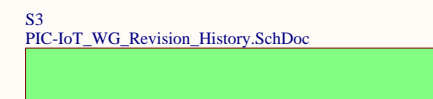
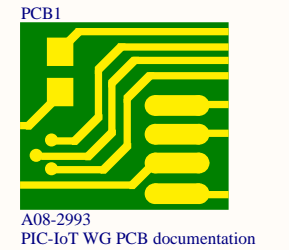
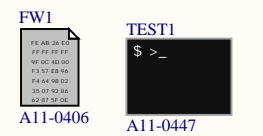
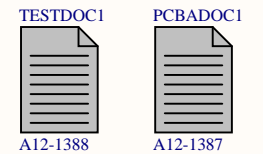
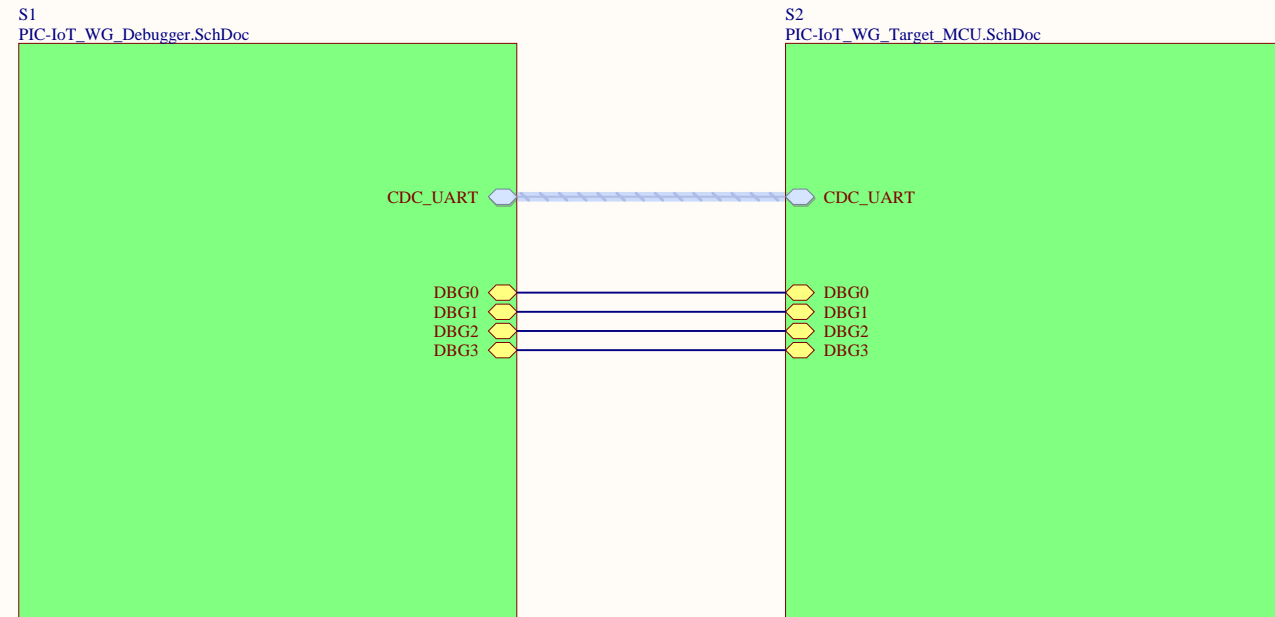


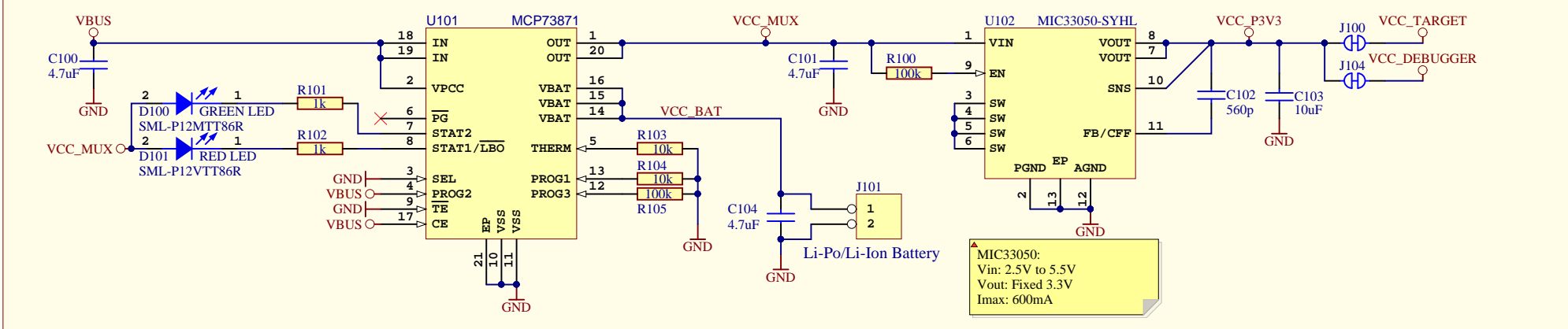
PIC-IoT WG



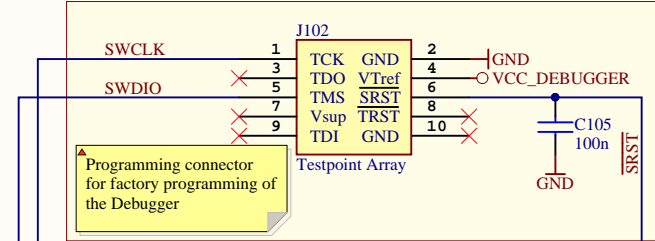
Drawn By: Microchip Norway		
Engineer: HN/TF		
Project Title PIC-IoT WG		
Sheet Title Top Level		
Size A3	PCB Assembly Number: A09-3261	PCBA Revision: 2
	PCB Number: A08-2993	PCB Revision: 1
File: PIC-IoT_WG_TopLevel.SchDoc		Date: 12.02.2019
		Page: 1 of 4

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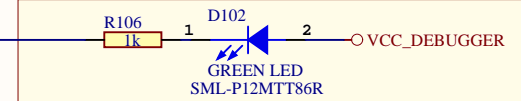
POWER SUPPLY AND BATTERY CHARGER



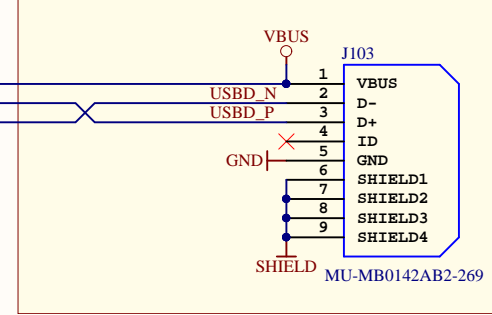
DEBUGGER TESTPOINT



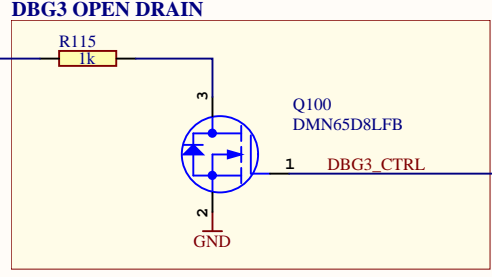
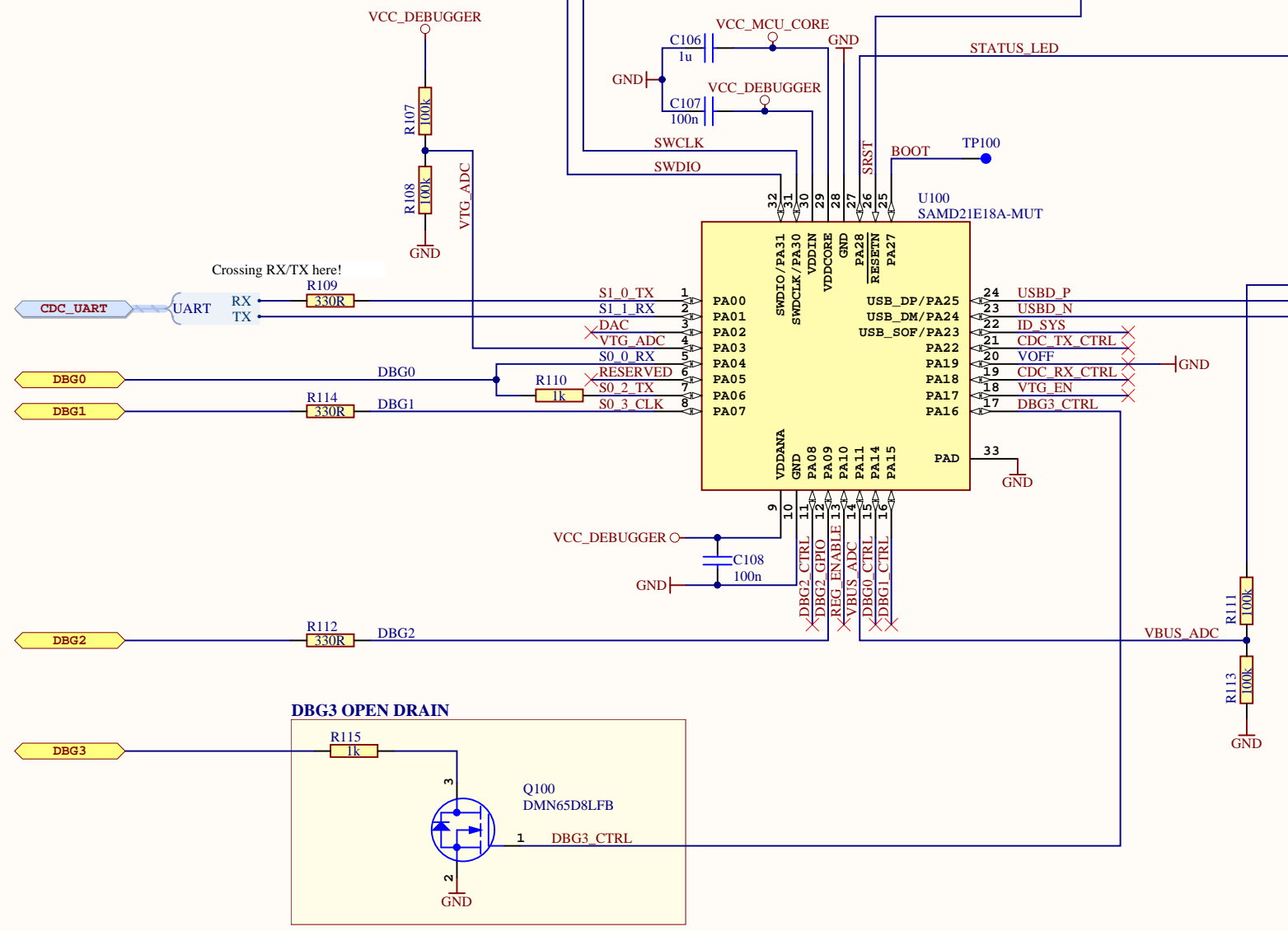
DEBUGGER POWER/STATUS LED



DEBUGGER USB MICRO-B CONNECTOR

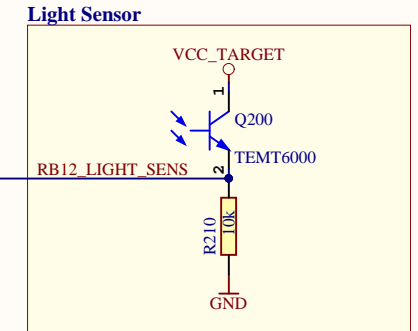
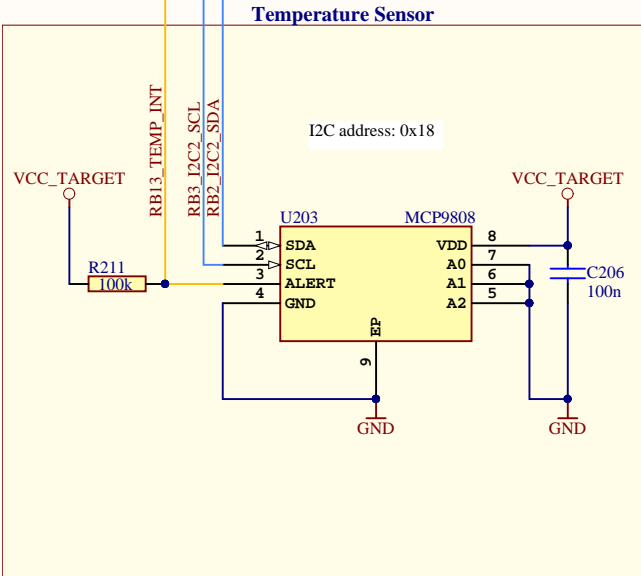
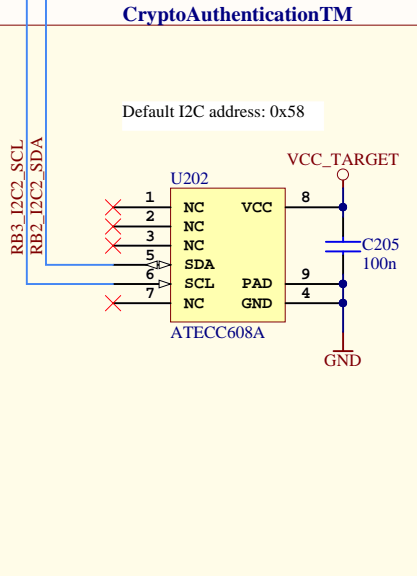
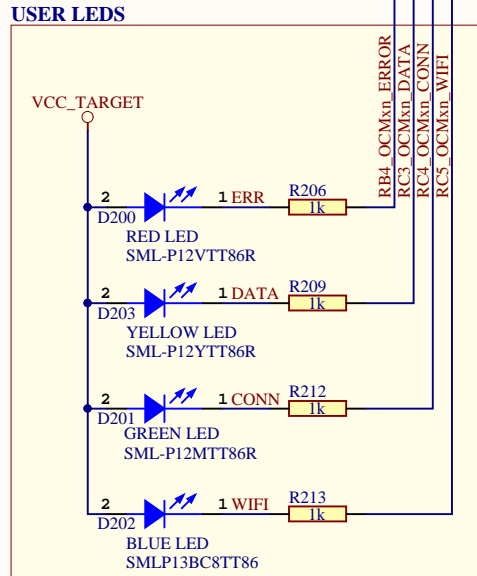
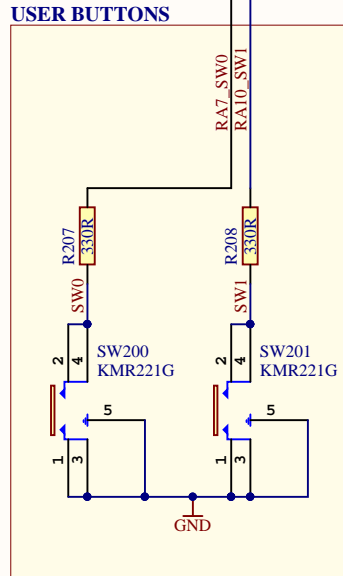
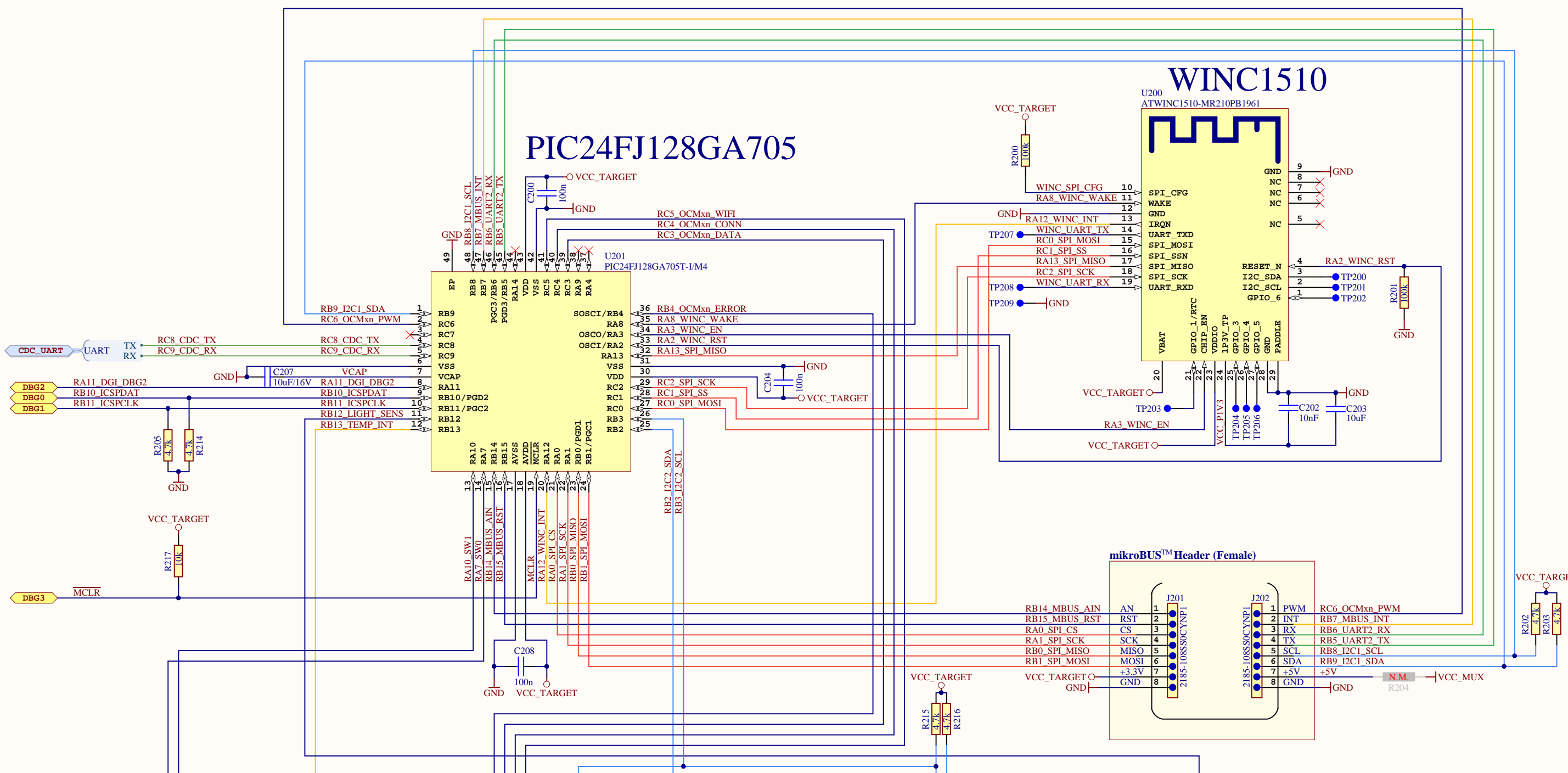


Interface	ICSP TARGET
CDC TX	UART RX
CDC RX	UART TX
DBG0	DAT
DBG1	CLK
DBG2	GPIO
DBG3	MCLR
VCC	-



Drawn By: Microchip Norway
 Engineer: HN/TF
 Project Title: **PIC-IoT WG**
 Sheet Title: **Debugger**
 Size: A3 | PCB Assembly Number: A09-3261 | PCBA Revision: 2
 PCB Number: A08-2993 | PCB Revision: 1 | Date: 12.02.2019
 File: PIC-IoT_WG_Debugger.SchDoc | Page: 2 of 4

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Drawn By: Microchip Norway
 Engineer: HN/TF
 Project Title: PIC-IoT WG
 Sheet Title: Target MCU
 Size: A3
 PCB Assembly Number: A09-3261
 PCB Number: A08-2993
 PCBA Revision: 2
 PCB Revision: 1
 Date: 12.02.2019
 Page: 3 of 4


MICROCHIP

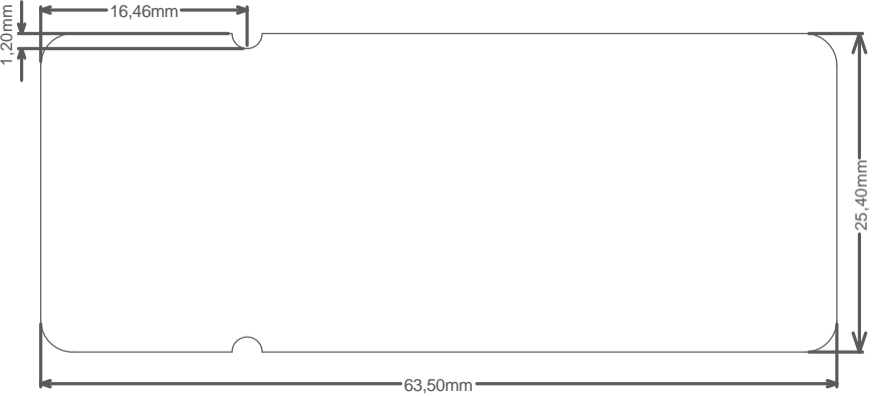
Designed with **Altium**
 Altium.com

Revision History

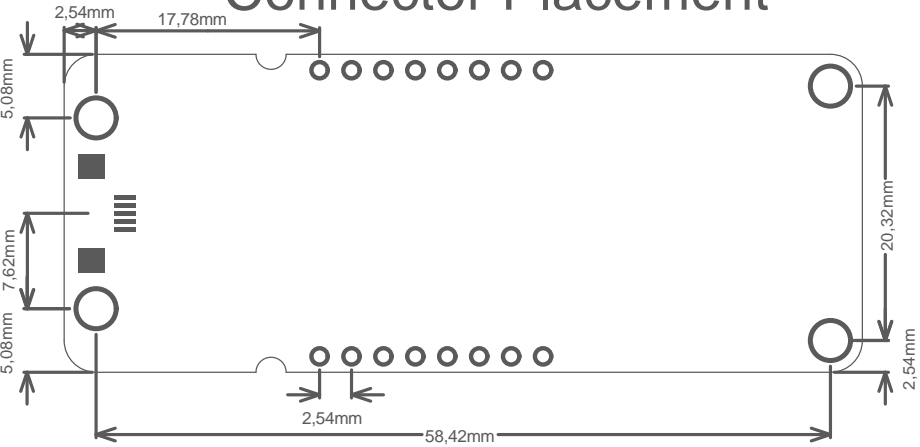
PCB Assembly Rev 2:

Design Changes:
Initial Design
PCB:
PCB revision 1

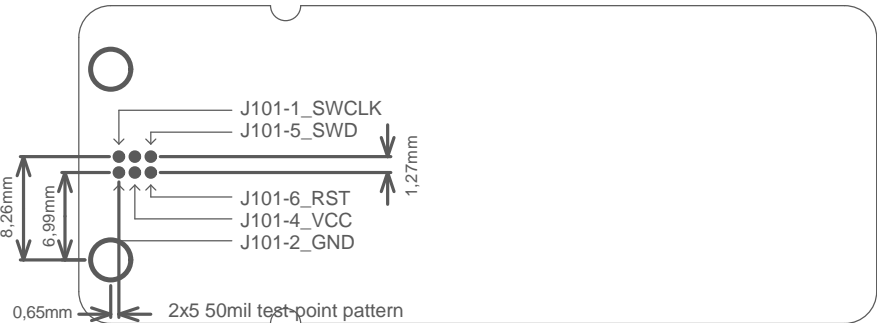
Drawn By: Microchip Norway			
Engineer: HN/TF			
Project Title PIC-IoT WG	<i>Designed with</i> Altium Altium.com		
Sheet Title Revision History			
Size A3	PCB Assembly Number: A09-3261	PCBA Revision: 2	Date: 12.02.2019
	PCB Number: A08-2993	PCB Revision: 1	Page: 4 of 4
File: PIC-IoT_WG_Revision_History.SchDoc			

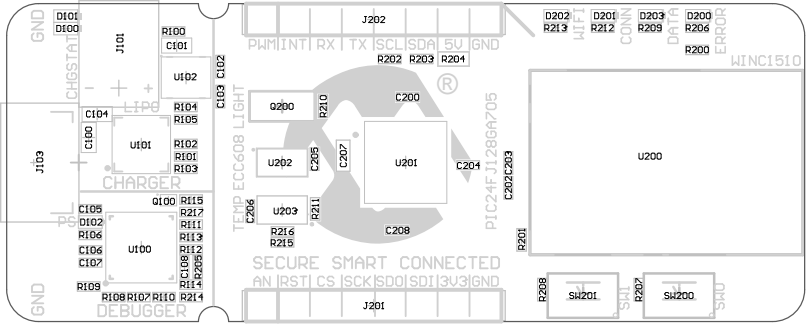


Connector Placement



Test Point Placement





GND

D101
D100

CHGSTAT

J101

R100
C101

U102

LIP6

R104
R105

U101

R102
R101
R103

CHARGER

J103

C104

C100

Q100

R115
R217
R111
R113
R112
C108
R205
R114

U100

C105

D102

R106

C106

C107

R109

R108 R107 R110 R214

DEBUGGER

GND

J202

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

R202 R203 R204

D202
R213

D201
R212

D203
R209

D200
R206

WIFI
CONN
DATA
R200
ERROR

WINC1510

TEMP ECC608 LIGHT

Q200

R210

C200

U202

C205

C207

U201

C204

PIC24FJ128GA705

U203

R211

C208

R216
R215

SECURE SMART CONNECTED

AN|RST|CS|SCK|SD0|SDI|3V3|GND

J201

C202C203

R201

U200

R208

SW201

SW1

R207

SW200

SW0

GND

BOOT
TP100

GND

LIPO
BATT



J102

UCC
TARGET DEBUG

001r 401r



PCBA
LABEL



RC6 / PWM	AN / RB14
RB7 / INT	RST / RB15
RB6 / RX	CS / RA0
RB5 / TX	SCK / RA1
RB8 / SCL	MISO / RB0
RB9 / SDA	MOSI / RB1
+5V	+3.3V
GND	GND

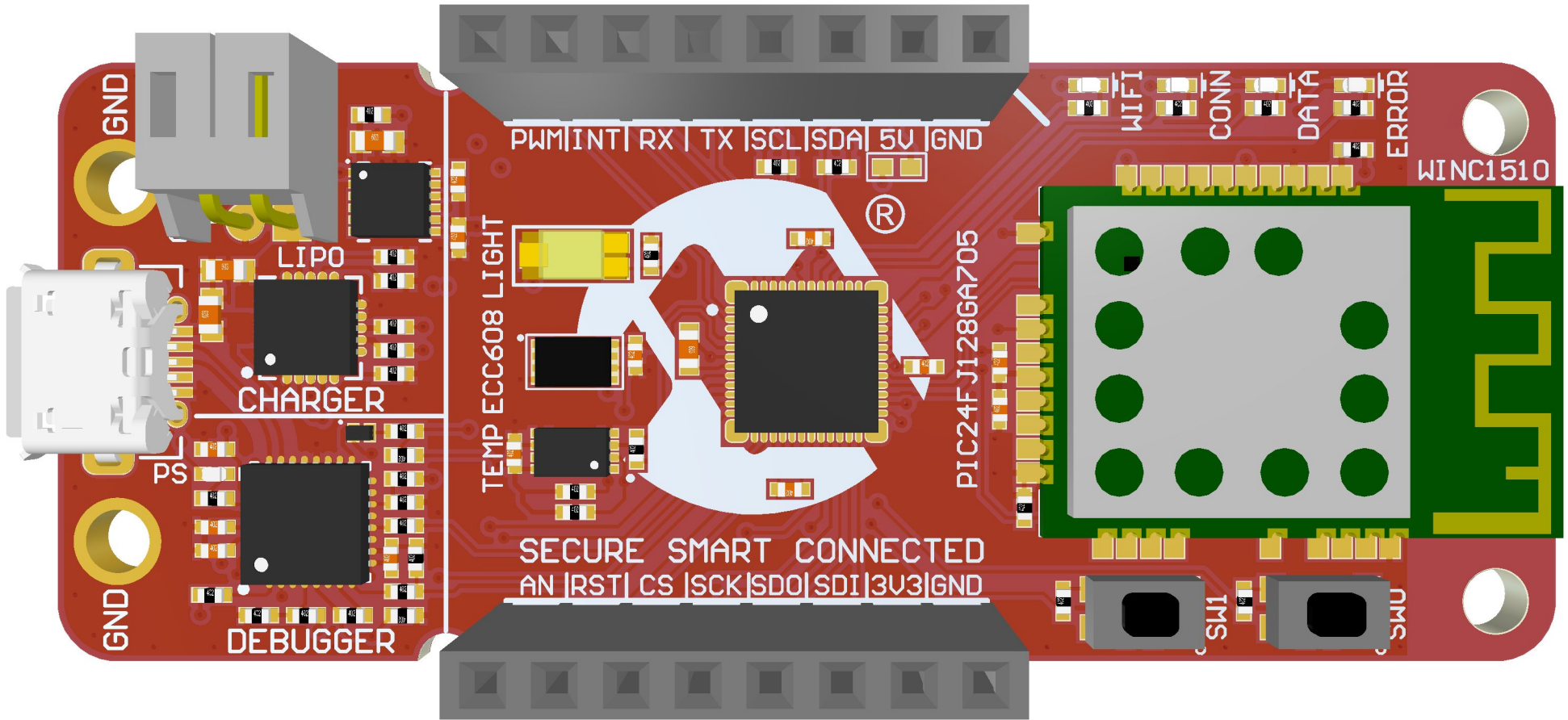


Microchip © 2018
A08-2993 Rev1

TP209 TP207 TP208
RX TX GND

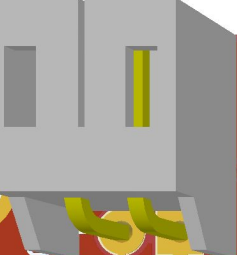
TP200 TP201 TP202 TP206 TP205 TP204 TP203
GP1 GP3 GP4 GP5 GP6 SCL SDA





GND

GND



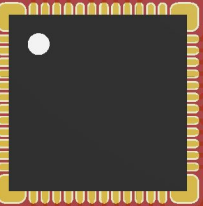
LIPO

CHARGER

PS

DEBUGGER

TEMP ECC608 LIGHT



PIC24FJ128GA705

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

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

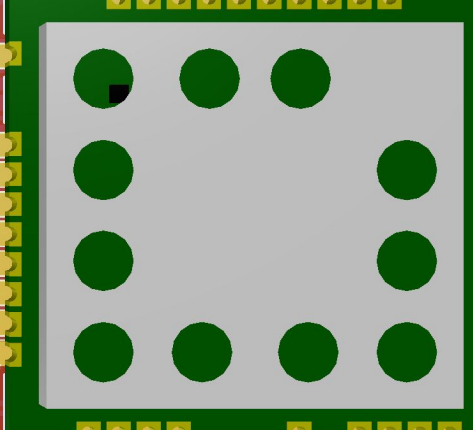


WIFI

CONN

DATA

ERROR



WINC1510

SW1

SW2

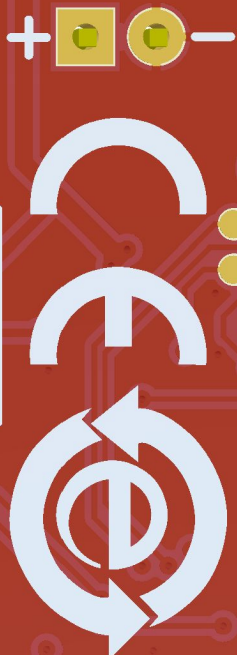


GND

BOOT

GND

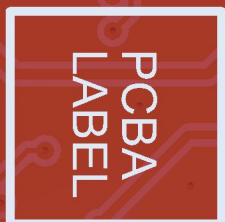
L1P0
BATT



UCC
TARGET DEBUG



PCBA
LABEL



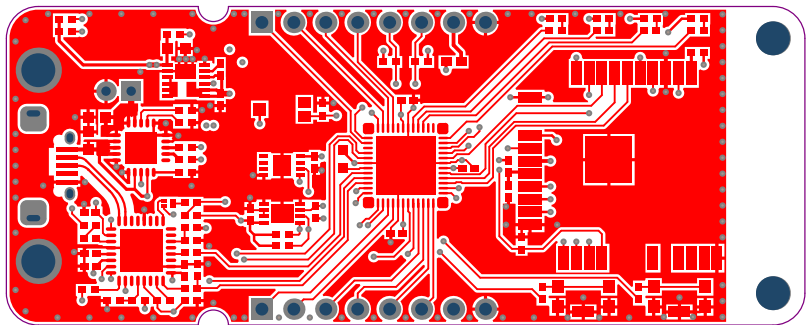
Microchip®
mikroBUS

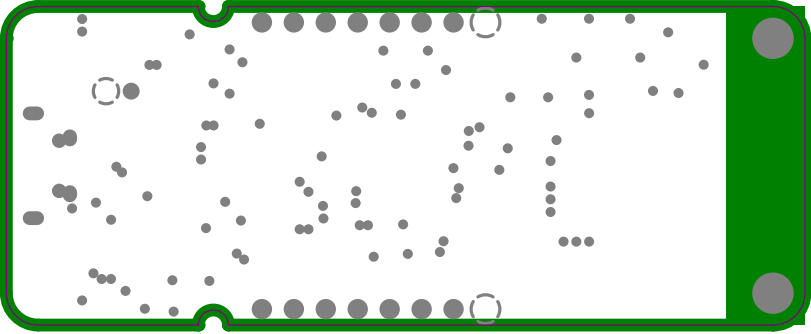
RC6 / PWM	AN / RB14
RB7 / INT	RST / RB15
RB6 / RX	CS / RA0
RB5 / TX	SCK / RA1
RB8 / SCL	MISO / RB0
RB9 / SDA	MOSI / RB1
+5V	+3.3V
GND	GND

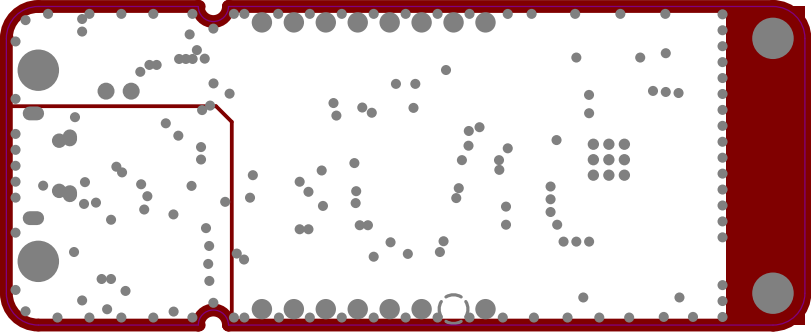
Microchip © 2018
A08-2993 Rev1

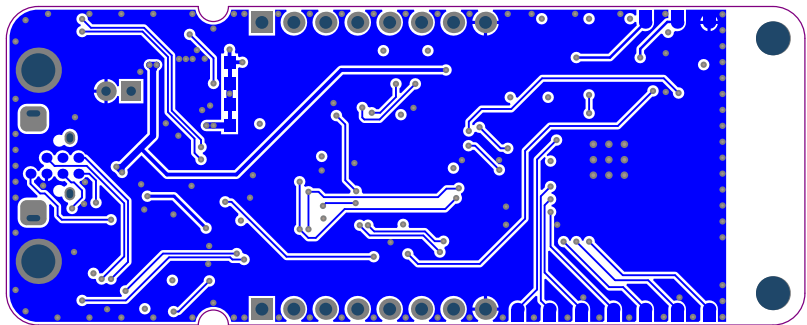


RX	GP1
TX	GP3
GND	GP4
	GP5
	GP6
	SCL
	SDA









Component list

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

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



Report Date: 12.02.2019 12:29:58
 Print Date: 12.02.2019 12:25:52

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, C208	8	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	C202	1	10nF	Murata	GRM155R71E103KA01D	Ceramic capacitor, SMD 0402, X7R, 25V, 10%
Fitted	C207	1	10uF/16V	Taiyo Yuden	EMK107BBJ106MA-T	Ceramic capacitor, SMD 0603, X5R, 16V, 10UF ± 20% (High Density)
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 firmware			nEDBG firmware
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	J201, J202	2	2185-108SS0CYNP1	WCON HARDWARE ELECTRONICS CO., LTD	2185-108SS0CYNP1	1x8 receptacle pin header, 2.54mm pitch THM, PIP
Fitted	LABEL1	1	Label PCBA Small 6x6mm	ACT Logimark AS	505462	PCBA identification label PPTop White Gloss
Fitted	PCB1	1	PIC-IoT WG PCB documentation			PIC-IoT WG PCB documentation
Fitted	PCBDOC1	1	A09-3261 PIC-IoT WG PCBA documentatio			PIC-IoT WG PCBA documentation
Fitted	Q100	1	DMN65D8LFB	Diodes Incorporated	DMN65D8LFB-7	N-channel MOSFET, DFN1006-3 (SOT883), 60V, 330mA, 4Ohm
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, R115, R206, R209, R212, R213	9	1k	ASJ	CR10-1001-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R103, R104, R210, R217	4	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, R205, R214, R215, R216	6	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	PIC-IoT WG test			Fixture test for PIC-IoT WG
Fitted	TESTDOC1	1	PIC-IoT WG Test Instructions			PIC-IoT WG Test Instructions
Fitted	U100	1	SAMD21E18A-MUT	Microchip	ATSAMD21E18A-MUT	Microchip 32-bit RISC MCU 32pin
Fitted	U101	1	MCP73871	Microchip Technology Inc	MCP73871T-2CC/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	PIC24FJ128GA705T-IM4	Microchip Technology Inc	PIC24FJ128GA705T-IM4	PIC24FJ128GA705T-IM4 microcontroller, 48-pin UQFN 6mm x 6mm x 0.6mm
Fitted	U202	1	A TECC608A I2C (Google Cloud)	Microchip Technology Inc	A TECC608A-MAH1H-S	A TECC608A 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	R204	0	0R	(n/a)	RMCF0402ZT0R00	RES 0.0 OHM 1/16W 0402 SMD

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Approved

Notes