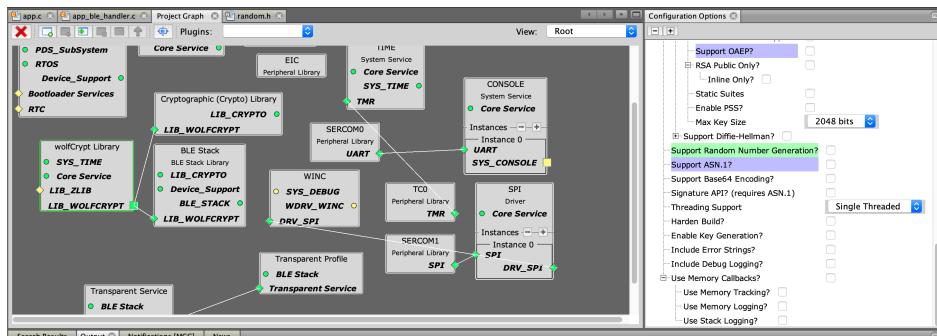
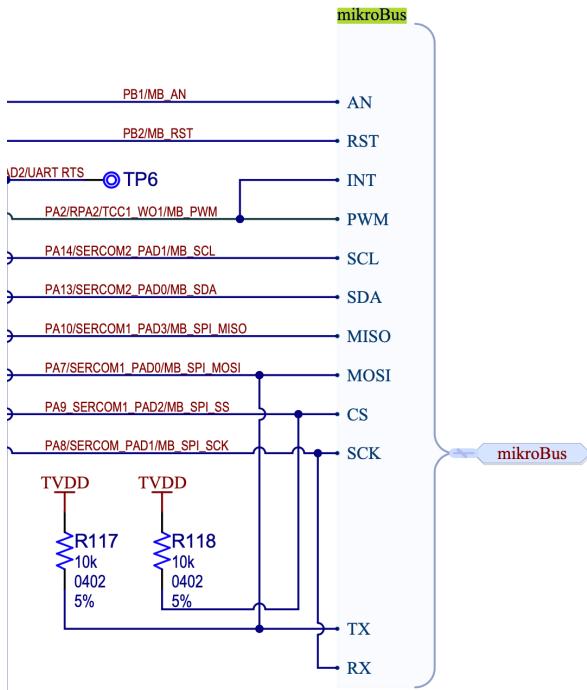


## WBZ451 peripheral Transparent UART

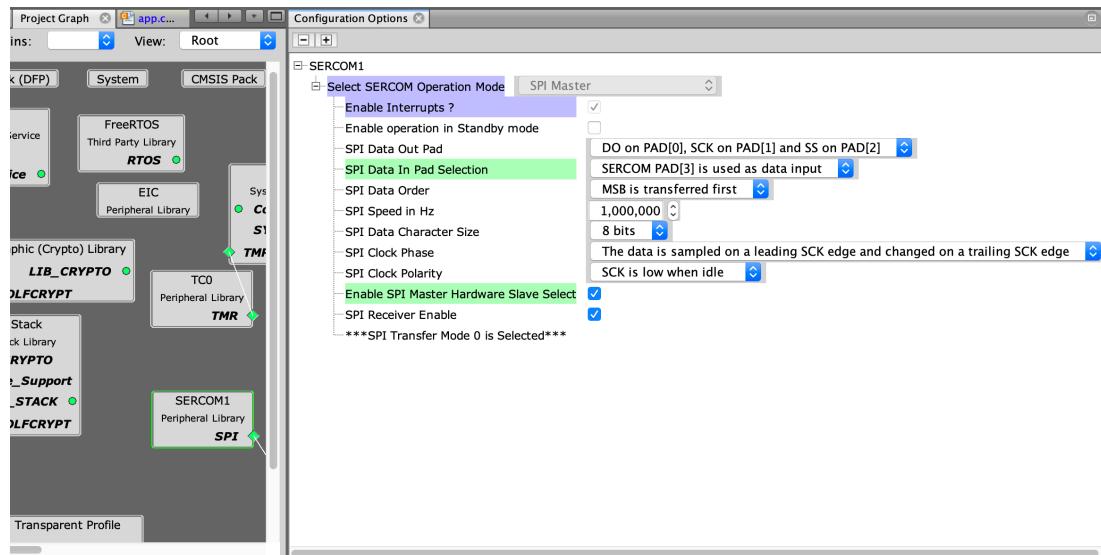
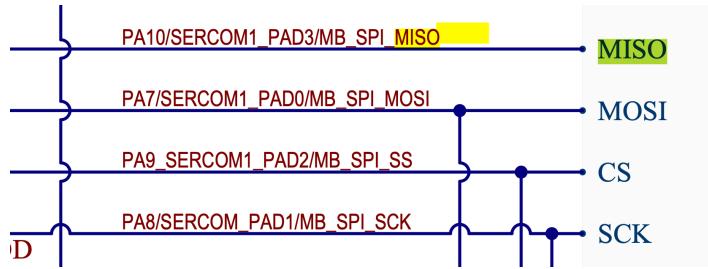
After adding WINC1500, TMR and SPI/SERCOM1, in WolfCrypt library, uncheck “support RNG”



## mikroBus interface



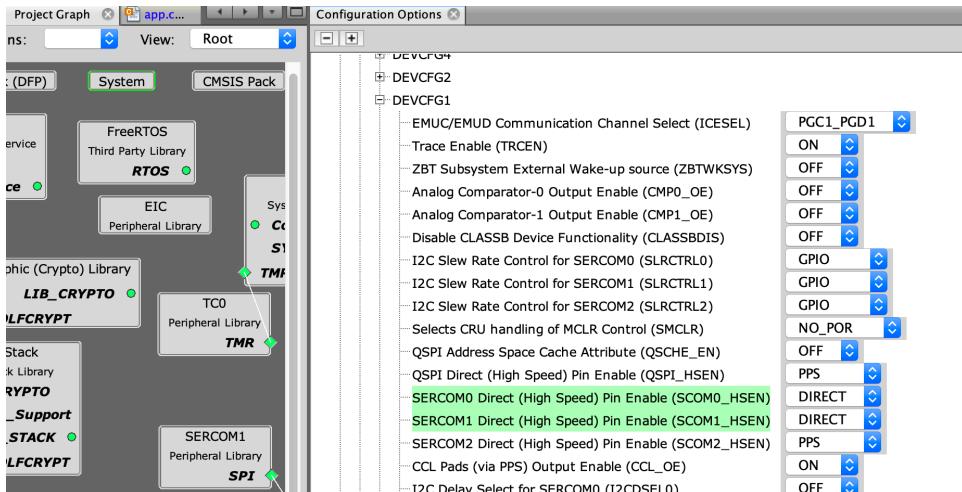
## SERCOM1 configuration



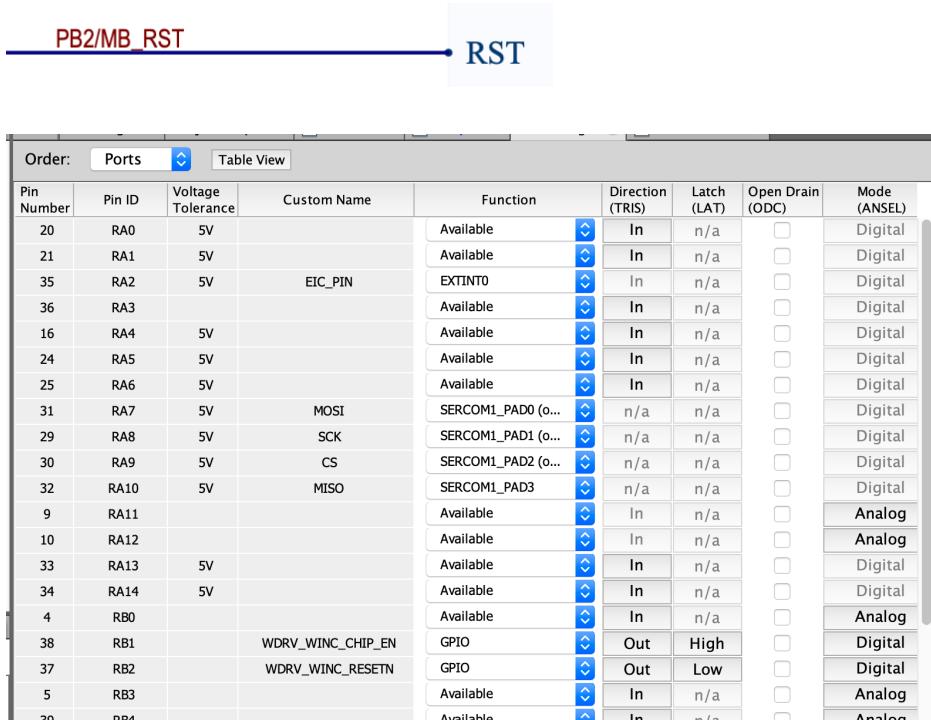
### SERCOM1 Pin setup:

25	RA6	5V		Available	In	n/a		Digital	
31	RA7	5V	MOSI	SERCOM1_PAD0 (o...)	n/a	n/a		Digital	
29	RA8	5V	SCK	SERCOM1_PAD1 (o...)	n/a	n/a		Digital	
30	RA9	5V	CS	SERCOM1_PAD2 (o...)	n/a	n/a		Digital	
32	RA10	5V	MISO	SERCOM1_PAD3	n/a	n/a		Digital	
9	RA11			Available	In	n/a		Analog	
10	RA12			Available	In	n/a		Analog	

Enable DIRECT for SERCOM1

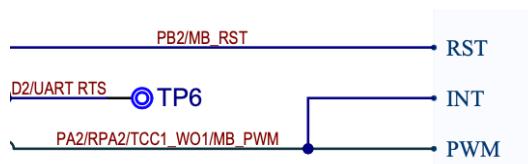
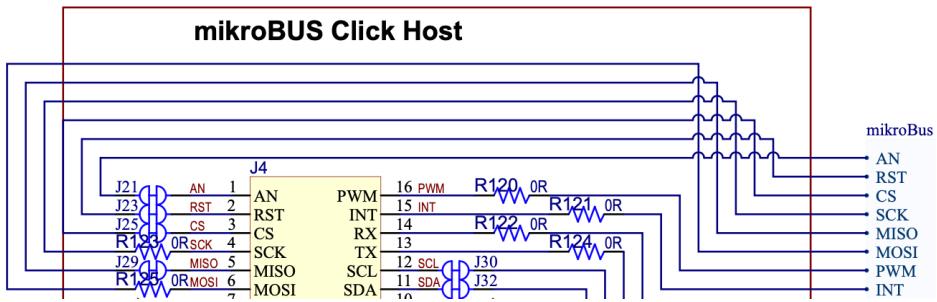


Configure WDRV\_WINC\_RESETN. (make sure you set to “Digital”)



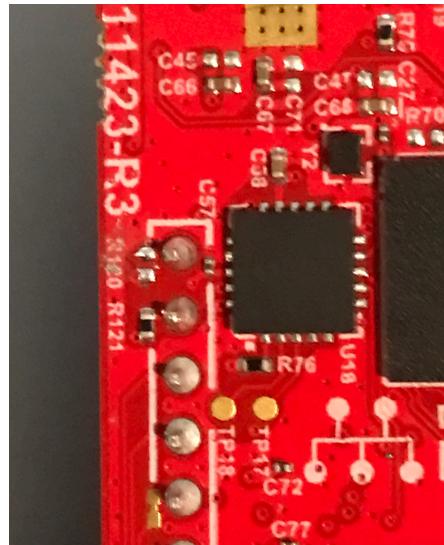
## WDRV\_WINC\_CHIP\_EN

The WINC1500 Click Module Enable is on PWM pin, which is also connected to INT. We will leave the INT pin to generate the Interrupt, but to Enable (EN) the module, we will use AN (Click) connected on PB1 (WBZ)



### Board modification

Need to remove Resistor R120, and short AN to PWM on the WiFi7 Click.... AN is connected to PB1



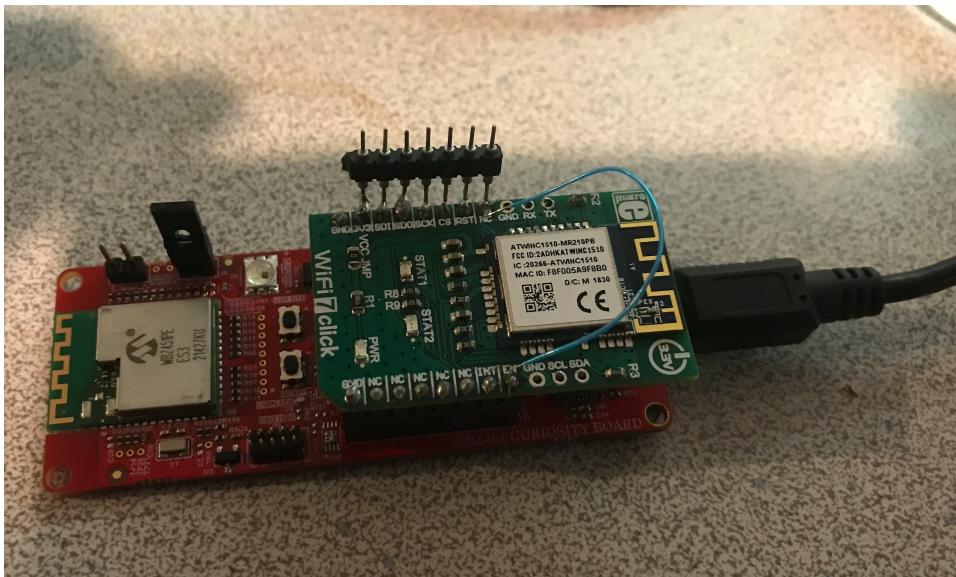
Order: Ports ▾ Table View										
Pin Number	Pin ID	Voltage Tolerance	Custom Name		Function		Direction (TRIS)	Latch (LAT)	Open Drain (ODC)	Mode (ANSEL)
20	RA0	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
21	RA1	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
35	RA2	5V	EIC_PIN		EXTINT0	Up	In	n/a	<input type="checkbox"/>	Digital
36	RA3				Available	Up	In	n/a	<input type="checkbox"/>	Digital
16	RA4	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
24	RA5	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
25	RA6	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
31	RA7	5V	MOSI		SERCOM1_PAD0 (o...)	Up	n/a	n/a	<input type="checkbox"/>	Digital
29	RA8	5V	SCK		SERCOM1_PAD1 (o...)	Up	n/a	n/a	<input type="checkbox"/>	Digital
30	RA9	5V	CS		SERCOM1_PAD2 (o...)	Up	n/a	n/a	<input type="checkbox"/>	Digital
32	RA10	5V	MISO		SERCOM1_PAD3	Up	n/a	n/a	<input type="checkbox"/>	Digital
9	RA11				Available	Up	In	n/a	<input type="checkbox"/>	Analog
10	RA12				Available	Up	In	n/a	<input type="checkbox"/>	Analog
33	RA13	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
34	RA14	5V			Available	Up	In	n/a	<input type="checkbox"/>	Digital
4	RBO				Available	Up	In	n/a	<input type="checkbox"/>	Analog
38	RB1		WDRV_WINC_CHIP_EN		GPIO	Up	Out	High	<input type="checkbox"/>	Digital
37	RB2		WDRV_WINC_RESETN		GPIO	Up	Out	Low	<input type="checkbox"/>	Digital
5	RB3				Available	Up	In	n/a	<input type="checkbox"/>	Analog
20	RB4				Available	Up	In	n/a	<input type="checkbox"/>	Analog

## WIFI & Click pinout:

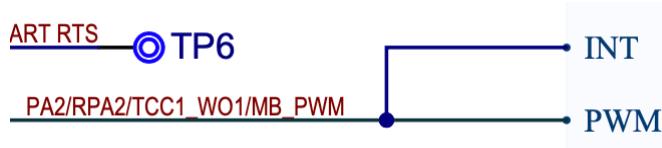
### PINOUT DIAGRAM

This table shows how the pinout on **WIFI 7 click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikro-BUS					Pin	Notes
	NC	1	AN	PWM	16	<b>EN</b>	Module Enable	
Active-Low Hard Reset	<b>RST</b>	2	RST	INT	15	<b>INT</b>	Device Interrupt output	
Chip select	<b>CS</b>	3	CS	TX	14	NC		
SPI Clock	<b>SCK</b>	4	SCK	RX	13	NC		
SPI Master Input Slave Output	<b>MISO</b>	5	MISO	SCL	12	NC		
SPI Master Output Slave Input	<b>MOSI</b>	6	MOSI	SDA	11	NC		
Power supply	<b>+3.3V</b>	7	3.3V	5V	10	NC		
Ground	<b>GND</b>	8	GND	GND	9	<b>GND</b>	Ground	



## EIC PIN Configuration



Order: Ports Table View											
Pin Number	Pin ID	Voltage Tolerance	Custom Name	Function	Direction (TRIS)	Latch (LAT)	Open Drain (ODC)	Mode (ANSEL)	Change Notification (CNFNF)	Pull Up (CNPU)	Pull Down (CNPD)
20	RA0	5V		Available	In	n/a	<input type="checkbox"/>	Digital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	RA1	5V		Available	In	n/a	<input type="checkbox"/>	Digital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	RA2	5V	EIC_PIN	EXTINT0	In	n/a	<input type="checkbox"/>	Digital	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
36	RA3			Available	In	n/a	<input type="checkbox"/>	Digital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	RA4	5V		Available	In	n/a	<input type="checkbox"/>	Digital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Enable EIC module for Channel 0, Enable Interrupt on Falling Edge!

The screenshot shows the Project Graph interface with the following configuration:

- Device Family Pack (DFP):** Core Harmony Core Service (RTOS), FreeRTOS Third Party Library (RTOS), EIC Peripheral Library.
- System:** Cryptographic (Crypto) Library (LIB\_CRYPTO), LIB\_WOLFCRYPT, TCO Peripheral Library.
- Configuration Options:**
  - EIC:** EIC Clock Source Selection: Clocked by GCLK, Non Maskable Interrupt Control:  (unchecked).
  - Enable EIC Channel0:**  (checked).
    - EIC Channel0 Configuration:**
      - Enable Interrupt:  (checked).
      - Enable Event Output:
      - External Interrupt0 Detection Clock: Edge detection is clock synchronously operated.
      - External Interrupt0 Edge Selection: Falling edge detection.
      - Enable Debounce:
      - Enable filter:
  - Enable EIC Channel1:**
  - Enable EIC Channel2:**
  - Enable EIC Channel3:**

Configure WINC to use EIC Channel 0

The Configuration Options dialog for WINC shows the following settings:

- WINC:**
  - WiFi Device: WINC1500.
  - Driver Log Level: None.
  - SPI Driver:**  (unchecked).
  - Interrupt Source:**
    - EIC Channel 0:  (checked).
  - \*\*\*EIC channel must be configured in EIC component for interrupt so.
  - Firmware Version: 19.7.6.
  - Driver Mode: Socket Mode.
- RTOS Configuration:**