

RELEVANT PRODUCTS

- AWM6423

OVERVIEW

The ANADIGICS AWM6423 WiMAX Power Amplifier is a high performance device that delivers exceptional linearity and efficiency at high levels of output power. The device is specified to operate over a voltage supply range from +2.9 V to +4.2 V, and its output power handling capability increases as the supply voltage is raised towards the high end of this range. Using the application circuit detailed in the AWM6423 product data sheet, ANADIGICS recommends that the supply voltage not exceed +4.2 V under normal operation, to minimize electrical stress and to maintain a high level of reliability. This Application Note presents an alternate application circuit that allows the AWM6423 to operate from a +5 V supply, without reducing the long-term reliability of the device.

SUPPLY LIMITATIONS

The AWM6423 has three separate power supply inputs (“pins”) that must be connected to a DC source. Pin 1 supplies power to the first two amplifier stages; Pin 12 supplies power to the third, output amplifier stage; and Pin 5 supplies power to the

integrated attenuator and detector. For mobile applications, the supply is typically a battery with a voltage range that varies between +4.2 V and +2.9 V, and all three of the DC supply pins on the AWM6423 can accept this full battery voltage range. For some applications that do not use a battery, however, it may be desirable to use a higher supply voltage.

+5 V APPLICATION CIRCUIT

The AWM6423 can accept a +5 V supply on two of its three DC supply pins, but the voltage at Pin 1 should not exceed +4.2 V. A straightforward way to enable operation of the device from a single +5 V supply is to isolate Pin 1 from the supply through an 18 Ω drop resistor (see Figure 1.) This modest resistor value is sufficient to “protect” the Pin 1 circuitry from the higher supply voltage, and overall device RF performance and long-term reliability will be the same as if all three DC supply pins were being supplied by a +4.2 V source. (Average current consumption will be modestly higher.)

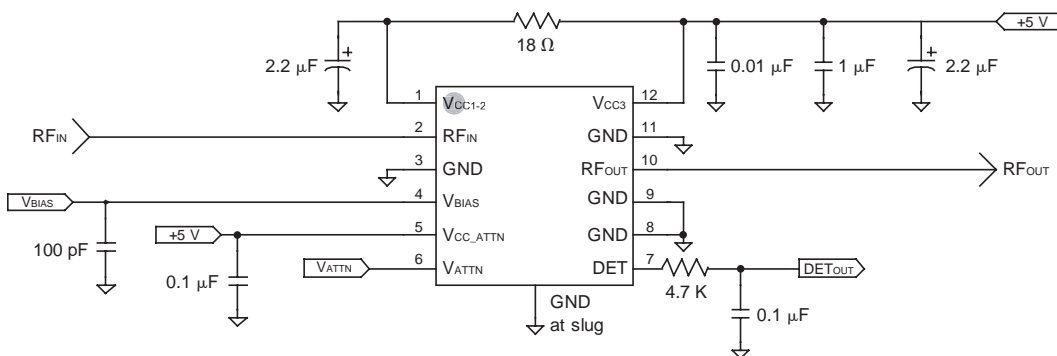


Figure 1: AWM6423 +5 V Application Circuit

Using the AWM6423 with a +5 V Supply

ADDITIONAL CONSIDERATION

Please note that voltage supplies higher than +5 V (with $\pm 10\%$ tolerance) are not recommended for any of the DC supply pins of the AWM6423.

For further information regarding AWM6423 product applications, please contact ANADIGICS directly at the address below.



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WARNING

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