

Technical Data

CoreHW CorePatch PCB

FEATURES

- **CoreHW CorePatch PCB** antenna array for Bluetooth® Low Energy 5.1 AoX direction finding systems
- Operating frequency range: 2400-2483 MHz
- CoreHW CHW1010 SP16T Bluetooth AoA/AoD antenna switch
- Dual polarized antenna array with eight patch antenna elements
- Connectors for radio frequency signals and CoreHW CHW1010 SP16T GPIO control signals
- Low cost 4-layer PCB stack-up structure
- Optimized phase balance between antenna chains
- No need for calibrations during production
- Firmware support and antenna models available
- PCB dimensions: 150mm x 150mm

APPLICATIONS

- *Asset tracking in factories, offices, logistics etc.*
- *Access control*
- *People tracking*
- *Wayfinding*
- *Point-of-interest services*
- *Proximity marketing*
- *Shopping guidance and assistance*
- *Equipment and facilities utilization*
- *Consumer behavior analysis*
- *Security services*
- *Item finding*

www.corehw.com

GENERAL DESCRIPTION

CoreHW CorePatch PCB is an antenna array consisting of eight dual polarized patch antenna elements. The antenna array PCB is intended for direction and positioning system solution providers.

CorePatch antenna array board contains CoreHW CHW1010 SP16T Bluetooth AoA/AoD capable antenna switch for antenna controls and Bluetooth CTE sampling. The device comprises of very low phase mismatch antenna switch array which enables real high accuracy positioning.

CorePatch antenna boards enable system solutions which are insensitive to multipath signals, has position accuracy down to sub 0.5 meter level and are easy, fast and cost-efficient to manufacture.

CoreHW offers an AoA demo system with CoreHW firmware and Windows PC positioning engine SW with user interface (GUI). The demo system contains four CorePatch PCB based locators. The demo system can be used for laboratory tests and for initial testing in real use case scenarios.



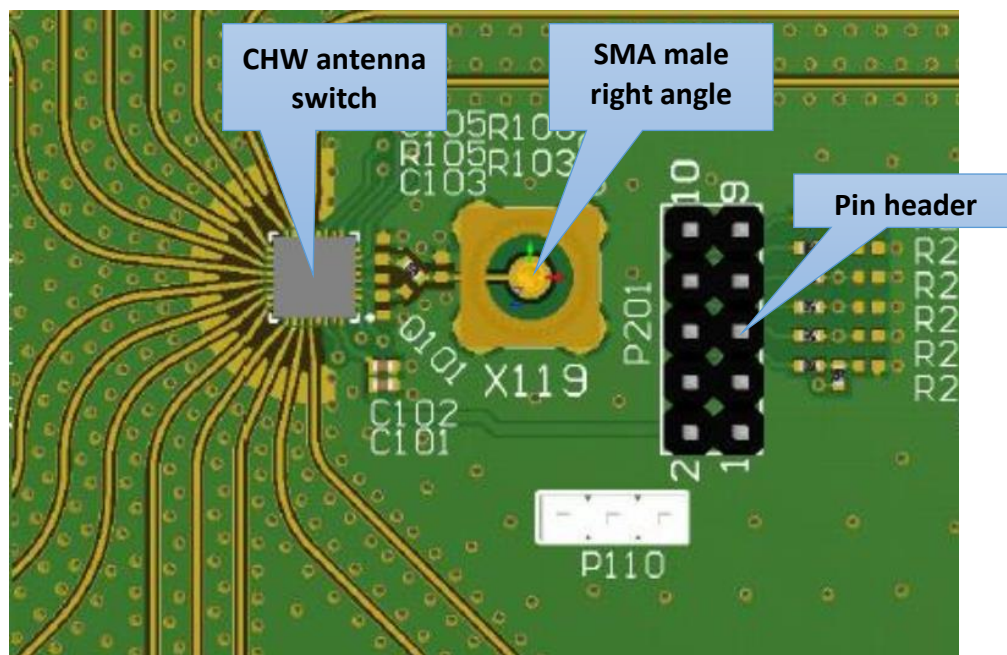
Technical Data

CoreHW CorePatch PCB

PCB V2, V2.0L CONNECTORS AND SIGNAL PINS

| PCB version | RF connector | GPIO connector |
|-------------|------------------------|----------------|
| V2, V2.0L | SMA male (right angle) | Pin header |

| Pin | Purpose | Description |
|-----|---------|-----------------------------|
| 1 | VBAT | Supply voltage (3V nominal) |
| 2 | VBAT | Supply voltage (3V nominal) |
| 3 | GND | GND |
| 4 | GND | GND |
| 5 | D1 | ANT_SELO |
| 6 | D3 | ANT_SEL2 |
| 7 | D2 | ANT_SEL1 |
| 8 | D4 | ANT_SEL3 |
| 9 | D0 | Digital control input |
| 10 | EN | Chip enable |



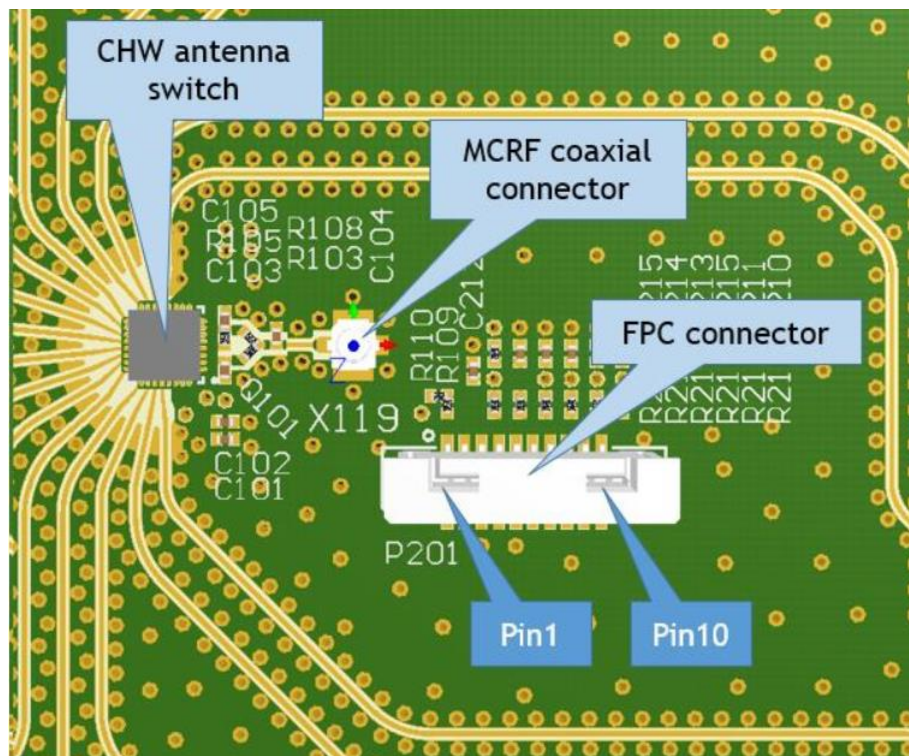
Technical Data

CoreHW CorePatch PCB

PCB V2.1L CONNECTORS AND SIGNAL PINS

| PCB version | RF connector | GPIO connector |
|-------------|----------------------|----------------|
| V2.1L | MCRF coaxial 50 Ohms | FPC vert 10pos |

| Pin | Purpose | Description |
|-----|---------------|-----------------------------|
| 1 | VBAT | Supply voltage (3V nominal) |
| 2 | <i>Unused</i> | <i>Unused</i> |
| 3 | GND | GND |
| 4 | GND | GND |
| 5 | D1 | ANT_SEL0 |
| 6 | D3 | ANT_SEL2 |
| 7 | D2 | ANT_SEL1 |
| 8 | D4 | ANT_SEL3 |
| 9 | D0 | Digital control input |
| 10 | EN | Chip enable |

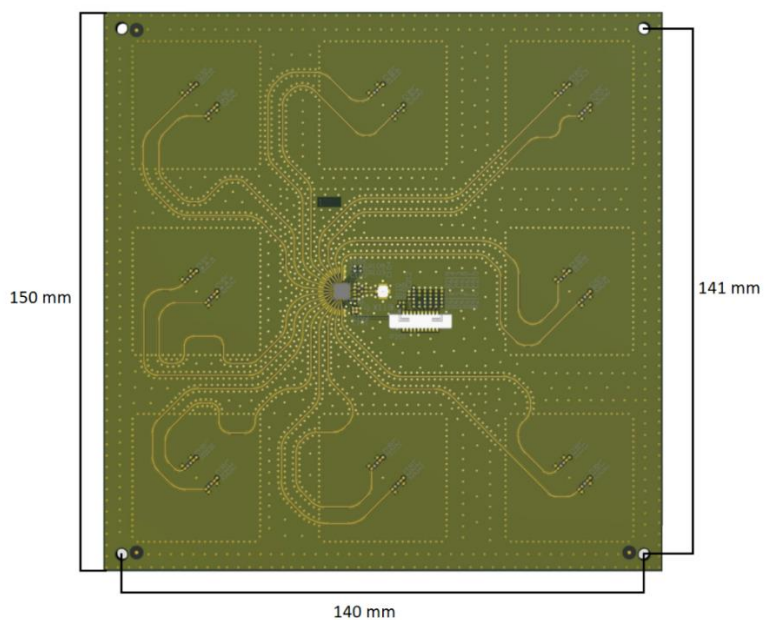


Technical Data

CoreHW CorePatch PCB

DIMENSIONS

PCB thickness: 3.6 mm



Contact details

Email: sales@corehw.com

CoreHW Oy
Visiokatu 1
33720 Tampere
Finland

www.corehw.com

Disclaimer

The contents of this document are subject to change without prior notice. CoreHW makes no representation or warranty of any nature whatsoever (neither expressed nor implied) with respect to the matters addressed in this document, including but not limited to warranties of merchantability or fitness for a particular purpose, interpretability or interoperability or, against infringement of third party intellectual property rights, and in no event shall CoreHW be liable to any party for any direct, indirect, incidental and or consequential damages and or loss whatsoever (including but not limited to monetary losses or loss of data), that might arise from the use of this document or the information in it.

© Copyright CoreHW. All rights reserved.