

## SPI (Serial Peripheral Interface) busses

SPI busses can be described with a node for the SPI master device and a set of child nodes for each SPI slave on the bus. For this discussion, it is assumed that the system's SPI controller is in SPI master mode. This binding does not describe SPI controllers in slave mode.

The SPI master node requires the following properties:

- #address-cells - number of cells required to define a chip select address on the SPI bus.
- #size-cells - should be zero.
- compatible - name of SPI bus controller following generic names recommended practice.

No other properties are required in the SPI bus node. It is assumed that a driver for an SPI bus device will understand that it is an SPI bus. However, the binding does not attempt to define the specific method for assigning chip select numbers. Since SPI chip select configuration is flexible and non-standardized, it is left out of this binding with the assumption that board specific platform code will be used to manage chip selects. Individual drivers can define additional properties to support describing the chip select layout.

SPI slave nodes must be children of the SPI master node and can contain the following properties.

- reg - (required) chip select address of device.
- compatible - (required) name of SPI device following generic names recommended practice
- spi-max-frequency - (required) Maximum SPI clocking speed of device in Hz
- spi-cpol - (optional) Empty property indicating device requires inverse clock polarity (CPOL) mode
- spi-cpha - (optional) Empty property indicating device requires shifted clock phase (CPHA) mode
- spi-cs-high - (optional) Empty property indicating device requires chip select active high

SPI example for an MPC5200 SPI bus:

```
spi@f00 {
    #address-cells = <1>;
    #size-cells = <0>;
    compatible = "fsl,mpc5200b-spi", "fsl,mpc5200-spi";
    reg = <0xf00 0x20>;
    interrupts = <2 13 0 2 14 0>;
    interrupt-parent = <&mpc5200_pic>;

    ethernet-switch@0 {
        compatible = "micrel,ks8995m";
        spi-max-frequency = <1000000>;
        reg = <0>;
    };

    codec@1 {
        compatible = "ti,tlv320aic26";
        spi-max-frequency = <100000>;
        reg = <1>;
    };
};
```

```
}; spi-bus.txt
```