

WF-402B-UWB

Overview

The below table specifies the hardware features and requirements.

Model		Enclosure	Features
WF-402 Family	Beacon		Beacon : ➤ NORDIC NRF52833 ➤ Qorvo DW3120 ➤ 512 kB Flash+ 64 kB RAM, integrated with SoC ➤ 1 x Bluetooth5(On board ANT) ➤ 3 x LED (Red, Green, Yellow)

Block Diagram

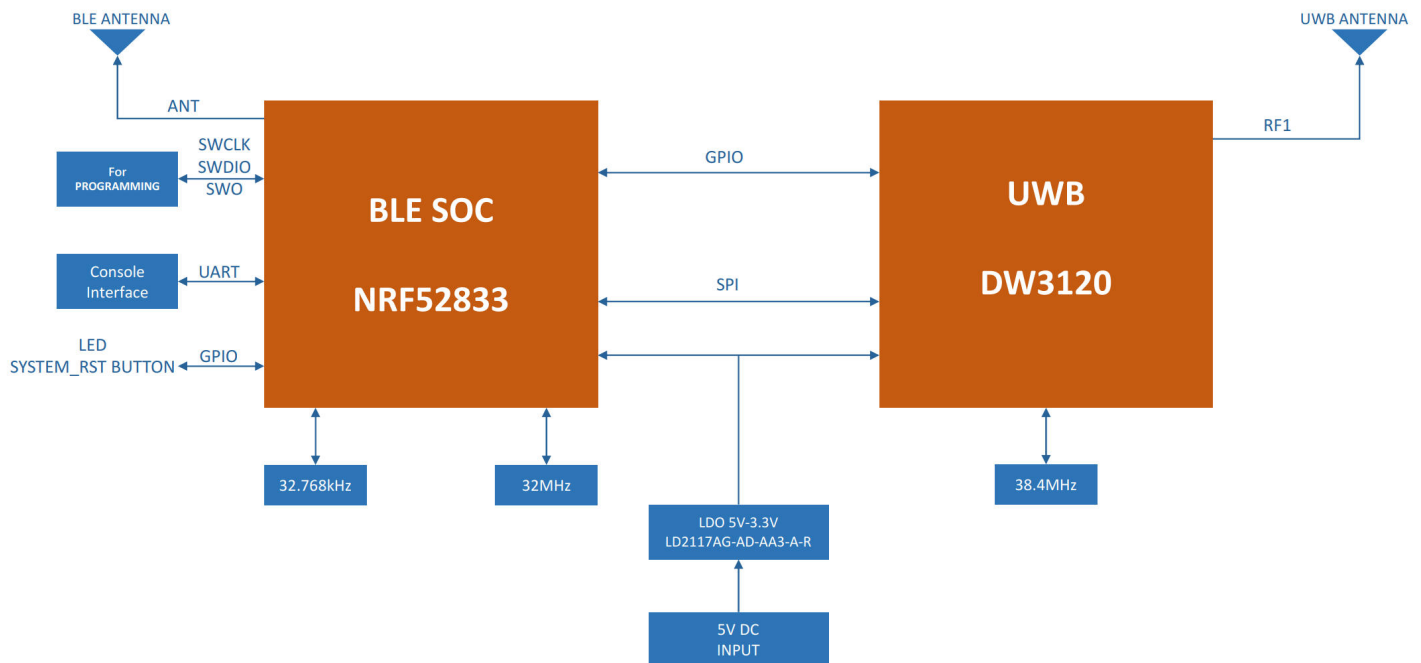
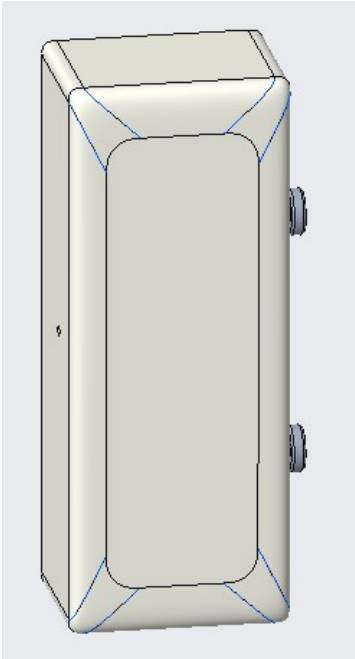
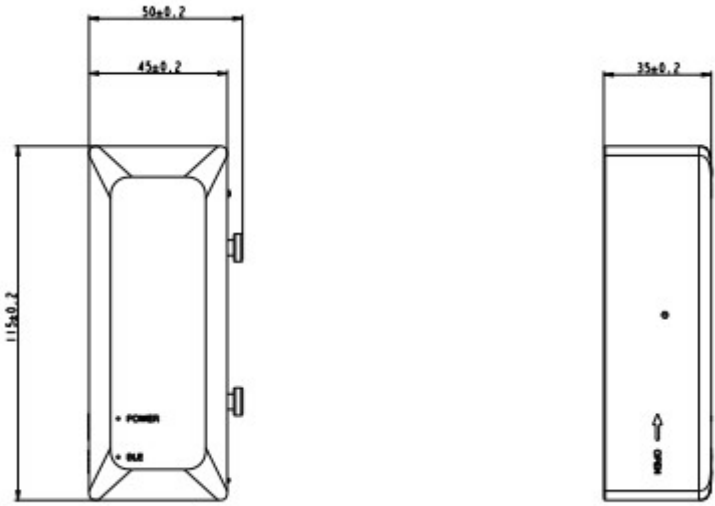


Figure 1 UWB Beacon diagram

Hardware feature

1-	Interfaces	
1-1	Beacon	LEDx3
		Resetx1
2-	Circuit Design	
2-1	Beacon SoC	SoC: Nordic nRF52833
2-2	UWB SoC	SoC: Qorvo DW3120
3-	Radio feature	
3-1	Beacon BLE:	NRF52833
	Frequency	2.4GHz
	Data rate	1Mbps, 2 Mbps
3-2	UWB Beacon:	DW3120
	Frequency	6.4896GHz
4	Power	

	DC-DC	Output: 5V 1A
5	Environment	
5-1	Operating temperature	0°C ~ +40°C
5-2	Operating humidity	5% to 95% non-condensing
5-3	Storage temperature	-10°C to +70°C
5-4	Elevations	86kPa ~ 106kPa
5-5	Environment	RoHS 2011/65/ compliant (RoHS 10 compliant, no Pb); WEEE 2002/96/EC recyclable materials requirements
5-7	Surge	Meet YD/T 993-2006 AC port shall support 4KV common mode and 2KV difference mode surge.
5-8	ESD	±6KV (Contact Discharge) / ±8KV (Air Discharge)
6-	Enclosure	
6-1	Mechanical Enclosure / Housing	WF-402B-UWB: 
6-2	Dimension	

		
6-3	Material	WEEE 2002/96/EC recyclable materials requirements Rosh REACH
6-4	Visual inspection standard	CIG A
7-	Reliability	
7-1	MTBF	> 300,000 Hours Telcordia SR-332, Reliability Prediction Procedures for Electronic Equipment, Issue 3, Method 1, Case 3, GB/GC (Ground Benign, Controlled) environment, 25°C ambient temperature. Steady state, not including software failure.
7-2	DOA	DOA (within 90 days of shipment) – less than 0.3%
7-3	AFR	AFR (Annualized Failure Rate) < 1.5% (in continuous operation)
8-1	Safety	UL62368-1
8-2	EMC/EMI	✧ FCC/IC
8-2a	RE	EN55032, Class B Margin > 4dB 1G below margin ≥ 4.0dB 1G above margin ≥ 4dB 30MHz ~ 230MHz 40dBμ V / m 230MHz ~ 1GHz 47dBμ V / m 1GHz ~ 3GHz AV detection 50dBμ V / m; PK detection 70dBμ V / m 3GHz ~ 6GHz AV detection 54dBμ V / m; PK detection 74dBμ V / m

Federal Communications Commission (FCC) Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties.

This equipment will not be employed for the operation of toys. Operation onboard an aircraft, a ship or a satellite is prohibited.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

ISED

CAN ICES-003 (B)/NMB-003(B)

Canadian Compliance Statement This device complies with IndustryCanada license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference, and

2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage;

2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements

IC établies pour un environnement non contrôlé.

Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps.