						Designer	SAEID FALLAH		Project Title		IOT EV-BOARD		Drawn by	SAEID FALLAH		Page Title							[6]- Mechanical.SchDoc				Approved	Calibronic	Size	A2	Version	[No Variations]				Date	6/11/2021		Sheet	10 of 11	D
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