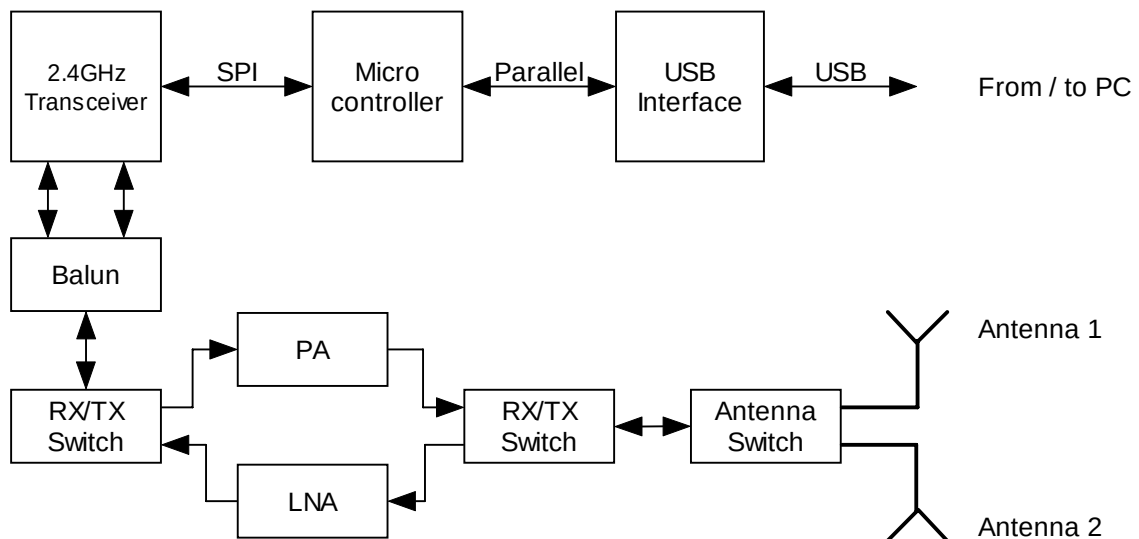


Technical Description

**AMBER Wireless GmbH
F16200000 / 01 (Transceivermodule)
(KaVo Radio Master)**



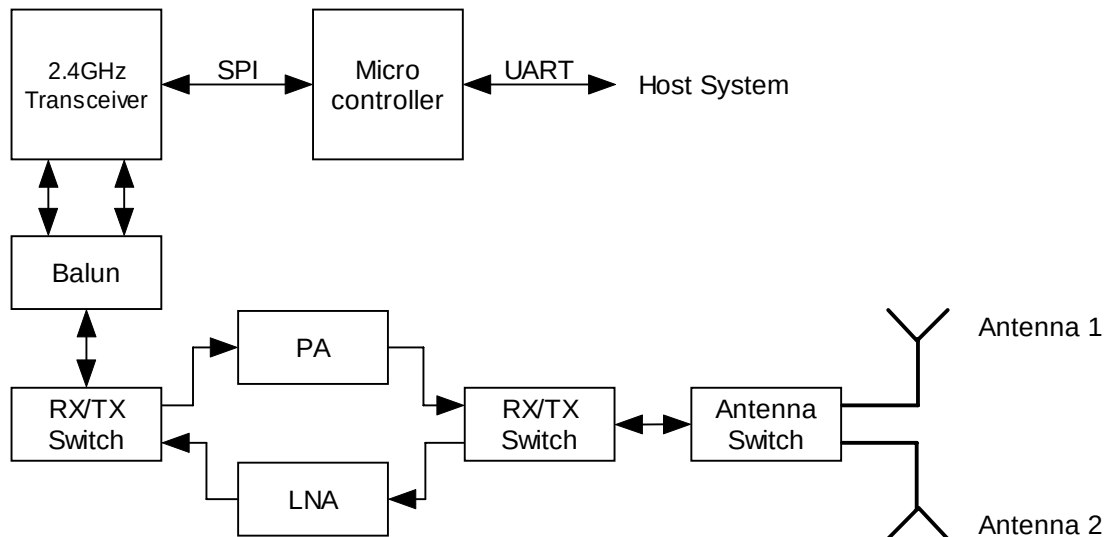
**Figure 1: Block diagram: Transceiver module F16200000 / 01
(KaVo Radio Master)**

Short form description:

- **USB Interface:** Using an 8 bit parallel Interface, the Microcontroller is able to communicate with an PC by means of this interface circuit which provides both a physical as well as an logical / protocol interface to the USB bus
- **Microcontroller:** Runs the main application (e.g. controlling the RF Transceiver via SPI, routing of messages between USB and RF, address management)
- **2.4 GHz Transceiver:** RF transceiver
- **Balun:** Converts differential antenna port of the transceiver into single ended port used by the other components of the RF front end
- **RX/TX Switch:** Allows selection of either RX (LNA) or TX (PA) branch of the RF front end. Both switches are switched simultaneously together with the appropriate amplifier (either LNA or PA)
- **PA:** Power amplifier in order to increase antenna output power
- **LNA:** Low Noise Amplifier in order to increase RF sensitivity
- **Antenna Switch:** Allows usage of either internal or external antenna

Oscillator frequencies generated or used in the device:

- 6MHz (Clock used for Microcontroller and USB Interface)
- 16MHz (Clock used for 2.4GHz Transceiver)



**Figure 2: Block diagram: Transceiver module F16200010 / 01
(KaVo Radio Slave)**

Short form description:

- **Microcontroller:** Runs the main application (e.g. controlling the RF Transceiver via SPI, routing of messages between UART and RF, address management, power management)
- **2.4 GHz Transceiver:** RF transceiver
- **Balun:** Converts differential antenna port of the transceiver into single ended port used by the other components of the RF front end
- **RX/TX Switch:** Allows selection of either RX (LNA) or TX (PA) branch of the RF front end. Both switches are switched simultaneously together with the appropriate amplifier (either LNA or PA)
- **PA:** Power amplifier in order to increase antenna output power
- **LNA:** Low Noise Amplifier in order to increase RF sensitivity
- **Antenna Switch:** Allows usage of either internal or external antenna

Oscillator frequencies generated or used in the device:

- 6MHz (Clock used for Microcontroller)
- 16MHz (Clock used for 2.4GHz Transceiver)