



X1ANT 2.4GHz DSMX Module User Manual.

Horizon Hobby Inc.,
4105 Fieldstone Rd
Champaign, IL 61822
(408) 203 4408

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 2.7V to 3.6V.
- Fully integrated local oscillator and 12MHz 20ppm reference crystal
- 50mA operating current
- Transmit power 1mW 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
J1	P1.4	Wireless Trainer RX
J3	XOUT	Clock Output
J4	P1.4	Wireless Trainer RX
J5	P1.1	Wireless Trainer SCLK
J6	XRES	Radio reset input
J7	P1.0	Wireless Trainer SDATA
J8	VDD	Module DC incoming power
J9	GND	Module DC GND
J11	VDD	Module DC incoming power
J12	GND	Module DC GND

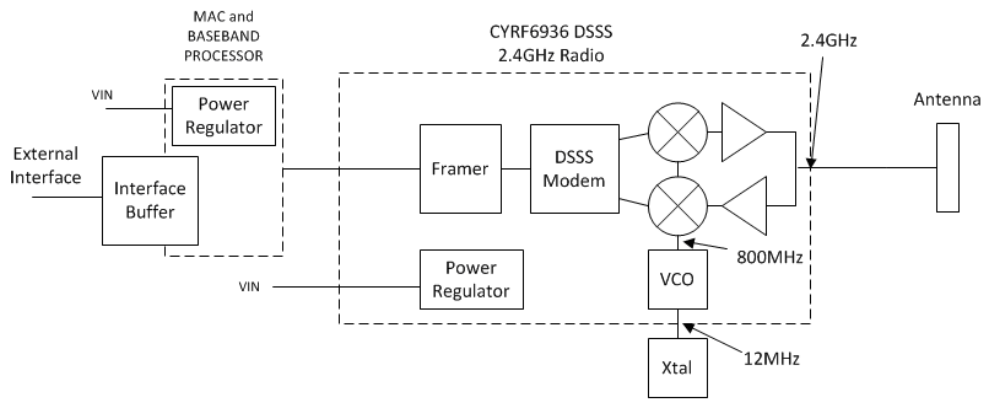
3. Specifications

Parameter	Value	Units
Storage Temp	-65 to 105	Degrees Celsius
VDD	2.7 to 3.6	Volts
Receive Sensitivity	-95	dBm
Transmit power (radiated)	0	dBm MAX
Idle current	1	mA
Receive current	22	mA
Transmit current	50	mA

4. Block Diagram



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X1ANT
Block Diagram



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 1.5dBi antenna can be used with this module. The antenna must meet and not exceed the gain and pattern of the supplied folded dipole antenna.

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

Contains FCC ID: BRWDASRX20

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

FCC Information

This equipment has been tested and found to comply with the limits for Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

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.

Note: Modifications to this product will void the user's authority to operate this equipment.

IC Information

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Remarque: Toute modification de ce produit annule l'autorité de l'utilisateur à utiliser cet équipement.

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.