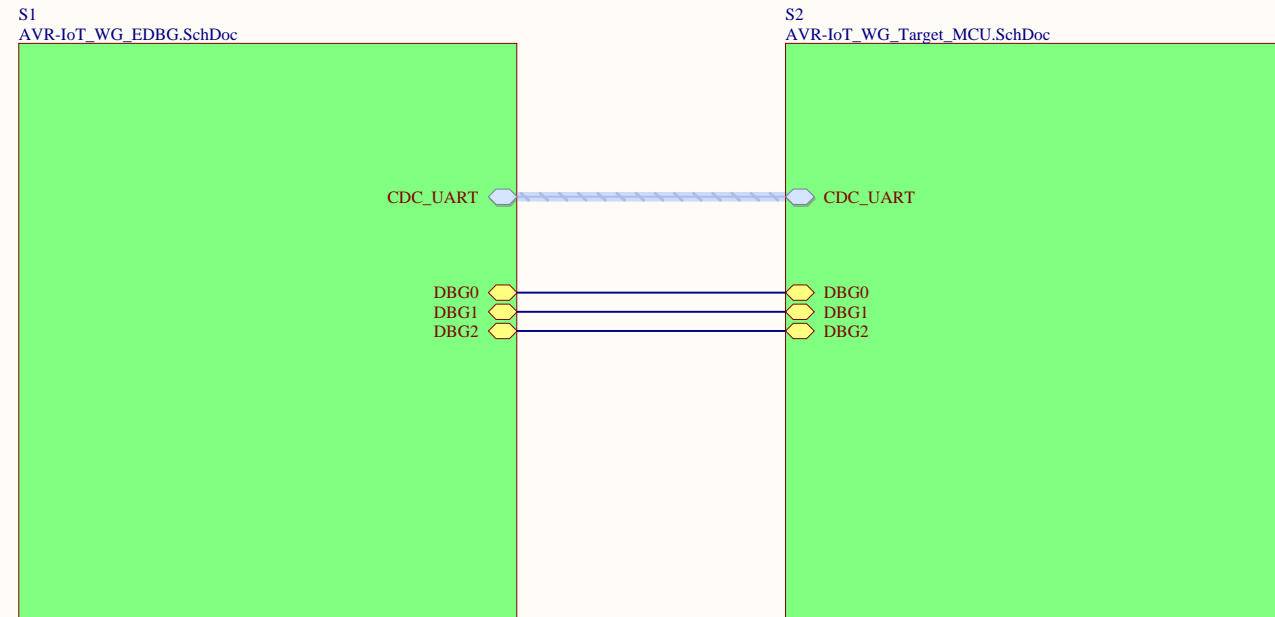


AVR-IoT WG



TESTDOC1 TEST1
\$ > _
A11-0430


A12-1356
FW1
A11-0406

PCBADOC1
A12-1355

PCB1
A08-2937

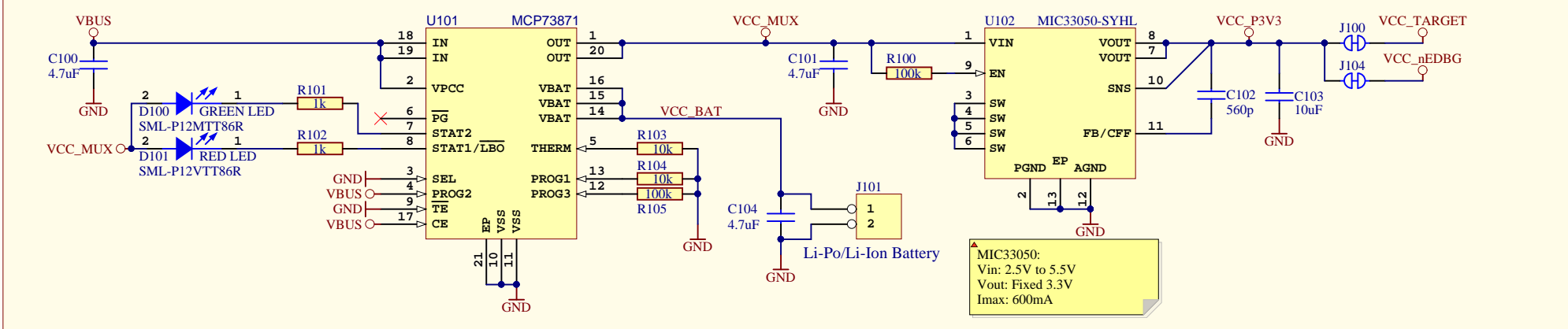
LABEL1
Label PCBA Small 6x6mm

S3
AVR-IoT_WG_Revision_History.SchDoc

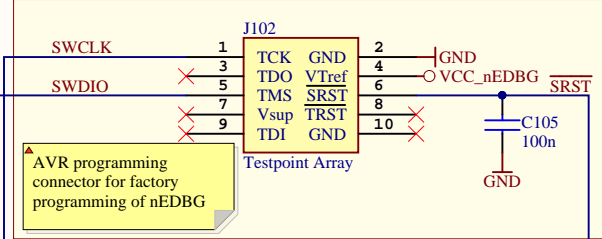
Drawn By: Microchip Norway		
Engineer: HN		
Project Title AVR-IoT WG		
Sheet Title Top Level		
Size A3	PCB Assembly Number: A09-3203	PCBA Revision: 8
	PCB Number: A08-2937	PCB Revision: 4
File: AVR-IoT_WG_TopLevel.SchDoc		Page: 1 of 4

Designed with
Altium
Altium.com

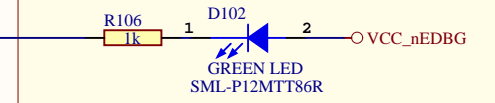
POWER SUPPLY AND BATTERY CHARGER



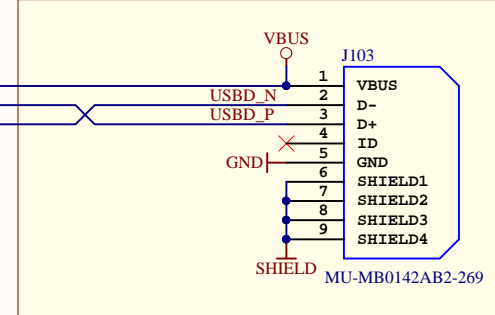
nEDBG TESTPOINT



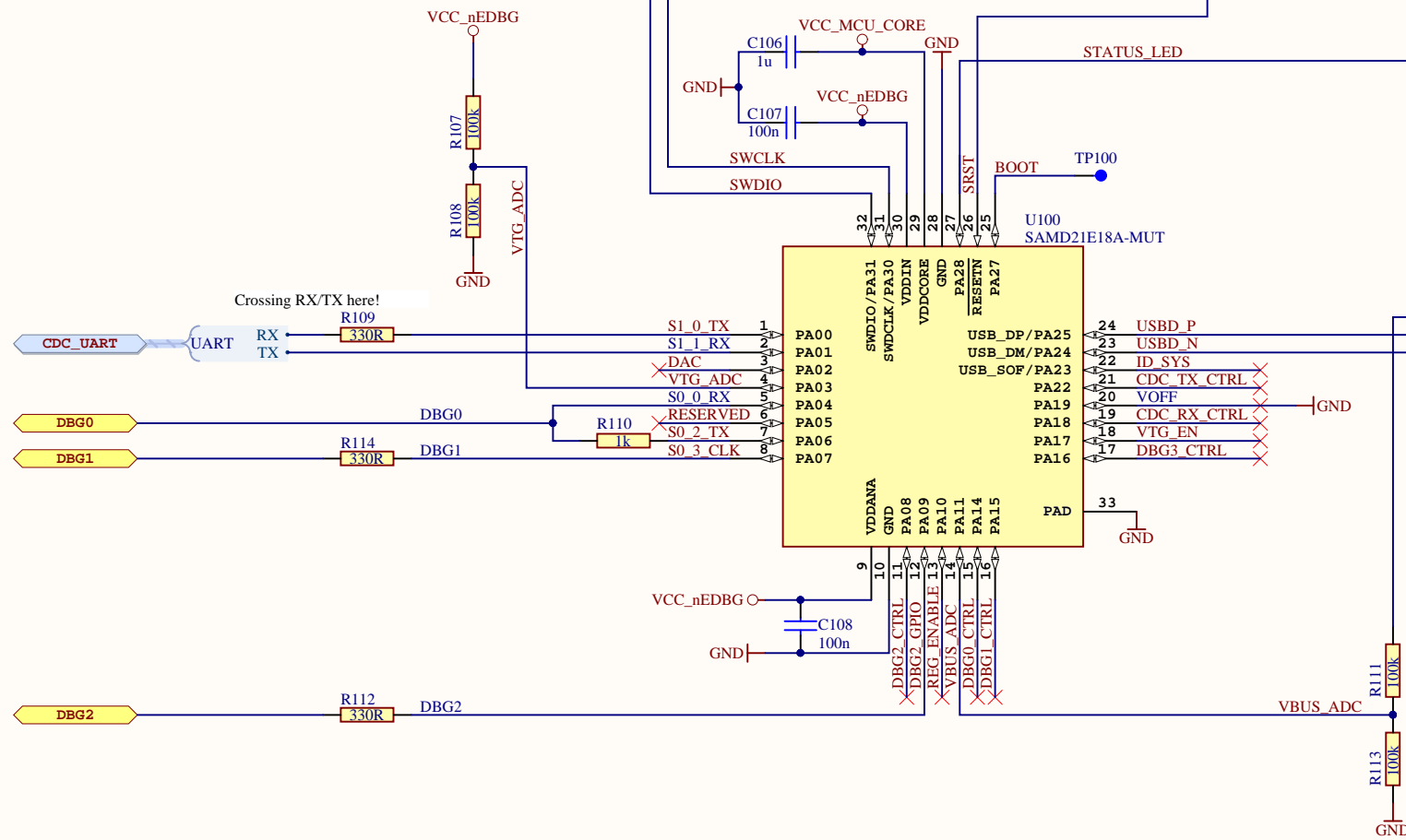
nEDBG POWER/STATUS LED



nEDBG USB MICRO-B CONNECTOR



Interface	UPDI	TARGET
CDC TX	UART RX	
CDC RX	UART TX	
DBG0	UPDI	
DBG1	GPIO	
DBG2	GPIO	
DBG3	-	
VCC	-	



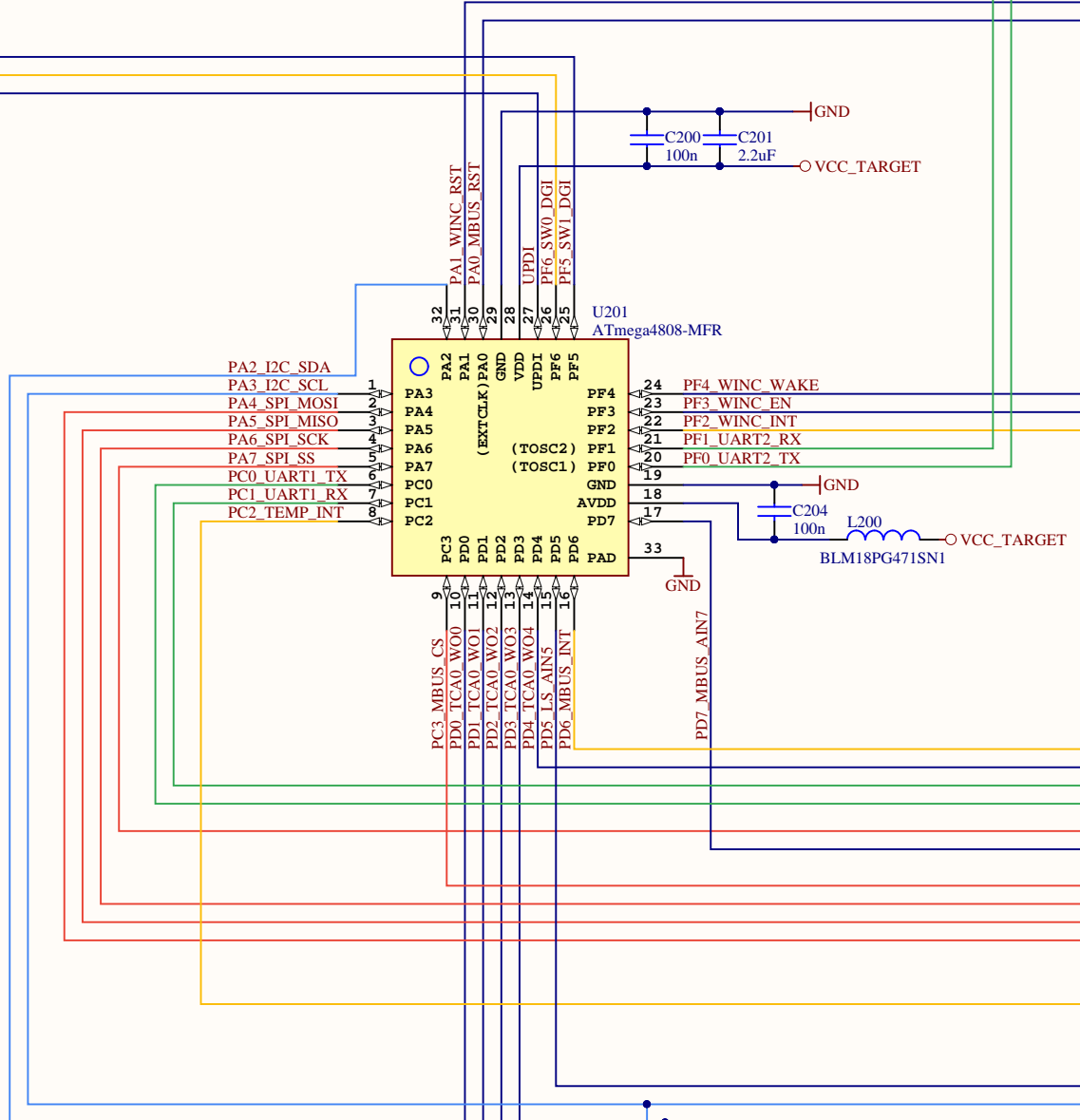
Drawn By:
Microchip Norway
Engineer:
HN



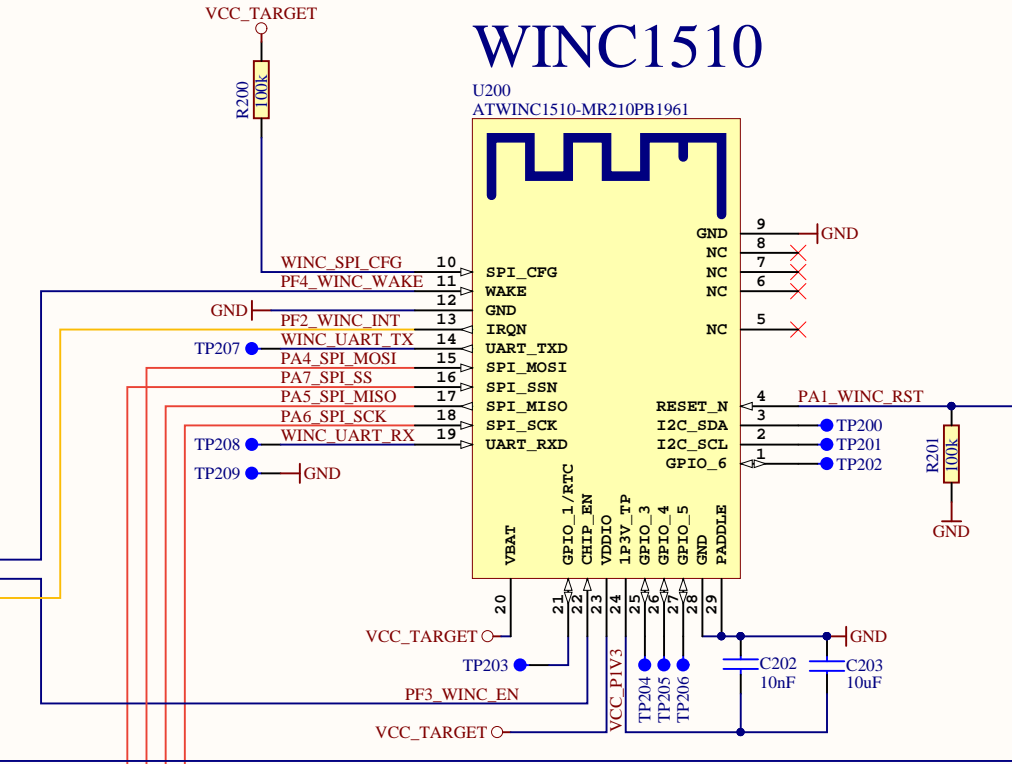
Project Title AVR-IoT WG			Designed with Altium Altium.com
Sheet Title Debugger			
Size A3	PCB Assembly Number: A09-3203	PCBA Revision: 8	
	PCB Number: A08-2937	PCB Revision: 4	Date: 02.10.2018
File: AVR-IoT_WG_EDBG.SchDoc			Page: 2 of 4



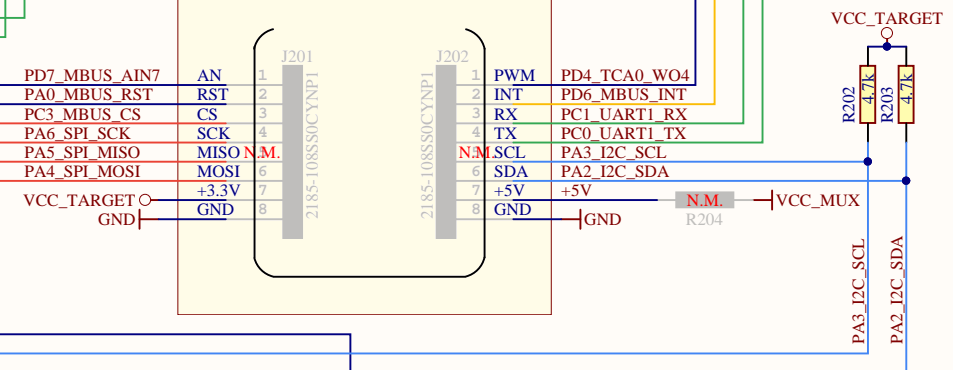
ATmega4808



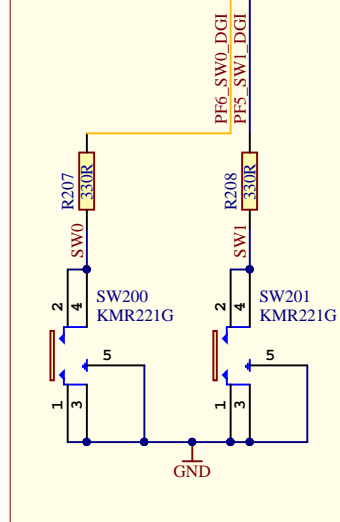
WINC1510



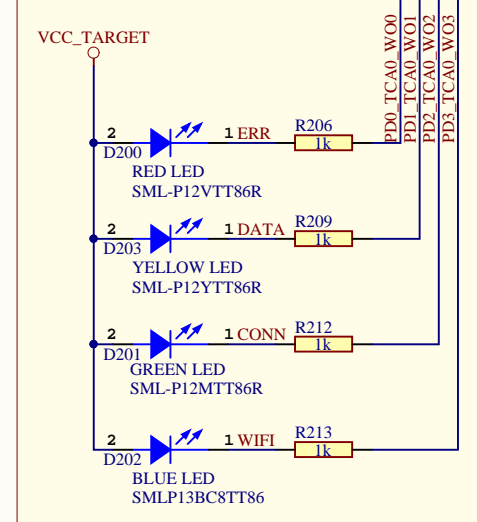
mikroBUS™ Header (Female)



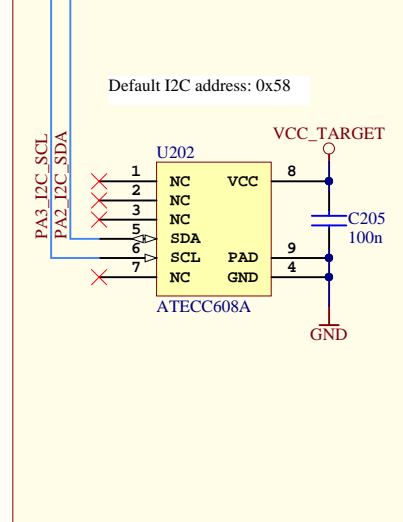
USER BUTTONS



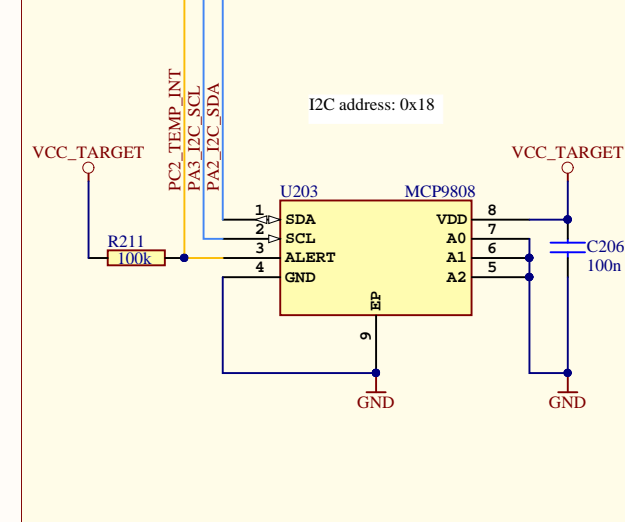
USER LEDS



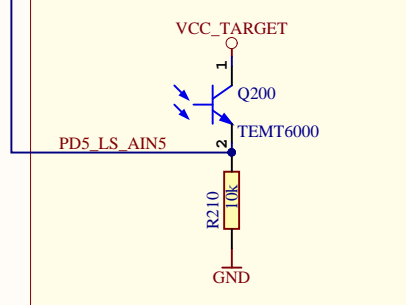
CryptoAuthentication™



Temperature Sensor



Light Sensor



Drawn By:
Microchip Norway
Engineer:
HN



Project Title AVR-IoT WG		
Sheet Title Target MCU		
Size A3	PCB Assembly Number: A09-3203	PCBA Revision: 8
	PCB Number: A08-2937	PCB Revision: 4
File: AVR-IoT_WG_Target_MCU.SchDoc		
Designed with Altium		Date: 02.10.2018
		Page: 3 of 4

Revision History

PCB Assembly Rev 5:

Design Changes:
Initial Design

PCB:
PCB revision 3

PCB Assembly Rev 6:

Design Changes:
Not mount charger circuit.

PCB:
PCB revision 3

PCB Assembly Rev 7:



Design Changes:
Change input limit to 500mA on MCP73871 (U101)

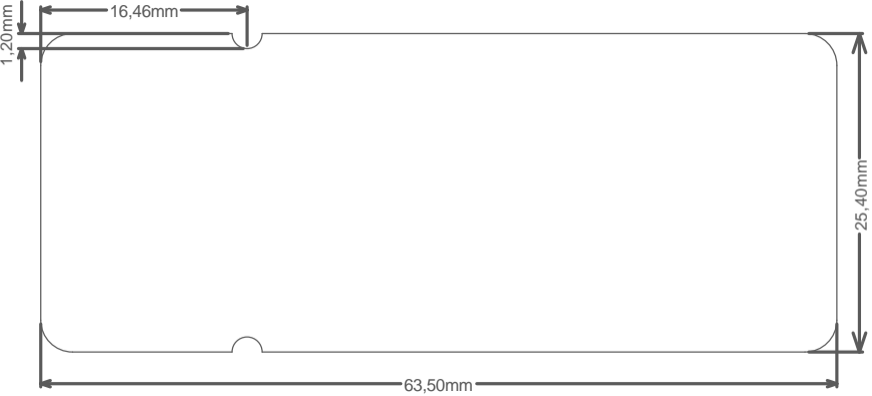
PCB:
PCB revision 4

PCB Assembly Rev 8:

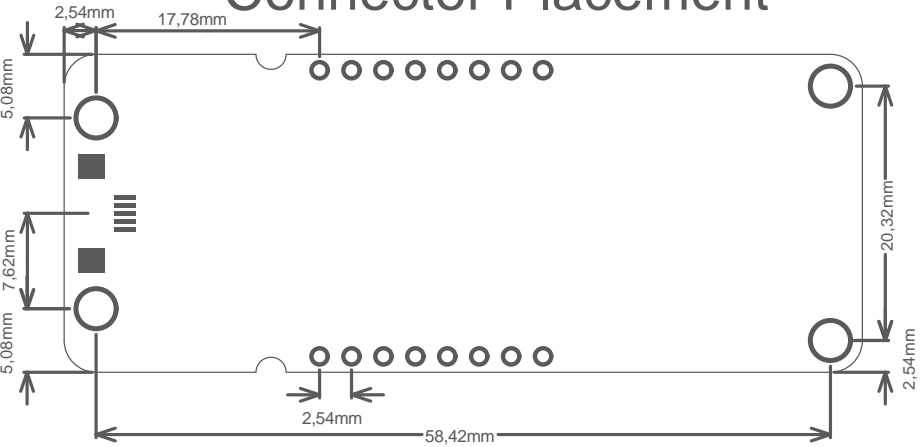
Design Changes:
Changed U200 (new firmware):
from ATWINC1510-MR210PB1954
to ATWINC1510-MR210PB1961

PCB:
PCB revision 4

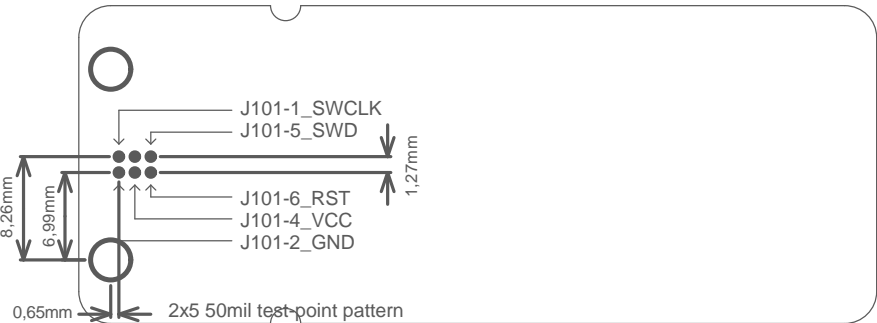
Drawn By: Microchip Norway			
Engineer: HN			
Project Title AVR-IoT WG	Designed with  Altium.com		
Sheet Title Revision History			
Size A3	PCB Assembly Number: A09-3203	PCBA Revision: 8	Date: 02.10.2018
	PCB Number: A08-2937	PCB Revision: 4	
File: AVR-IoT_WG_Revision_History.SchDoc			Page: 4 of 4

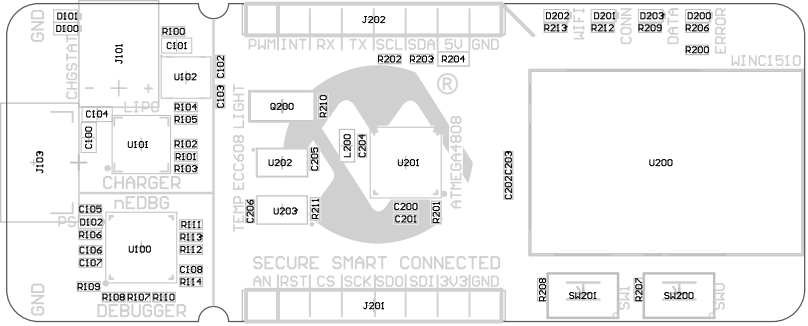


Connector Placement



Test Point Placement





GND

BOOT

TP100

GND

J102

L1P0
BATT



UCC

PCBA
LABEL

t

TARGET NEDBG

001r

401r

PD4 / PWM
PD6 / INT
PC1 / RX
PC0 / TX
PA3 / SCL
PA2 / SDA
+5V
GND



AN / PD7
RST / PA0
CS / PC3
SCK / PA6
MISO / PA5
MOSI / PA4
+3.3V
GND

TP209 TP207 TP208

⊖RX
⊖GND

⊖TX

⊖RX

⊖SDA

⊖SCL

⊖GP6

⊖GP5

⊖GP4

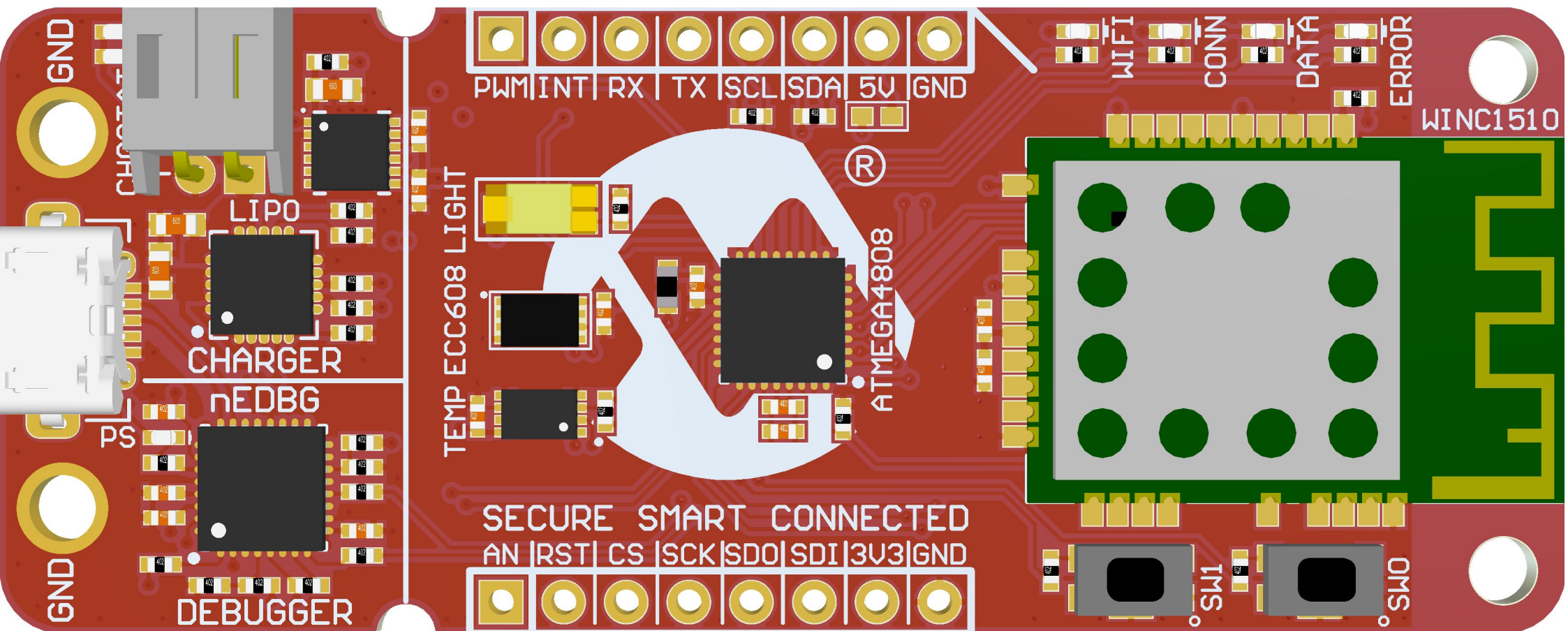
⊖GP3

⊖GP1

TP200 TP201 TP202 TP206 TP205 TP204 TP203

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A08-2937 Rev4





GND

GND

CHARGE

LIPO

CHARGER

nEDBG

PS

DEBUGGER

PWM|INT|RX|TX|SCL|SDA|5V|GND

TEMP ECC608 LIGHT

ATMEGA4808

SECURE SMART CONNECTED
AN|RST|CS|SCK|SDO|SDI|3V3|GND

WIFI

CONN

DATA

ERROR

WINC1510

SW1

SW0

GND

BOOT

GND

L1P0
BATT

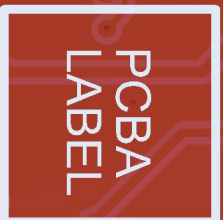


UCC

TARGET neDBG



PCBA
LABEL



PD4 / PWM

AN / PD7

PD6 / INT

RST / PA0

PC1 / RX

CS / PC3

PC0 / TX

SCK / PA6

PA3 / SCL

MISO / PA5

PA2 / SDA

MOSI / PA4

+5V

+3.3V

GND

GND



mikro
BUS

Microchip © 2018

A08-2937 Rev4



RX

GP6

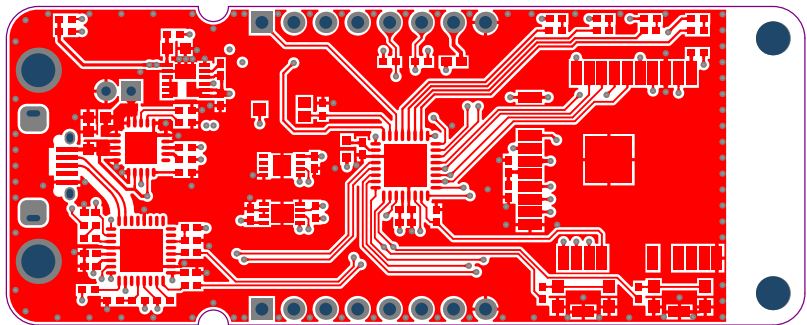
TX

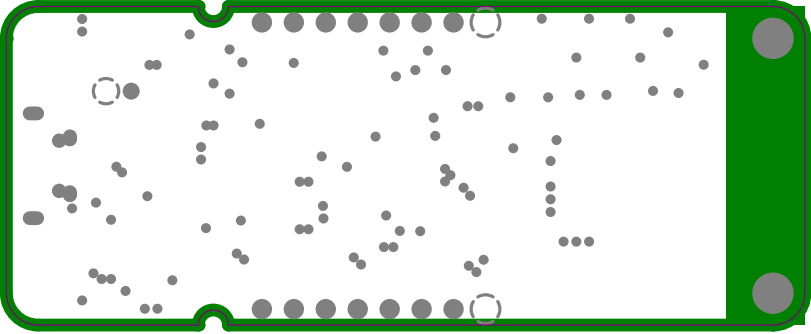
SCL

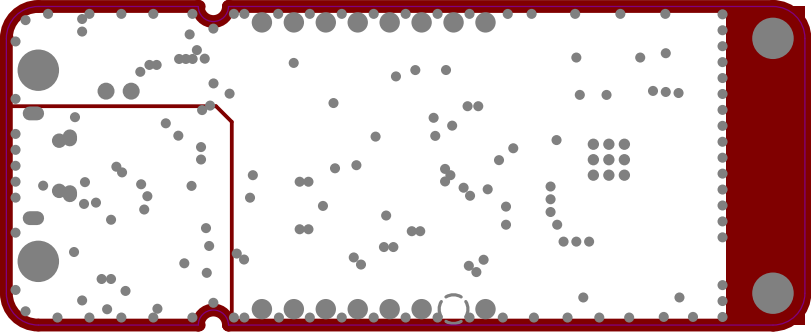
GND

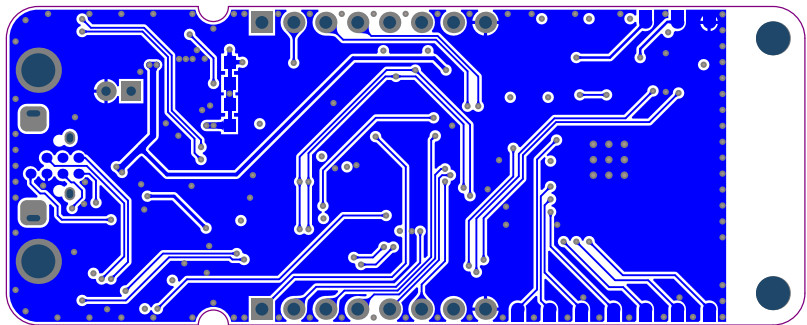
SDA











Component list

Bill of Materials Fitted For Variant [Default Assembly] of Project [AVR-IoT_WG.PrjPcb] (No PCB Document Selected)

Source Data From: AVR-IoT_WG.PrjPcb
 Project: AVR-IoT_WG.PrjPcb
 Variant: Default Assembly



Report Date: 02.10.2018 12:47:04
 Print Date: 02.10.2018 12:46:50

Fitted	Designator	Quantity	Value	Manufacturer	MPN	Description
Fitted	C100, C101, C104	3	4.7uF	WALSIN Technology Corporation	0603X475K100CT	Ceramic capacitor, SMD 0603, X5R, 10V, 10% (de31036)
Fitted	C102	1	560p			Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
Fitted	C103, C203	2	10uF	Murata	GRM155R60J106ME15	Ceramic capacitor, SMD 0402, X5R, 6.3V, 20%
Fitted	C105, C107, C108, C200, C204, C205, C206	7	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C106	1	1u	Kemet	C0402C105K9PAC	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-10% (de26942)
Fitted	C201	1	2.2uF	tdk	C1005X5R1A225K	CAPCER 2.2UF 10V 10% X5R 0402
Fitted	C202	1	10nF	Murata	GRM155R71E103KA01D	Ceramic capacitor, SMD 0402, X7R, 25V, 10%
Fitted	D100, D102, D201	3	GREEN LED	ROHM	SML-P12MTT86R	LED, SMD 0402, Green, Wave length=569nm, 2.1mcd @ (1mA, 1.9Vf)rohm
Fitted	D101, D200	2	RED LED	ROHM	SML-P12VTT86R	LED, SMD 0402, Red, Wave length=630nm, 2.1mcd @ (1mA, 1.7Vf)rohm
Fitted	D202	1	BLUE LED	ROHM	SMLP13BC8TT86	LED, SMD 0402, Blue, Wave length=470nm, 25mcd @ (5mA, 2.9Vf)rohm
Fitted	D203	1	YELLOW LED	ROHM	SML-P12YTT86R	LED, SMD 0402, Yellow, Wave length=586nm, 7.6mcd @ (1mA, 1.9Vf)
Fitted	FW1	1	nEDBG firmw are			nEDBG firmw are
Fitted	J101	1	S2B-PH-K-S	J.S.T. Mfg. Co. Ltd.	S2B-PH-K-S	Pin Header 1x2, 2mm THM, right entry, 100V AC/DC, 2A AC/DC (AWG #24) (Element14:9491902)
Fitted	J103	1	MJ-MB0142AB2-269	Allen Creations Corp.	MJ-MB0142AB2-269	USB micro AB, Surface mount signals and DIP shield
Fitted	L200	1	BLM18PG471SN1	Murata	BLM18PG471SN1	SMD RF inductor 0603. Z=470Ohm (@100MHz), Max R(dc)=0.65Ohm, Max current=1A
Fitted	LABEL1	1	Label PCBA Small 6x6mm	ACT Logimark AS	505462	PCBA identification label PP Top White Gloss
Fitted	PCB1	1	AVR-IoT WG PCB documentation			AVR.IoT ATmega4808 WiFi PCB documentation
Fitted	PCBDOC1	1	A09-3203 AVR-IoT WG PCB documentation			AVR.IoT ATmega4808 WiFi PCB documentation
Fitted	Q200	1	TEMT6000	vishay	TEMT6000X01	light sensor
Fitted	R100, R105, R107, R108, R111, R113, R200, R201, R211	9	100k	ASJ	CR10-1003-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R101, R102, R106, R110, R206, R209, R212, R213	8	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R103, R104, R210	3	10k	YAGEO CORP	RC0402FR-0710KL	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R109, R112, R114, R207, R208	5	330R	YAGEO CORP	RC0402FR-07330RL	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R202, R203	2	4.7k	YAGEO CORP	RC0402FR-074K7L	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	SW200, SW201	2	KMR221G	ITT cannon	KMR221G	Microminiature Tact Switch for SMT
Fitted	TEST1	1	AVR-IoT WG test			Fixture test for AVR.IOT ATmega4808 WIFI
Fitted	TESTDOC1	1	AVR-IoT WG Test Instructions			AVR.IoT ATmega4808 WiFi Test Instructions
Fitted	U100	1	SAMD21E18A-MUT	Microchip	ATSAMD21E18A-MUT	Atmel 32-bit RISC MCU 32pin
Fitted	U101	1	MCP73871	Microchip Technology Inc	MCP73871T-2CCI/ML	Load Sharing and Li-Ion/Li-Polymer Battery Charge Management Controller
Fitted	U102	1	MIC33050-SYHL	Microchip Technology Inc	MIC33050-SYHL-TR	3.3V Fixed, 4MHz, 600mA, Buck regulator with internal inductor with HyperLight Load
Fitted	U200	1	ATWINC1510-MR210PB1961	Microchip	ATWINC1510-MR210PB1961	IEEE 802.11 b/g/n module, 8Mbit Flash Memory, with FEM, PCB Antenna, with Shield, with MAC, Firmw are version 19.6.1
Fitted	U201	1	ATmega4808-MFR	Microchip Technology Inc	ATmega4808-MFR	Atmel 8-bit RISC MCU, 48K Flash, 32pin QFN
Fitted	U202	1	ATECC608A I2C (Google Cloud)	Microchip Technology Inc	ATECC608A-MAH1H-S	ATECC608A with an I2C Interface and a 8 Pin UDFN
Fitted	U203	1	MCP9808	Microchip Technology Inc	MCP9808T-EMC	±0.5C Maximum Accuracy Digital Temperature Sensor, I2C/SMBus
Not Fitted	J201, J202	0	2185-108SS0CYNP1	WCON HARDWARE ELECTRONICS CO., LTD	2185-108SS0CYNP1	1x8 receptacle pin header, 2.54mm pitch THM, PIP
Not Fitted	R204	0	0R	(n/a)	RMCF0402ZT0R00	RES 0.0 OHM 1/16W 0402 SMD
Fitted		69				

Approved

Notes