

Overview

ARIS EDGE is a development board oriented to designing Internet-of-Things applications, leveraging on Synergy platform and multi-protocol radio module.

ARIS EDGE board includes:

- MCU: Renesas Synergy S1 (pin-to-pin compatible with S3 device)
- Connectivity: multi-protocol 2.4 GHz radio module (Silicon Labs MGM111)
- Sensors: temperature, humidity, pressure, light, 9DOF inertial with sensor fusion capabilities
- Connectors: USB device, Arduino-compatible expansion connector

Revision History

- R0.1
 - Project created
- R1.0
 - Project release for prototyping purpose
- R1.1
 - Production release
 - Test components removed

Manufacturing / Mechanical



Arrow Renesas Synergy Segger

- + FM1
- + FM2
- + FM3
- + FM4
- + FM5
- + FM6

Notes

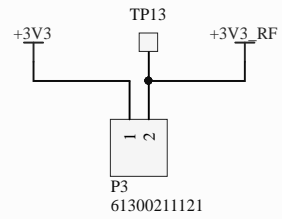
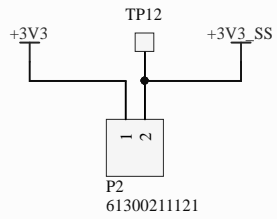
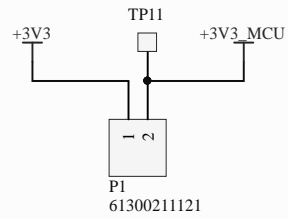
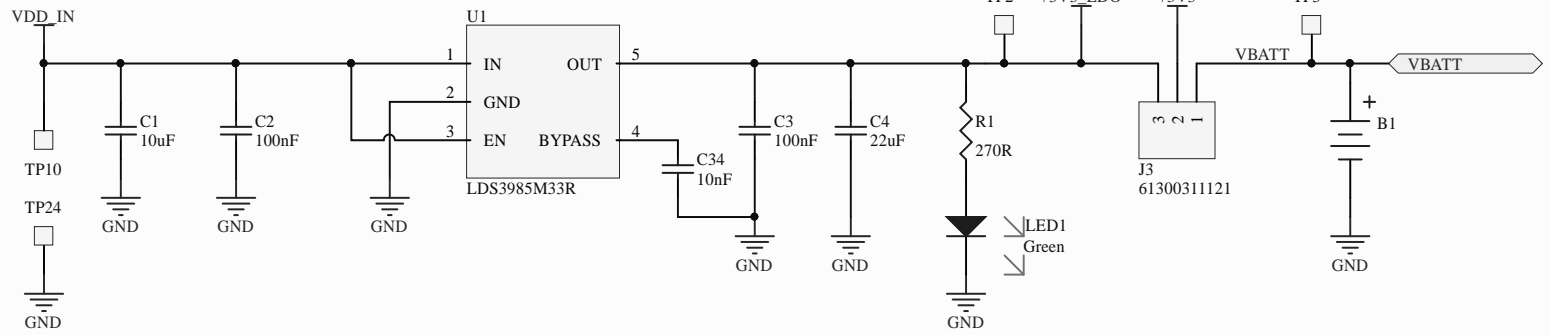
Title: **ARIS EDGE IoT Board - Arrow Electronics**

Section: Overview

Size: A4	Project code: PCBR16P10	Revision: 1.1
Date: 06/05/2017	Time: 17:39:09	Sheet 1 of 10
File: 01_Overview.SchDoc		



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Title: **ARIS EDGE IoT Board - Arrow Electronics**

Section: **Power Supply**

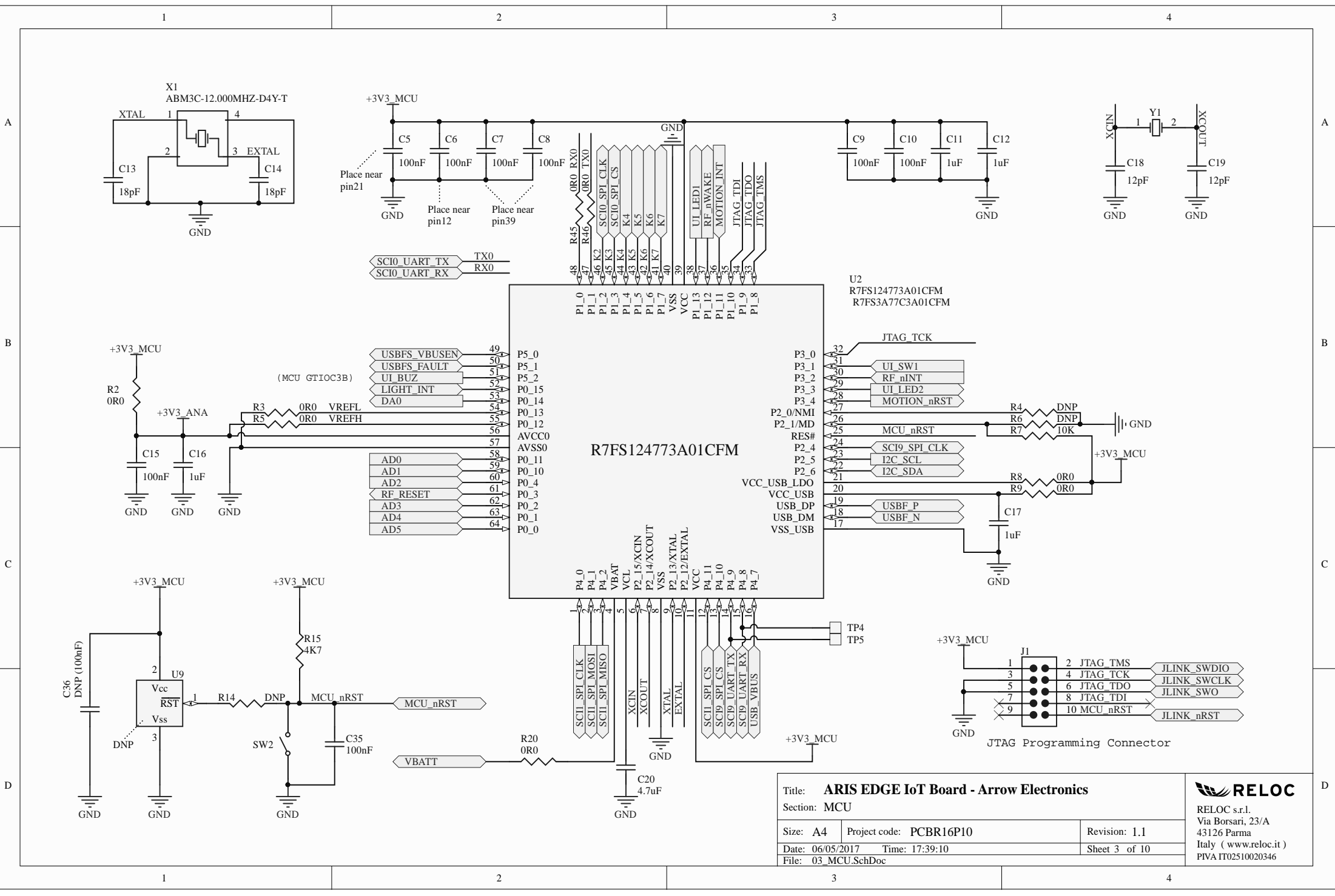
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File: **02_Power_Supply.SchDoc**



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Title: ARIS EDGE IoT Board - Arrow Electronics		 RELOC s.r.l. Via Borsari, 23/A 43126 Parma Italy (www.reloc.it) PIVA IT02510020346
Section: MCU		
Size: A4	Project code: PCBR16P10	Revision: 1.1
Date: 06/05/2017	Time: 17:39:10	Sheet 3 of 10
File: 03_MCU.SchDoc		

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A

A

B

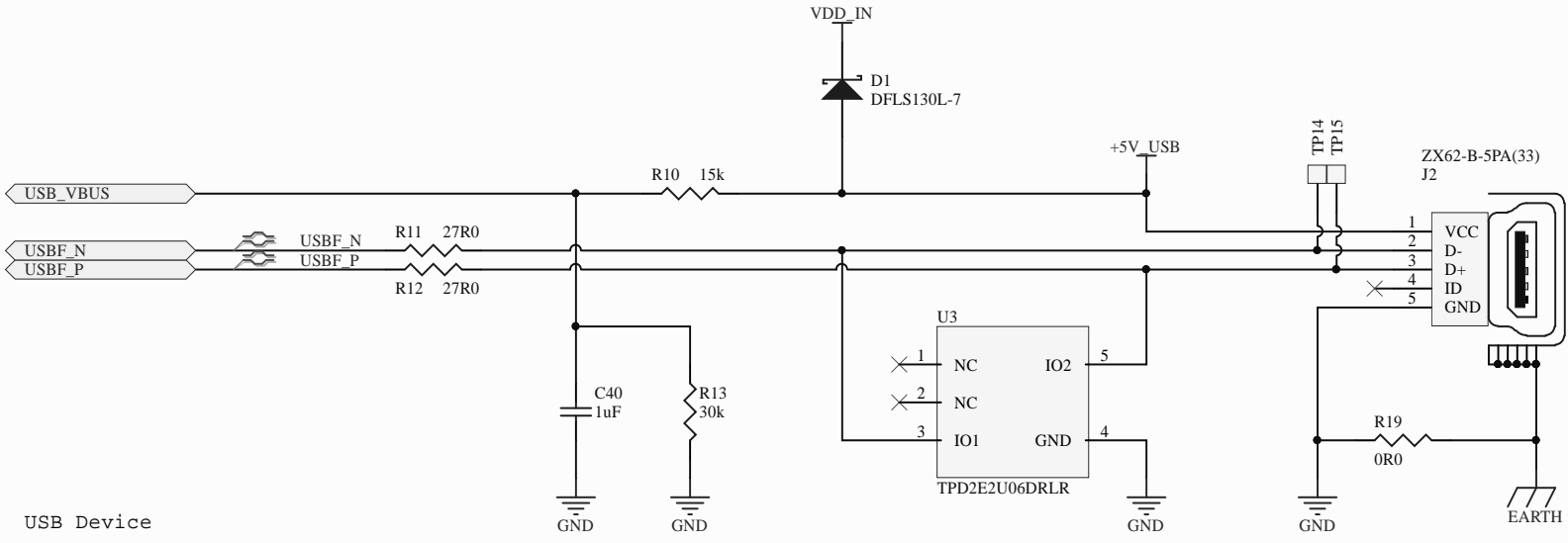
B

C

C

D

D



USB Device

Title: **ARIS EDGE IoT Board - Arrow Electronics**

Section: USB

Size: A4 | Project code: PCBR16P10

Revision: 1.1

Date: 06/05/2017 | Time: 17:39:10

Sheet 4 of 10

File: 04_USB.SchDoc



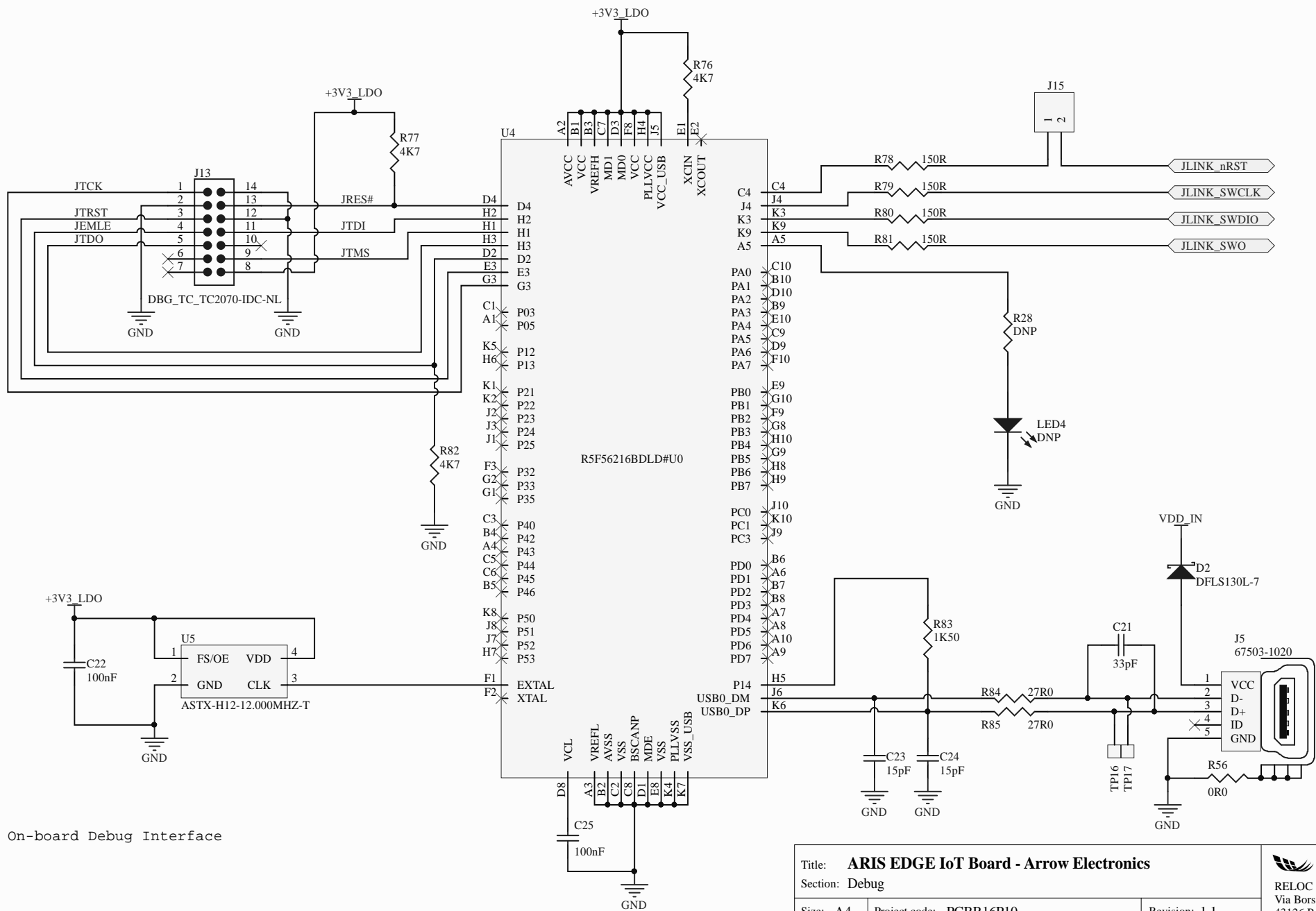
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On-board Debug Interface

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Section: Debug			
Size: A4	Project code: PCBR16P10	Revision: 1.1	
Date: 06/05/2017	Time: 17:39:10	Sheet 5 of 10	
File: 05_Debug.SchDoc			

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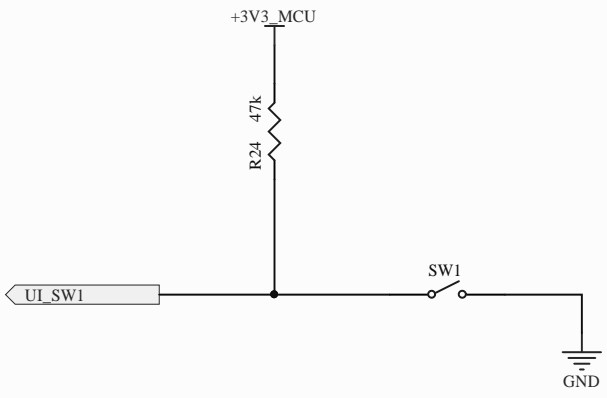
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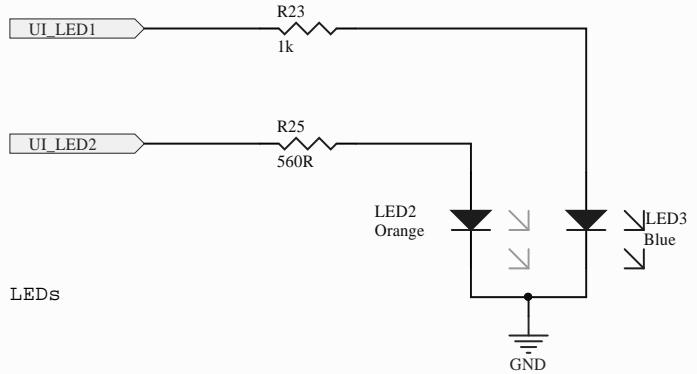
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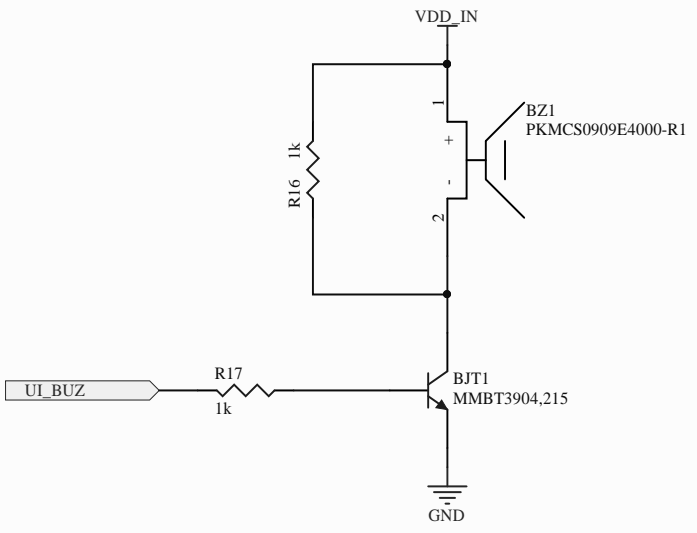
D




Tactile Switch



LEDs



Buzzer

Title: ARIS EDGE IoT Board - Arrow Electronics		 RELOC s.r.l. Via Borsari, 23/A 43126 Parma Italy (www.relloc.it) PIVA IT02510020346
Section: User Interface		
Size: A4	Project code: PCBR16P10	Revision: 1.1
Date: 06/05/2017	Time: 17:39:10	Sheet 6 of 10
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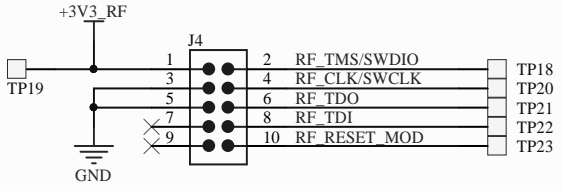
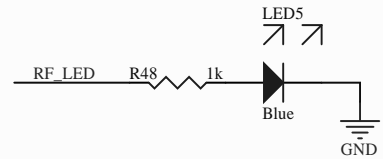
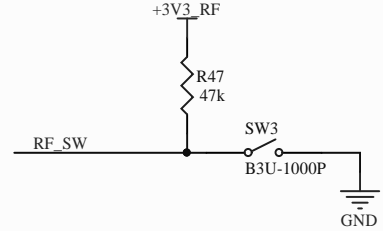
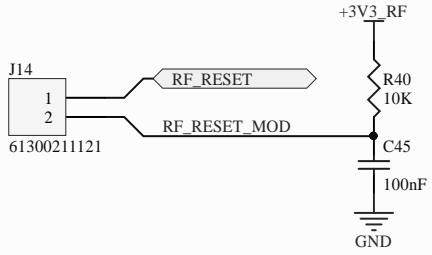
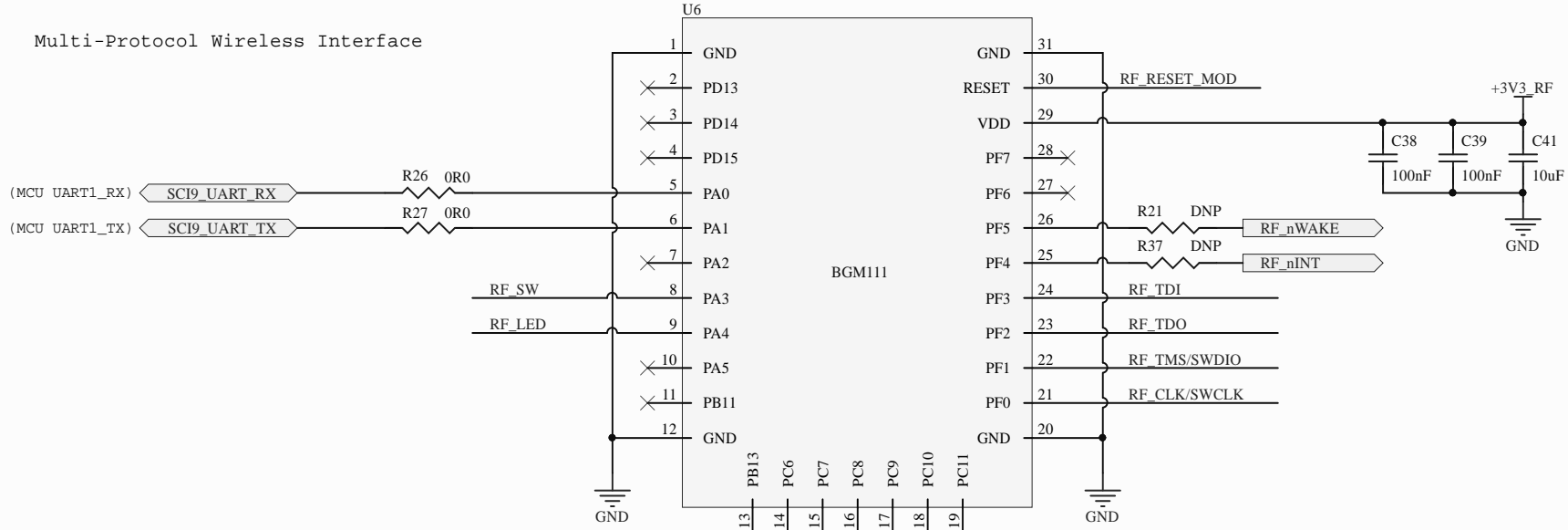
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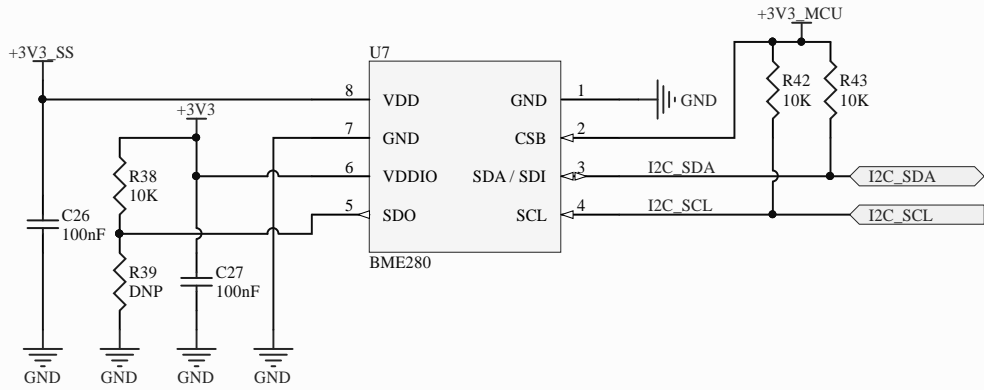
Multi-Protocol Wireless Interface



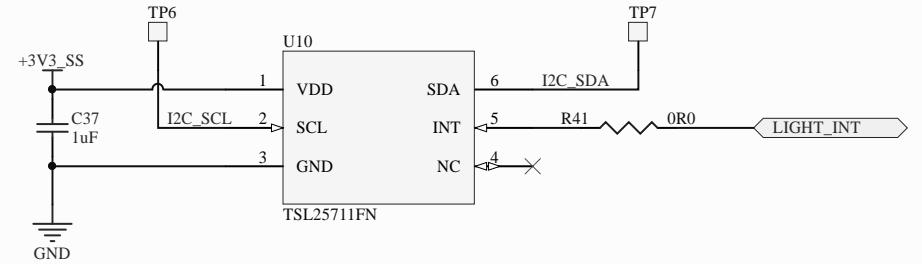
JTAG Programming Connector

Title: ARIS EDGE IoT Board - Arrow Electronics		
Section: Multi-Protocol Wireless Module		
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Date: 06/05/2017	Time: 17:39:10	Sheet 7 of 10
File: 07_RF_Multi.SchDoc		

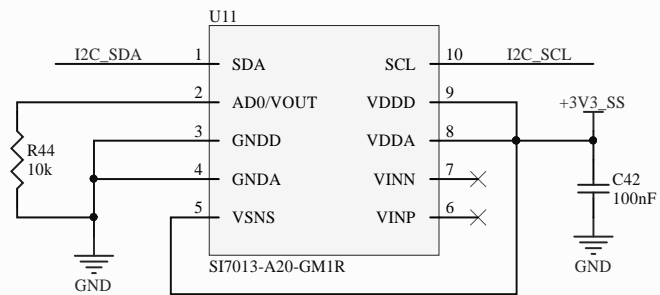
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P/T/H Sensor
(I2C ADDR = 0x77)



Light Sensor
(TSL25711FN: I2C ADDR = 0x39)
(TSL25715FN: I2C ADDR = 0x29)

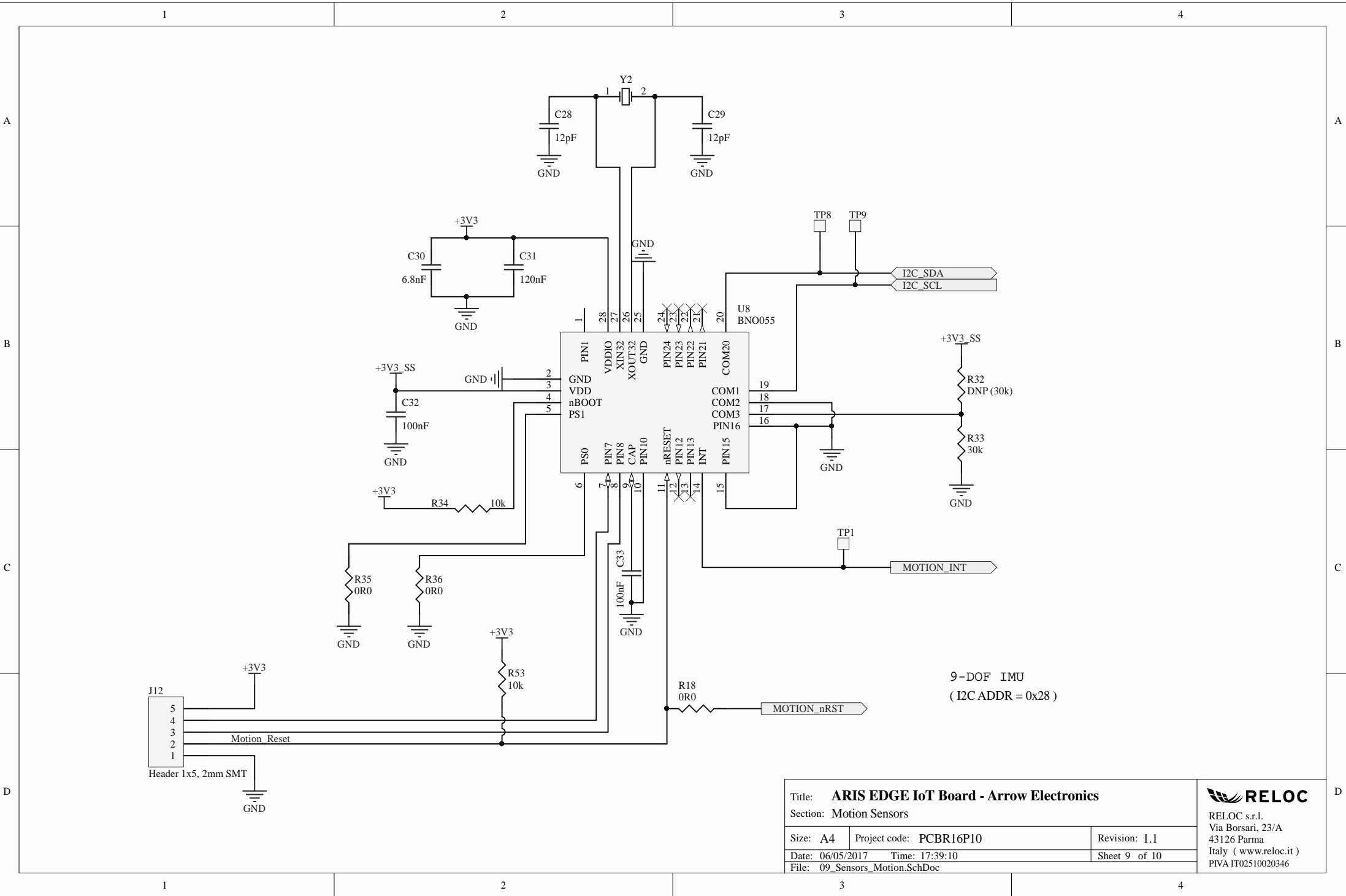


T/H Sensor
DO NOT PLACE

Title: **ARIS EDGE IoT Board - Arrow Electronics**
Section: Ambient Sensors

Size: A4	Project code: PCBR16P10	Revision: 1.1
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File: 08_Sensors_Ambient.SchDoc		

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9-DOF IMU
(I2C ADDR = 0x28)

Title: **ARIS EDGE IoT Board - Arrow Electronics**

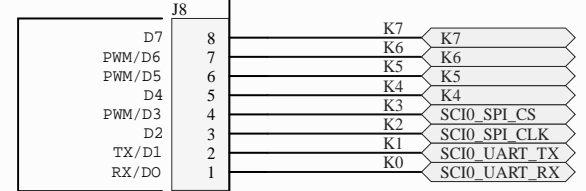
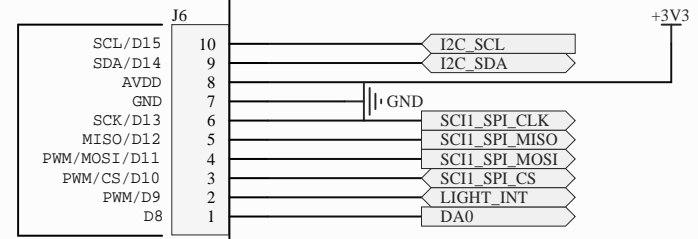
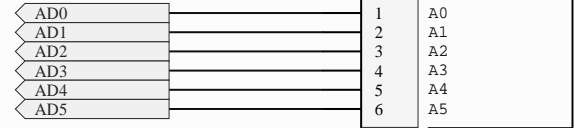
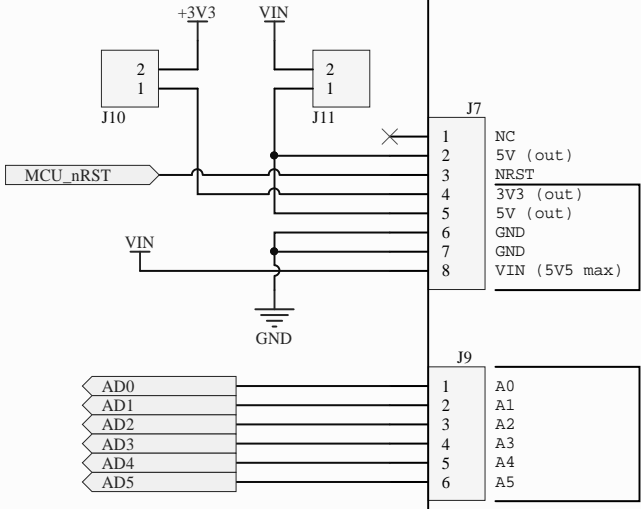
Section: Motion Sensors


Size: A4	Project code: PCBR16P10	Revision: 1.1
Date: 06/05/2017	Time: 17:39:10	Sheet 9 of 10
File: 09_Sensors_Motion.SchDoc		



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Arduino UNO Shield Connector



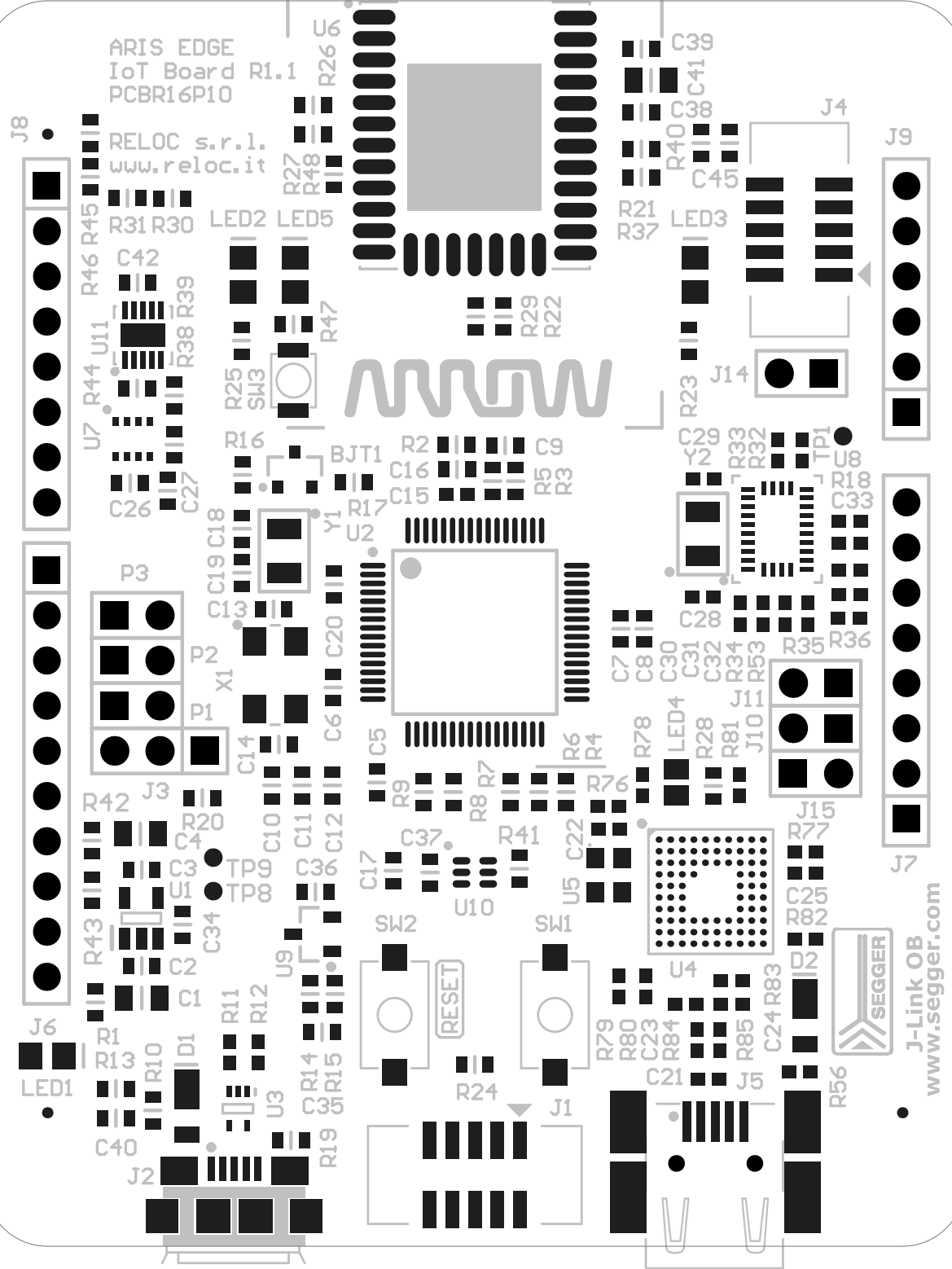
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Section: Connectors			
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Date: 06/05/2017	Time: 17:39:10	Sheet 10 of 10	
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ARIS EDGE
IoT Board R1.1
PCBR16P10

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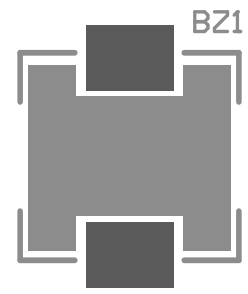
J-Link OB
www.segger.com





DESIGN BY RELOC

RENEASAS synergy™



ARIS EDGE

ARIS EDGE IoT board PCBR16P10 R1.1

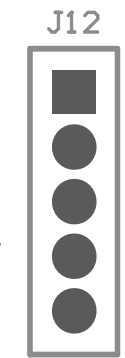
- AD5 ● TP23
- AD4 ● TP22
- AD3 ● TP21
- AD2 ● TP20
- AD1 ● TP18
- ADO ● TP19

- VIN
- GND
- GND
- +5V
- +3V3
- NRST
- REF

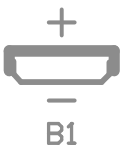
J13



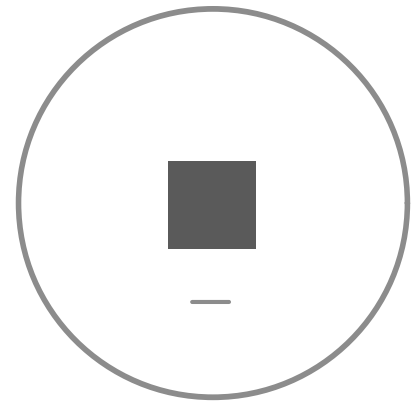
- TP24
- TP10
- TP3
- TP16
- TP17



J12



B1



- TP15
- TP14

- TP12
- I00
- I01
- I02
- I03
- I04
- I05
- I06
- I07
- I08
- I09
- I010
- I011
- TP13
- I012
- I013
- GND
- TP11
- AVDD
- I2C_SDA
- SDA
- I2C_SCL
- SCL
- TP2