



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. Module User Requirements

4.1 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.

4.2 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.

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

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

Contains FCC ID: BRWDAMTX10

4.5 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

4.6 This module meets the requirements for a mobile device that may be used at separation distances of more than 20cm from the human body. It may be used in hand-held controllers that provide a separation distance of at least 5cm between the antenna and the body (excluding hands/wrists). The instructions to the user for the host device must include information requiring the product be used in a manner to ensure the appropriate separation (20cm or 5cm) between antenna and body and requiring that the transmitter not be collocated with another transmitting device.