



Katy RF Module User Manual

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1. Features

- 2.4GHz Frequency Hopping spread spectrum (FHSS) 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 3.7V to 10V
- Fully integrated local oscillator and 48MHz 10ppm reference crystal
- Less than 500mA operating current
- Transmit power - ≤ 18 dBm
- Receive sensitivity up to -95dBm
- DSSS data rates up to 1Mbps
- 1 mile operating range
- Full packet assembling and disassembling
- Analog Inputs and digital GPIOs for application

2. Pin description

Pin Number	Name	Description
16	COMM0_RX	UART receive pin
18	COMM0_TX	UART transmit pin
44	DIO_24/SC/A	GPIO or analog input
46	DIO_25/SC/A	GPIO or analog input
47	DIO_26/SC/A	GPIO or analog input
49	DIO_27/SC/A	GPIO or analog input
50	DIO_28/SC/A	GPIO or analog input
52	DIO_29/SC/A	GPIO or analog input
24	DIO_10	GPIO
25	DIO_11	GPIO
27	DIO_12	GPIO
28	DIO_13	GPIO
30	DIO_14	GPIO
31	DIO_15	GPIO
34	DIO_16/TDO	GPIO
37	DIO_18	GPIO
38	DIO_19	GPIO
40	DIO_20	GPIO
41	DIO_21	GPIO
43	DIO_22	GPIO



15	DIO_4/SC/HD	GPIO
19	DIO_7/SC/HD	GPIO
21	DIO_8	GPIO
22	DIO_9	GPIO
10	+3.3V	Regulated 3.3V power supply from Katy module
13	PWR_BUTTON	Power button input. Connects externally to momentary SPST switch to ground. Katy includes 10kOhm pull-up to unregulated battery voltage.
3-4	VBATT	Connection to battery, 10 V max.
7-8	VRAW	Switched unregulated power supply from Katy module.
12, 35	NC	Do Not Connect
1-2, 5-6, 9, 11, 14, 17, 20, 23, 26, 29, 32-33, 36, 39, 42, 45, 58, 51	GND	Ground

3. Specifications

Parameter	Value	Units
Storage Temp	0 to 55	Degrees Celsius
Regulated VDD	3.0 to 3.6	Volts
Receive Sensitivity	-95	dBm
Transmit power (conducted)	18	dBm MAX
Transmit power (radiated)	20	dBm MAX
Current Draw	< 500	mA



4. Module User Requirements

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

4.2 Only a 2.0dBi antenna can be used with this module. The antenna must meet and not exceed the gain and pattern of the supplied folded dipole antenna.

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

Contains FCC ID: BRWKATY1T

Contains IC: 6157A-KATY1T

4.4 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.

Caution:

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

4.5 This module meets the requirements for a mobile device that may be used at separation distances of more than 5cm 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).

IC Information

This device complies with Industry Canada license-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.

Information IC

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.

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.