415/455MHz Band Bi-directional signal amplification module

Technical Specification

Model：AB-IOT-433-SMA

Introduction

The AB-IOT-433-SMA Series Bi-directional signal amplification module is suitable for micro-power wireless products in the frequency range of 415MHz-455MHz. It is suitable for various IoT wireless data acquisition products working in the 433MHZ frequency band in 415MHZ-455MHZ .

Main characteristics

1. Built-in TX/RX automatic switching circuit, TX/RX status can be switched independently without external control signal.
2. It works in RX status by default, and enhances the receiving signal. When the transmitting signal of the superior device is detected, the module instantly switches to the TX status.
3. The TX gain is adjustable, which is convenient to be compatible with wireless devices with different transmission powers.
4. Compatible with various modulation methods such as LORA and FSK/ASK/OOK/MSK/GFSK.

Specifications

Working frequency:	415MHz – 455MHz
RX gain:	11dB±2dB
NF:	≤2.0dB
TX gain:	5dB – 11dB (±2dB)Adjustable
TX/RX switching threshold:	-2dBm
TX input power range:	1dBm - 20dBm
Maximum transmit power:	31dBm (1.3w)
Status indication ：	RX status: Green light is on, Blue light is off
	RX status: Blue light is on, Green light is off
Operating Voltage ：	5V（3.6V-6V）
Working current ：	RX status ： 10mA（±3mA）
	TX status ： ≤720mA
Overall dimension :	49mm*26.2mm*9mm(L*W*H) SMA size not included

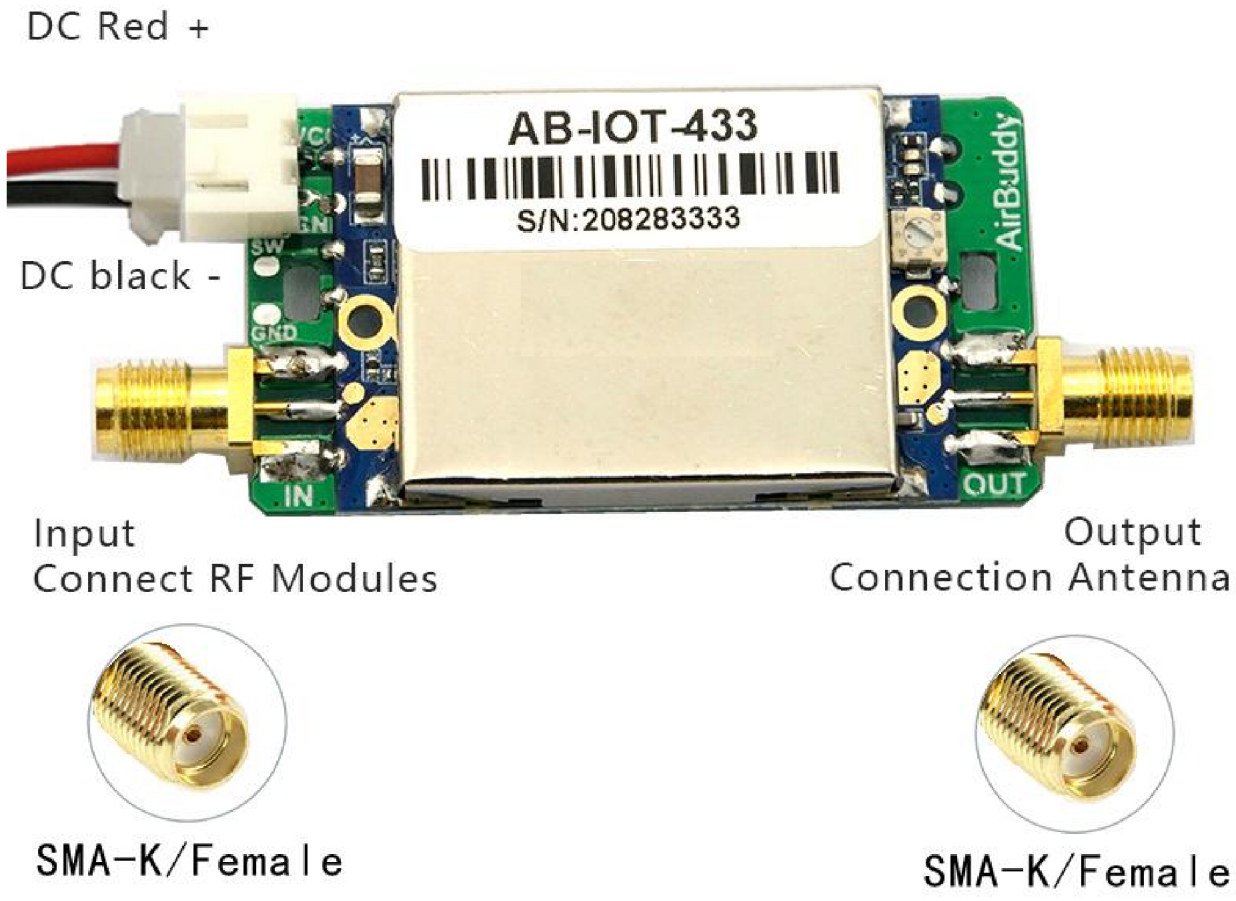
Tips: The output power of the upper-level device must be at least 3dB higher than the switching threshold, which means that the output power of the upper-level device cannot be lower than 1dBm, otherwise it may cause unstable operation.

Chang the TX Gain

When the potentiometer is turned counterclockwise to the limit, the gain is 5dB;

When the potentiometer is turned clockwise to the limit, the gain is 11dB.

Overall dimension and Pin description



This module supports the switching state of the transceiver is controlled by the MCU IO port.

Reference design