

#### FEATURES

- Bluetooth® Low Energy 5.1 AoA (Angle-of-Arrival) demonstration system
- Operating frequency range: 2400-2483 MHz
- CoreHW Gen1 AoA locators
  - CoreHW Gen2 PCB4 AoA antenna array board with eight dual polarized patch antenna elements
  - CoreHW CHW1010 SP16T Bluetooth AoA/AoD antenna switch
  - nRF52833 Development Kit PCB for CoreHW1010 antenna switch control and I/Q-sampling
  - Locator assembly dimensions 176mm x 176mm x 67mm (210mm including mounting brackets)
- Windows PC SW for angle and position measurements developed for demo purposes
- GUI for configurability and tag tracking demonstration
- total demo system weight 4.3kg

#### APPLICATIONS

- *Bluetooth 5.1 Angle-of-Arrival, radio direction finding*
- *Bluetooth indoor positioning systems*



#### CONTENT

- Four CoreHW Gen1 locators
- Two nRF52833 DK boards used as tags
- USB hub and 6 x 10m USB extension cables
- 4 x micro USB to USB-A cables for locators (2m)
- 2 x micro USB to USB-A cables for tags (0.5m)
- Cable ties for securing and arranging strain relief for micro USB cables
- USB stick which includes PC SW, Demo System User Guide and PC SW guide (AoA\_Matlab\_Demo\_Guide)

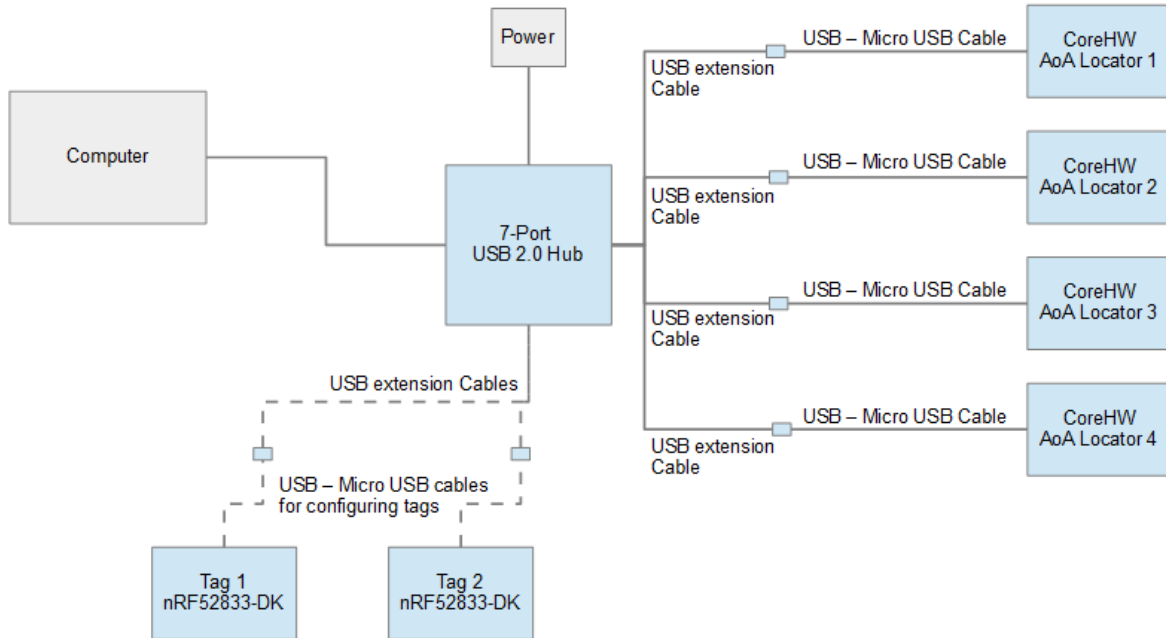
#### GENERAL DESCRIPTION

**CoreHW Gen1 AoA Demo** is a Bluetooth AoA development kit system intended for indoor positioning system providers.

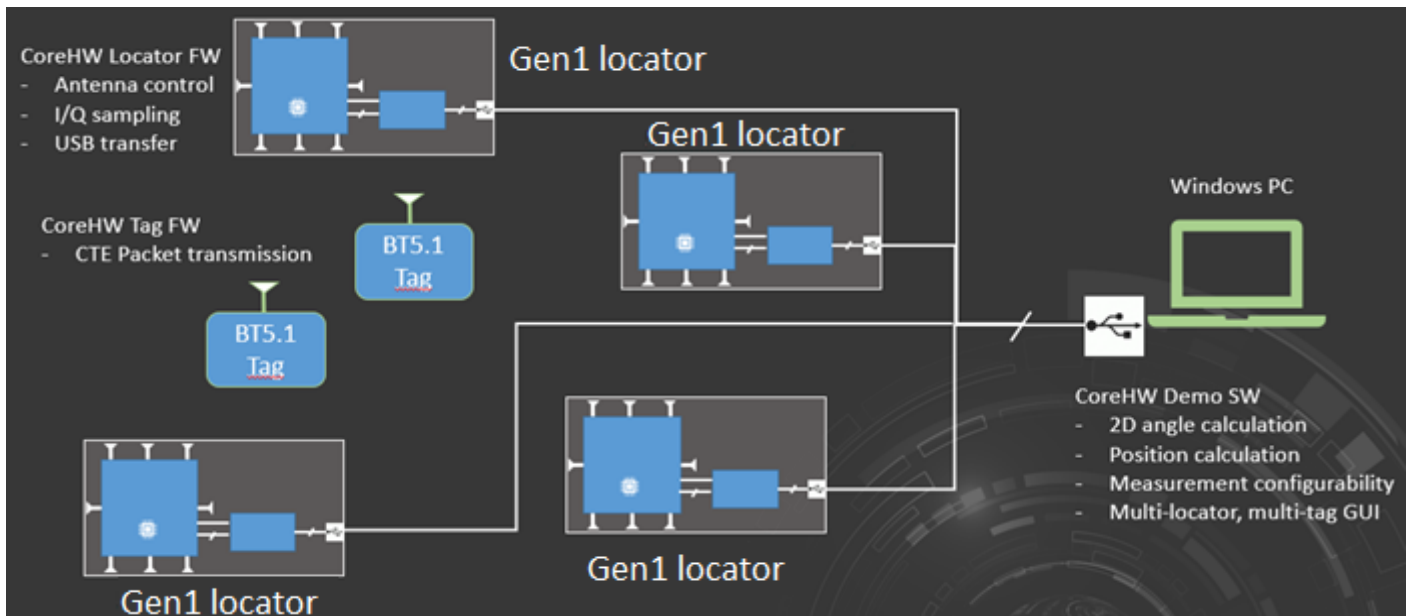
CoreHW Gen1 Angle-of-arrival (AoA) Demo System for the CoreHW SP16T AoA/AoD antenna switch provides a hardware environment for demonstration and testing of BT5.1 AoA functionality together with an integrated BLE chip. The demo system is not developed for production usage and PC SW does not support all features needed for mitigation of e.g. interferences and multi-path reflections. The system can be used for laboratory tests and for initial testing in real use case scenarios. It provides support to locator product development and development of final end-to-end RTLS solutions. The AoA demo system contains four CoreHW Gen1 locators and two tags. CoreHW firmware is used in the tags and locators to enable AoA measurement. USB Interface is used to connect locators to Windows PC which has position engine SW with user interface (GUI).

[www.corehw.com](http://www.corehw.com)

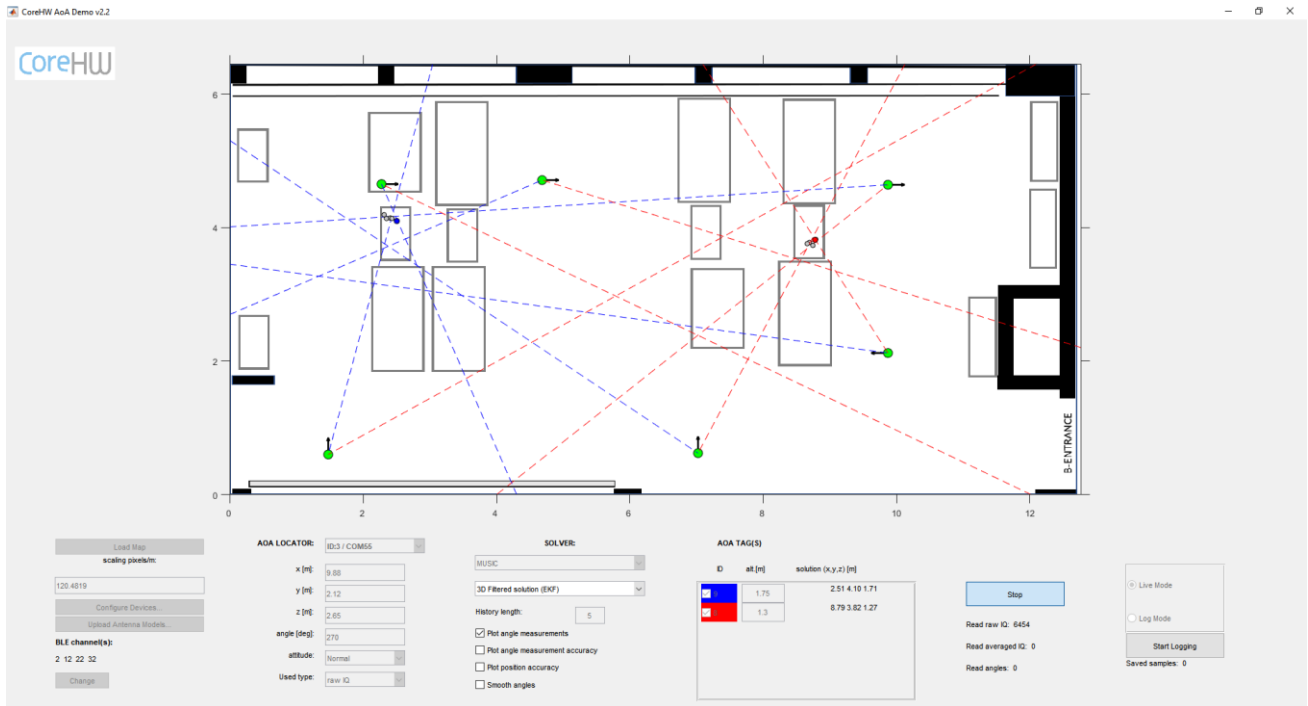
### Gen1 AoA Demo System Block Diagram



Gen1 locators can be installed e.g. on ceiling (mounting on floor, wall, 45 degrees from floor and 45 degrees from ceiling are also supported) of a room and connected via USB to Windows 10 PC running proprietary CoreHW AoA Demo software. PC Demo software can be used to demonstrate AoA Tag position estimation based on Angle-of-Arrival data.

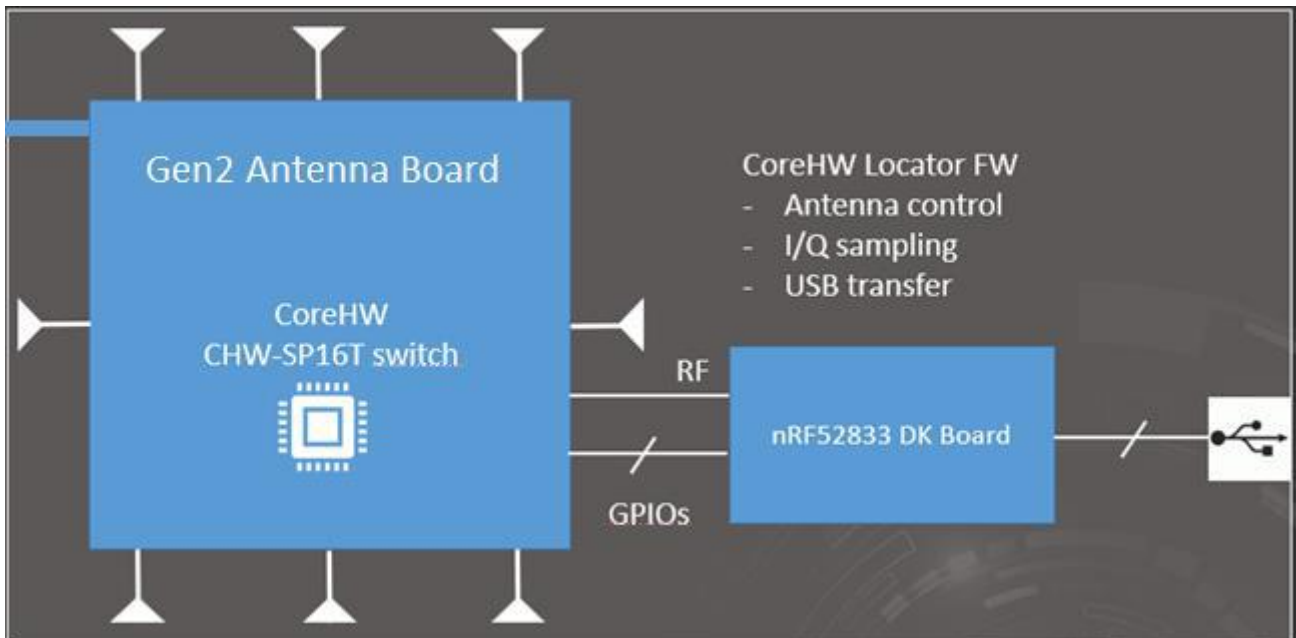


CoreHW AoA Demo PC Software GUI:



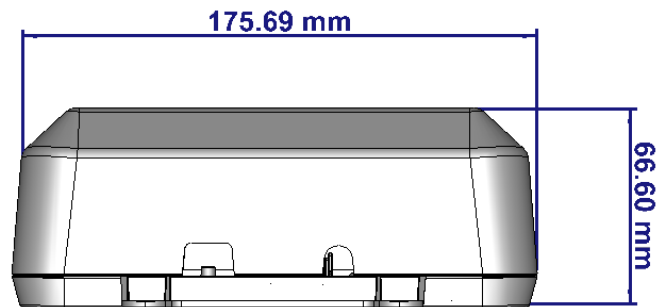
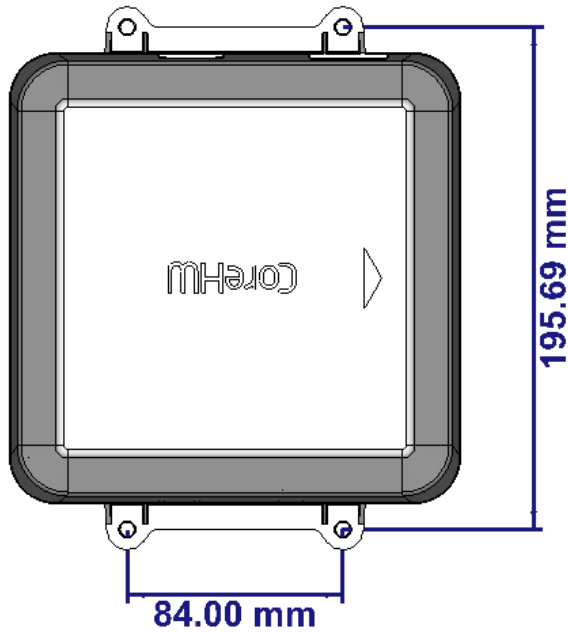
Gen1 Locator

Simplified block diagram of Gen1 locator:



### Gen1 Locator Dimensions

5.6mm mounting holes for 5mm screws



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