

### Notes:

- Firmware versions compatible: 0.47 and above
- All the measures are referenced to the orientation mark, in the side of the device. The mark is orientated to the bow of the boat.
- The device enter en low power mode to values <20% of the battery level
  - Only 1Hz rate available, and motion sensors disabled.
- The device enter in sleep mode to values <10% of the battery level
  - Only Bluetooth advertising
- When you connect with the device, always starts at 4Hz rate and motion sensors disabled.
- You have a wind direction offset(0xA007), to compensate the mounting of the device.
- The characteristics (0xA00B and 0xA00C) are reserved. And not used.
- You can reset the device using the 0xA00A characteristic, sending a 0x01, the device need 3 minuts to reset.
- Use the motion sensors and the high data rate 8hz with caution, the device increase the power consupcion considerably.
- The Wind Speed Correction characteristic 0xA009 is an optional characteristic, not used in a normal use of the device.
- When you disconnect the bluetooth link, automaticaly switch off all the sensors.

## Device Information Service

### Service UUID: 0x180A

0x2A29 Manufacturer Name String (*Calypso*)

0x2A24 Model Number String (*UP10*)

0x2A25 Serial Number String (*No used*)

0x2A27 Hardware Revision String (*No used*)

0x2A26 Firmware Revision String (*0.47*)

0x2A28 Software Revision String (*No used*)

## Data Service

Service UUID: 0x180D

Principal Characteristic: Notify

Characteristic: UUID: 0x2A39

Wind Speed	Wind Direction	Battery level	Temp Level	Roll	Pitch	eCOMPASS
<b>39-02</b>	<b>CE-00</b>	<b>09</b>	<b>85</b>	<b>78</b>	<b>1E</b>	<b>7D-00</b>
↔	↔					↔
↓	↓	↓	↓	↓	↓	↓
Hex to Decimal	Hex to Decimal	Hex to Decimal	Hex to Decimal	Hex to Decimal	Hex to Decimal	Hex to Decimal
<b>569</b>	↓	<b>9</b>	<b>133</b>	<b>120</b>	<b>30</b>	<b>125</b>
↓	↓	↓	↓	↓	↓	↓
/100	↓	<b>X10</b>	<b>-100</b>	<b>-90</b>	<b>-90</b>	<b>360-125</b>
<b>5.69 m/s</b>	<b>206°</b>	<b>90%</b>	<b>33°</b>	<b>30°</b>	<b>-60°</b>	<b>235°</b>
<b>0-40m/s (0.01m/s)</b>	<b>0-360° (1°)</b>	<b>0%-10% (10%)</b>	<b>-100° to 100° (1°)</b>	<b>-90° to 90° (1°)</b>	<b>-90° to 90° (1°)</b>	<b>0° to 360° (1°)</b>

Status Characteristic: Read

UUID: 0xA001

0x00-> Sleep Mode, Only Advertising

0x01-> Low Power Mode, 1hz and Sensors disabled

0x02-> Normal Mode, All data rate and sensors availables

Data Rate Characteristic: Read/Write

wind speed output data rate 1hz,4hz,8hz

UUID: 0xA002

0x01-> 1Hz

0x04-> 4Hz

0x08-> 8Hz

Sensors Characteristic: Read/Write

Activate Clinometer and eCompass

UUID: 0xA003

0x01-> ON

0x00-> OFF

Angle Offset Characteristic: Read/Write

UUID: 0xA007

0xFFFF-> uint16\_t, offset wind direction

Description:

You can add a wind direction offset, to compensate the mounting of the device.

eCompass Calibration Characteristic: Read/Write

UUID: 0xA008

0x01->Calibration Mode

0x00-> Normal mode

*Instructions:*

*1step -> Activate Clinometer and eCompass (UUID: 0xA003)*

*2step -> Put in calibration Mode send 0x01*

*3step -> Rotate the device 360 degrees as slow as possible, repeat*

*4step -> Save data in flash memory, send 0x00 (Normal mode)*

Wind Speed Correction Characteristic: Read/Write **(OPTIONAL)**

UUID: 0xA009

0xFFFFFFFF-> float 32bits, example: 2.00-> 0x00000040

Description:

Multiplicative coefficient to correct wind speed deviations, default multiplied by 1.

This is a optional characteristic, not used in a normal use.

Firmware Update Characteristic or Reset device: Read/Write

UUID: 0xA00A

0x01->DFU or reset

You can see the firmware update tutorial in our Ultrasonic regular manual.

If you want to include the firmware updates in your own app, please contact with us and we can provide more information.

If you send 0x01 the device reset, and is fully functional in 3 minutes.

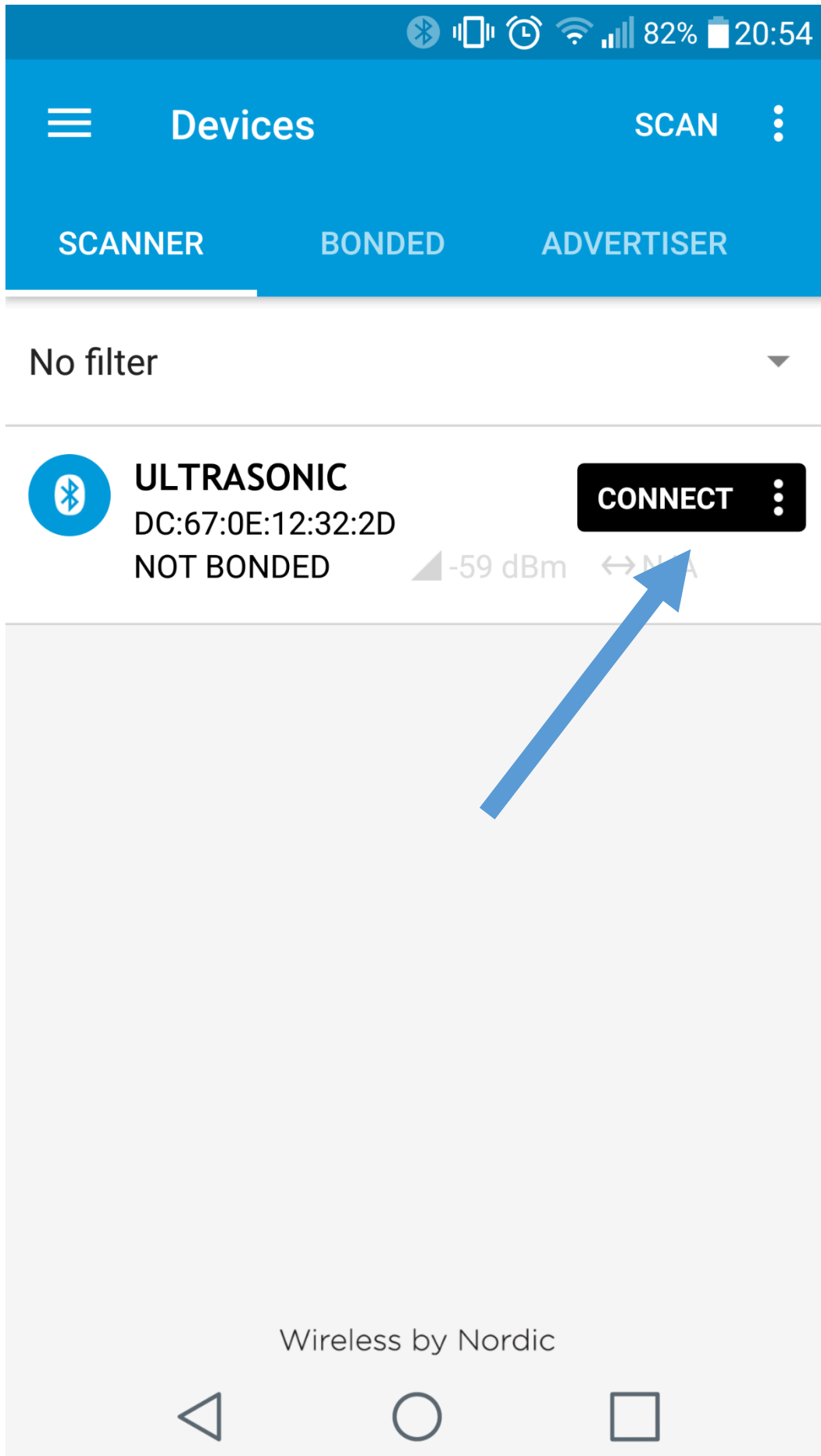
Reserved Characteristic: **(NOT USED)**

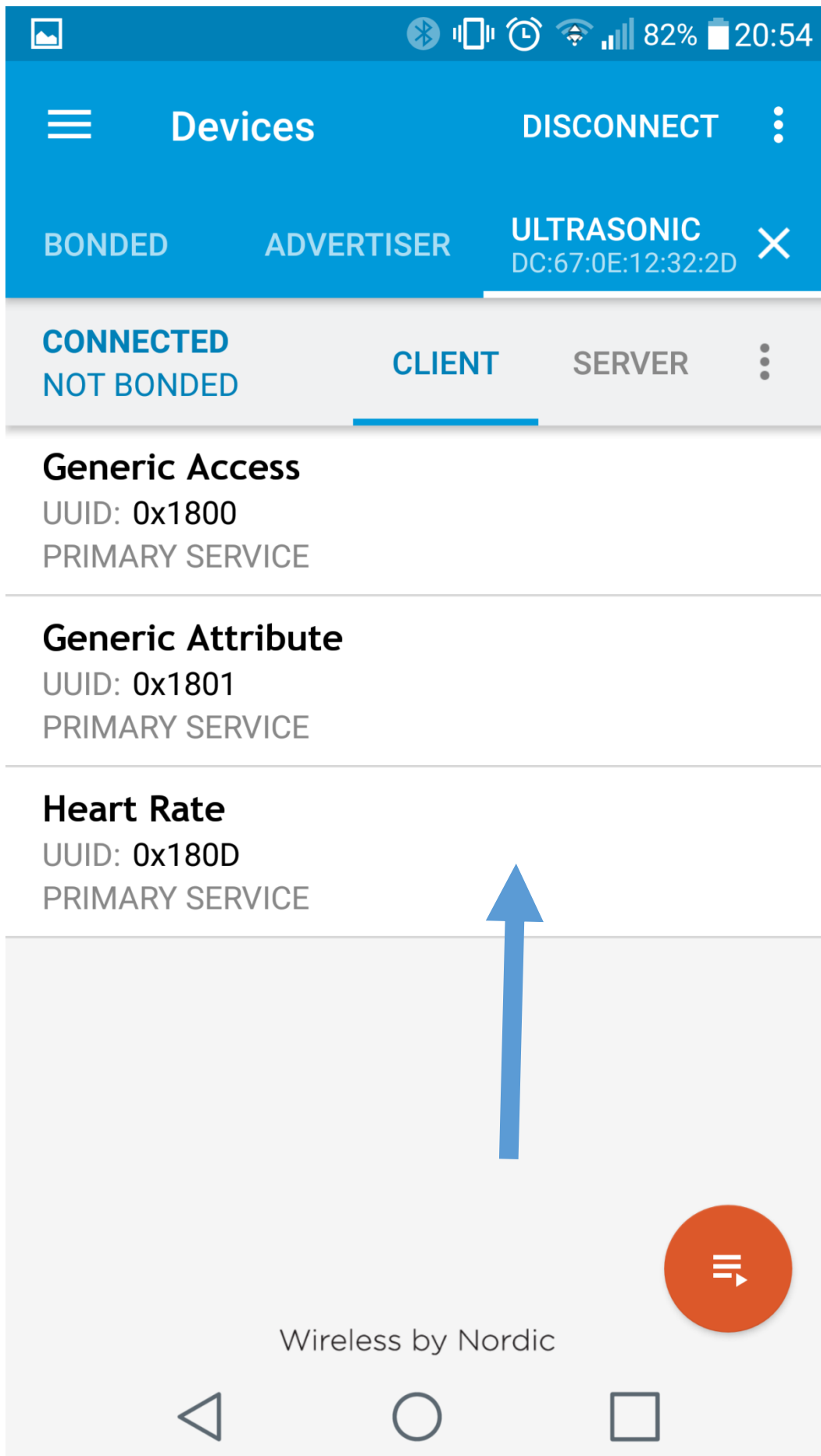
UUID: 0xA00B

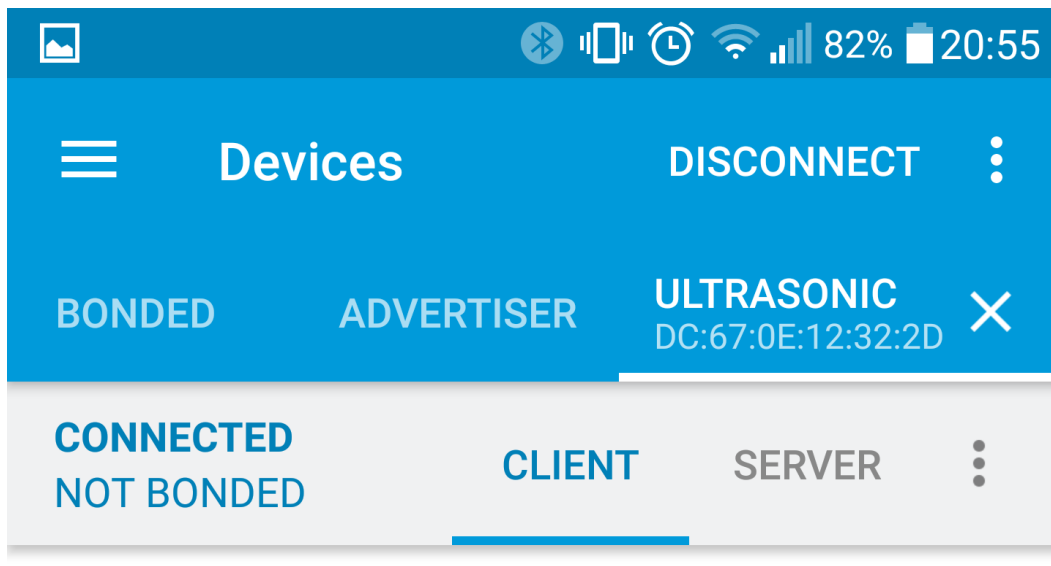
Reserved Characteristic: **(NOT USED)**

UUID: 0xA00C

Activate Sensors Example: *(nRF Connect app, available in Android and iOS)*







## Heart Rate

UUID: 0x180D

PRIMARY SERVICE

### Heart Rate Control Point

UUID: 0x2A39

Properties: NOTIFY, READ

#### Descriptors:

Client Characteristic Configuration

UUID: 0x2902

### Unknown Characteristic

UUID:

0000a001-0000-1000-8000-00805f9b34fb

Properties: READ

### Unknown Characteristic

UUID: 0000a002-0000-1000-8000-00805f9b34fb

Properties: READ, WRITE

### Unknown Characteristic

