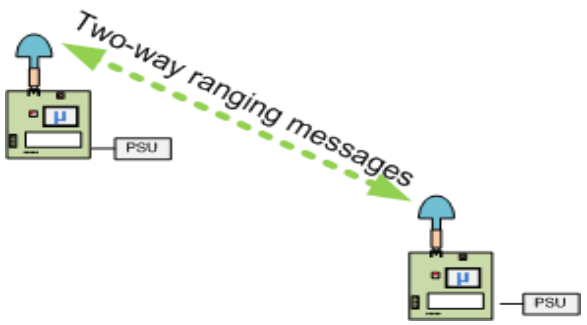


Decawave EVK1000

EVK1000 Presentation



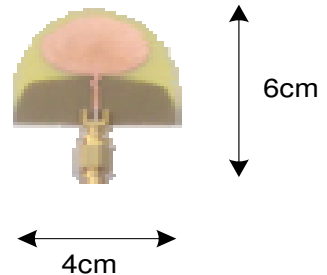
EVK1000 BOX – Functionality and Contents



The EVK1000 provides all HW and SW elements to perform a Two-Way Ranging evaluation, including: Range accuracy, Range precision, Range sensitivity, Multipath immunity, Blocking immunity and much more.

The Antenna

The antenna is a wideband planar Omni-directional. It covers both low-band (~4GHz) and high-band (~6GHz) giving gains of 1dBi and 3dBi respectively.



Unique Code



Each EVK is supplied with a unique code on the BOX.

This code is used to Register the EVK by sending email to: register@decawave.com



2 x Antennae

2 x EVB1000s

2 x Micro USB cables

2 x Power Leads

Also included but not shown: 2 x EVB Stands

EVK1000 BOX - Boards Explained

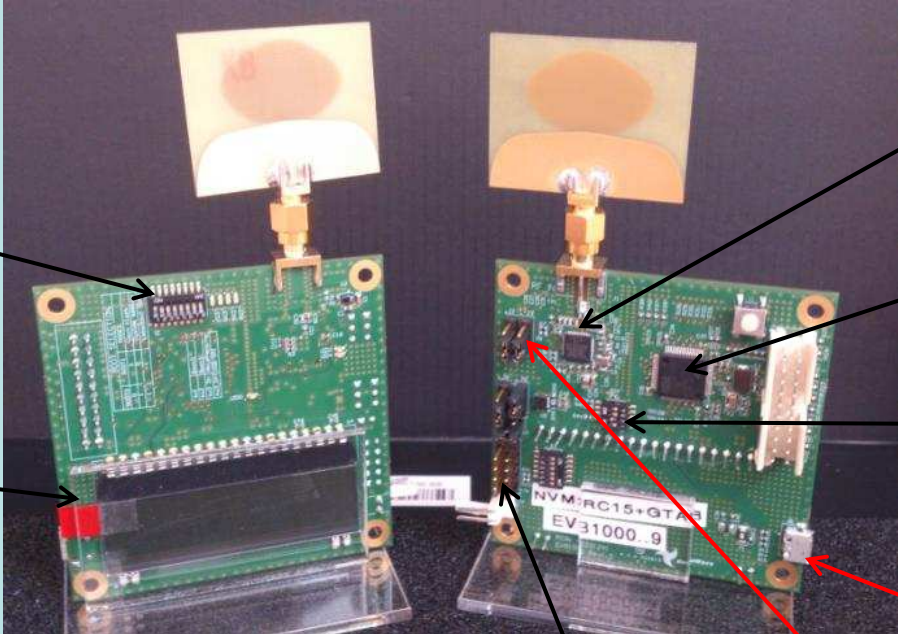
Display side

Configuration

By means of dipswitch
Setting, the configuration of the
ARM μ Controller can be changed.

Display

To display measurement results or
other functions as required
depending on user programming.



Component side

DW1000 IC

μ Controller
ST32F105

Various switches
(for Int./Ext. μ P control)

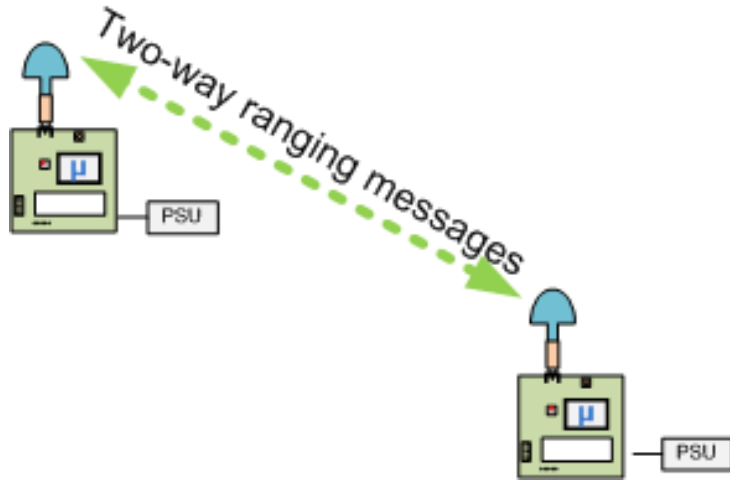
Interfaces
JTAG, SPI, USB*

Various Power
Options
(USB*, 2V8 - 5V5)

*The USB interface may be used for powering the board and/or as an optional means to drive the DW1000 IC from an external PC (instead of using SPI Interface)

Configuration Options when using EVK1000

Both boards controlled by On Board Processor



From the box, both boards come with dip-switches set according to default configuration settings. This enables a quick set-up of the demonstration once the boards are connected to a power source.

The default configuration setting is:

Channel =5
Data Rate =110Kb/s
PRF =16
Preamble =1024

The setting options allow different configurations as follows*:

Channel =2 or 5
Data Rate =110Kb/s or 6.8Mb/s
PRF =16 or 64
Preamble =1024 or 128

* More configurations and functions are possible when using the PC DecaRanging.



Once communication is established between the two nodes and ranging Commences, the display on each node shows last measured range and an average of the last 8 measurements

EVK1000 Software Tool

PC-based DecaRanging demonstration software and documentation can be obtained after registration of the EVK..

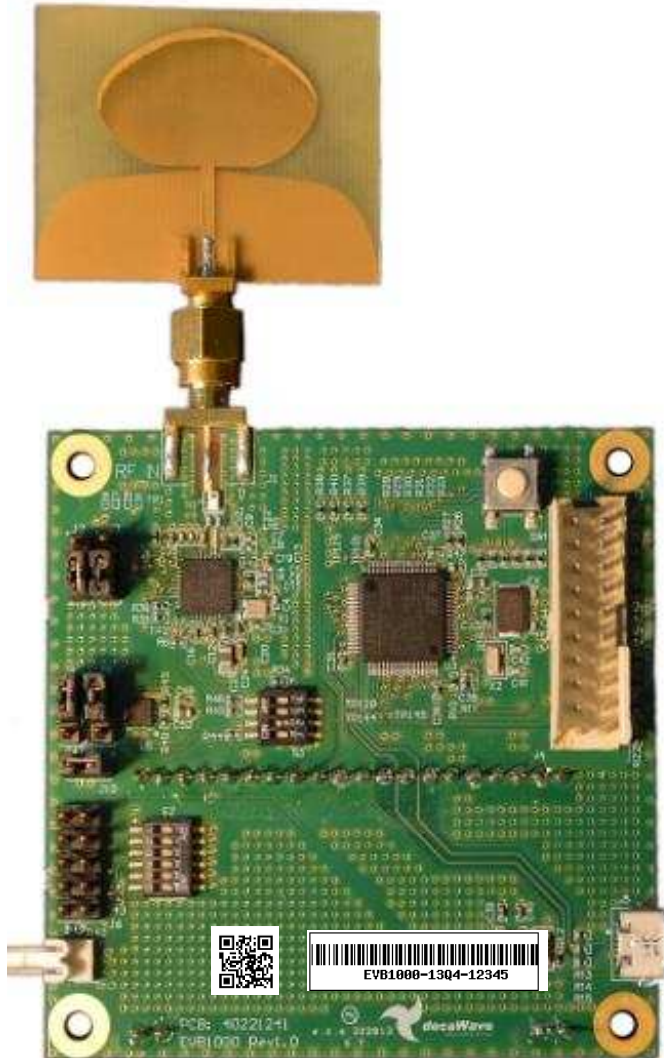
Registration is done by sending an email to register@decawave.com with your registration code and a request for the software and documentation.

This unique identity codes can be obtained from the side of the Box.

- PC DecaRanging™ Software (.exe only)
- PC DecaRanging™ User Guide
- EVK1000 User Manual
- EVB1000 PCB Schematics and BOM

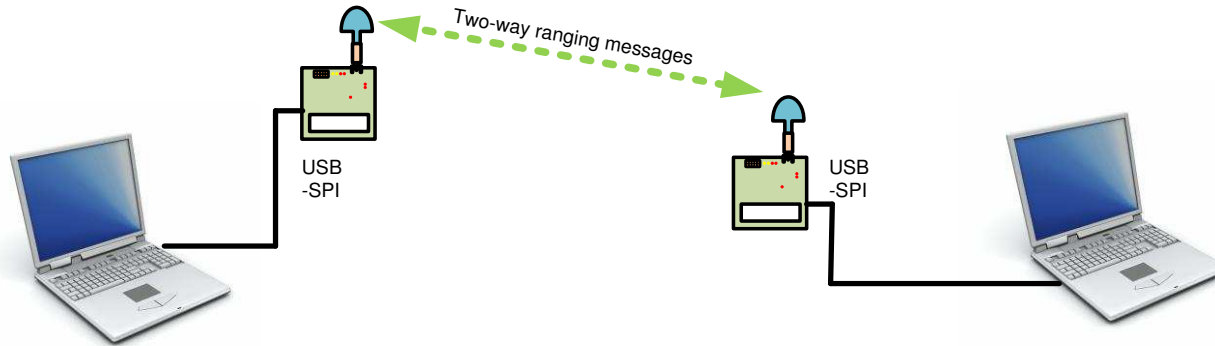
Optional

- DecaRanging™ Source Code for ARM μ Processor



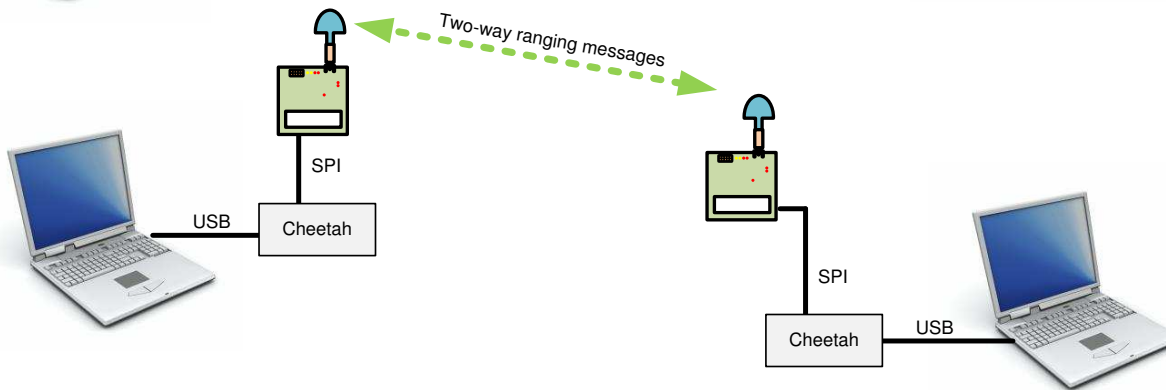
Additional Configurations when using EVK1000

One or Both boards controlled by an External Processor (e.g PC)

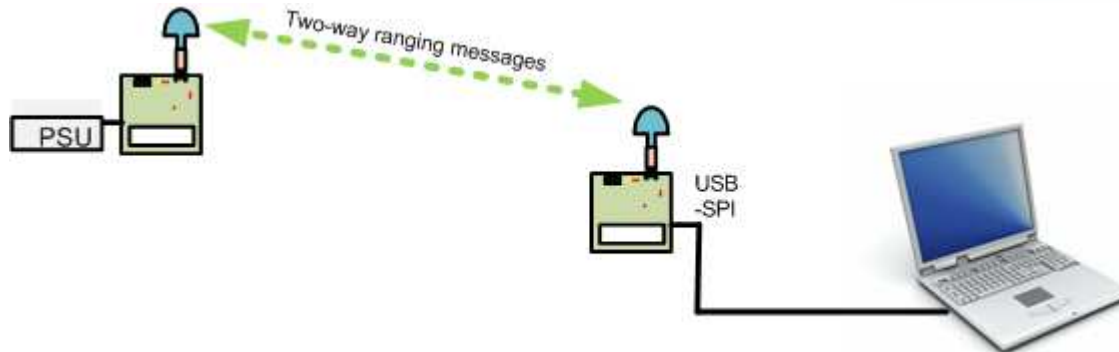


The PC DecaRanging application allows you to run a two-way ranging demo on two PCs/Laptops simply by using the USB-SPI connectivity provided on the EVB1000.

Using this configuration enables you to evaluate any desired configuration in any environment.



Similar to the above configuration but using Cheetah's to connect to the SPI port on the DW1000



Using one of the EVBs as a portable device enables you to more easily evaluate performance on range, accuracy, LOS & NLOS situations, immunities etc..

Not included when ordering EVK1000

Required when:

Ordering Information

Cheetah SPI Host Adapter

OPTIONAL.

[Ordering Information](#)



debugger/programmer
for STM32 (ST-LINK/V2)



Used to communicate with the STM32 microcontroller located on Evaluation Board. e.g. to re-program/Flash the ARM μ Controller with your own developed software

Power Source



Required to power the EVB boards. The source can be a PC, battery, or other external power source provided it supplies 2v8-> 5v5 DC.

End of Document

www.decawave.com

