



X1TXN 2.4GHz DSSS Module User Manual.

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1. Features

- 2.4GHz Direct Sequence Spread Spectrum (DSSS) radio transceiver module.
- Operates in the unlicensed worldwide ISM band (2.4 GHz to 2.483.5GHz) band
- Fully integrated power regulation with a wide input unregulated operating range 2.4 to 3.6V.
- Fully integrated local oscillator and 12MHz 20ppm reference crystal
- 200mA operating current
- Transmit power - 200mW EIRP
- Receive sensitivity up to -95dBm
- DSSS data rates up to 250kbps
- 1 mile operating range
- Full packet assembling and disassembling
- Auto transaction sequencer
- Fully buffered digital interface with high voltage tolerant inputs

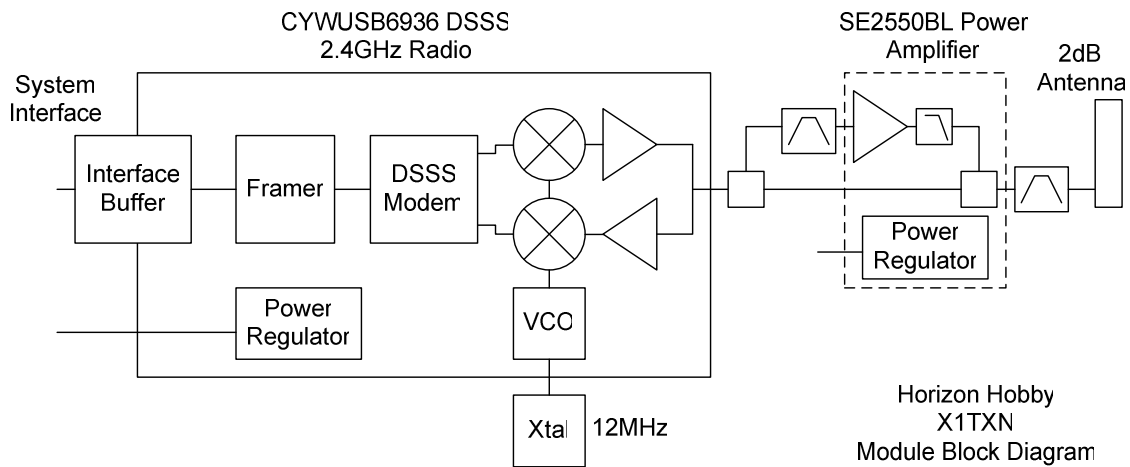
2. Pin description

| Pin Number | Name | Description |
|------------|------|--------------------------------------|
| 1 | GND | Module Ground |
| 2 | VDD | Module power input |
| 3 | IRQ | Interrupt Request |
| 4 | RST | Reset, active High |
| 5 | MOSI | Master out, slave In data |
| 6 | nSS | Slave Select, Active Low |
| 7 | SCLK | SPI data clock |
| 8 | MISO | Master in, slave out data |
| 9 | GND | Module Ground |
| 10 | XOUT | Clock output from module |
| 11 | TXX | Switch antenna to transmit direction |
| 12 | RXX | Switch antenna to receive direction |

3. Specifications

| Parameter | Value | Units |
|----------------------------|------------|-----------------|
| Storage Temp | -65 to 105 | Degrees Celsius |
| VDD | 2.4 to 3.6 | Volts |
| Receive Sensitivity | -95 | dBm |
| Transmit power (conducted) | 21 | dBm MAX |
| Transmit power (radiated) | 23 | dBm MAX |
| Idle current | 1 | mA |
| Receive current | 22 | mA |
| Transmit current | 200 | mA |

4. Block Diagram



FCC ID: BRWDAMTX1C

5. Module User Requirements

5.1 This module must be integrated into a device where the user cannot access the antenna connector and should not be able to remove/install the module.

5.2 Only a 2dBi antenna can be used with this module. The antenna must meet and not exceed the gain and pattern of the supplied Inpaq DAM00BM11500209 folded dipole antenna.

5.3 This module must not be co-located or operated in conjunction with any other antenna or transmitter.

5.4 The device must contain the following permanent labeling on the exterior of the device as follows:

Contains FCC ID: BRWDAMTX10

5.5 The user manual of the device must contain the following paragraph:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400 GHz to 2.4835 GHz frequency range.

The following countries associated regulatory agencies recognizing the noted certifications for this product as authorized for sale and use are:

| | | |
|----------------|---------------|--------------------|
| USA | Canada | Belgium |
| Denmark | France | Finland |
| Germany | Italy | Netherlands |
| Spain | Sweden | UK |
| | | |

5.6 This module meets the requirements for a mobile device that may be used at separation distances of more than 20cm from the human body. To meet the rf exposure requirements of the FCC this device shall not be co-located with another transmitting device.