



## X1TXO 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	VCE	Power control monitoring
3	VIN	Module DC Power
4	P21	Baseband CPU digital port P2.1
5	P33	Baseband CPU digital port P3.3
6	P17	Baseband CPU digital port P1.7
7	P32	Baseband CPU digital port P3.2
8	GND	Master in, slave out data
9	P30	Baseband CPU digital port P3.0
10	XRES	Baseband CPU reset input
11	P11	Baseband CPU digital port P1.1
12	P10	Baseband CPU digital port P1.0



### 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)	18	dBm MAX
Transmit power (radiated)	20	dBm MAX
Idle current	1	mA
Receive current	22	mA
Transmit current	50	mA

### 5. Module User Requirements

5.1 This module must be integrated into a device where the user cannot access the antenna connector.

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

**Contains FCC ID: BRWDAMTX11**

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

#### **FCC Information**

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.



## CE Information

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:

UK	DE	DK	NO	SE
FI	EE	LV	LT	PL
CZ	SK	HU	RO	SI
AT	IT	ES	PT	IE
NL	LU	MT	CY	GR

### Caution:

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

5.5 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.