Wifi Direct Raspberry Pi:

What you need to use Wifi Direct on the Raspberry Pi:

First of all you need the raspberry pi with at least 2 GB SD Card and a Power supply. The power supply should deliver a minimal power of 1000 mAh, otherwise the USB and the Pi in general would shut down because of power loss. The Prototype system is a Debian Linux (Raspbian). The installation process will be described later. For Wifi direct usage you need a compatible Wifi USB Stick.

Setup the System:

The official Raspberry Pi Website offers many available Linux versions, which work with the raspberry pi. For this prototype we chose Raspbian Linux. It is possible to load Linux versions with the so called NOOBS image, which will be installed on the SD Card and inserted into the raspberry pi. NOOBS guides the User through the installation process and from there you can choose your preferred Linux Version. For this project I used the ready-to-install Raspbian image. The image will be loaded onto the SD Card. All data which was saved onto the card will be erased in this process. An installation guide will be found on the Raspberry website. (<http://www.raspberrypi.org/documentation/installation/installing-images/>)

After installing the image onto the SD Card, it can be plugged into the raspberry pi. If the power supply will be plugged into the raspberry pi, the raspberry will be boot up. After some installation instructions, the raspberry is ready. You will need an external monitor and keyboard plugged into the raspberry pi for using it. Another possibility is ssh. Raspbian will be installed with a ssh server running. You only need command line or putty (on windows machines) for connecting to the raspberry pi. The user name is “pi” and the password is “raspberry”. You will need an Ethernet cable to connect to the pi. Furthermore you have to identify the raspberry pi’s ip-address on the network for connection.

Install Wifi Stick driver:

If you have luck and the driver for the Wifi Stick is preinstalled and supported in the Kernel of Raspbian, than the stick will be recognized automatically. Otherwise you have to search for an arm build driver on the internet. You can either compile the driver for yout kernel version yourself, or you can search on the web.