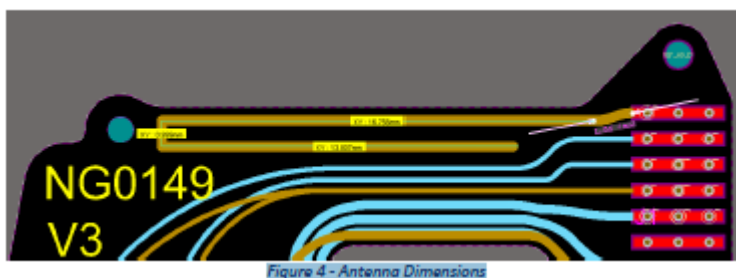
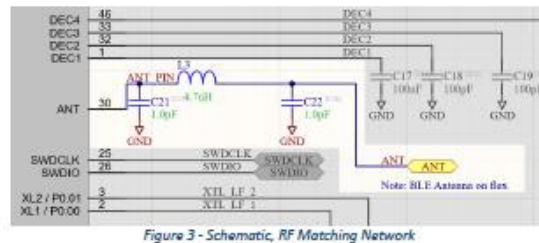
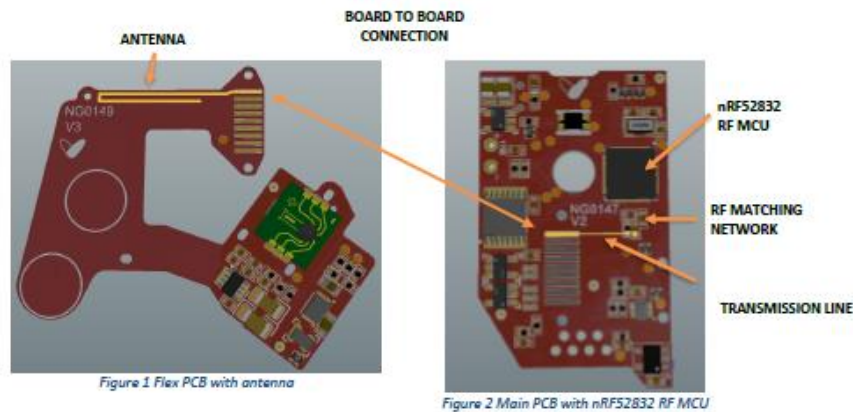


Antenna Description - RF Antenna

The Hailie™ Sensor uses a 2.4GHz radio frequency antenna to communicate using the Bluetooth Low Energy protocol. The antenna is driven by the Nordic nRF52832 microcontroller, which is configured to operate at 1.0 mW (0dBm) output power at 2.40 - 2.48 GHz on 40 channels of 2MHz bandwidth using GFSK modulation.

An omnidirectional antenna is implemented in copper as part of the flexible printed circuit board and is used for both transmit and receive.



Total PCB Antenna Length = 1.56 + 16.756 + 0.999 + 13.807 = 33.1 mm

Antenna Style = Folded Monopole

Antenna Type = Omni-directional

EMC – Antenna RF Test Results

Product	Test	Result
NF0107	NF0107 Conducted power after matching network	-7.9dBm
NF0107	NF0107 Radiated Power (EIRP)	-17.1dBm

Antenna Gain

Antenna Gain = Radiated Power – Conducted Power

$$(-17.1 \text{ dBm}) - (-7.9 \text{ dBm}) = -9.2 \text{ dBi Gain}$$