

BeRex Introduces Front-End RFIC Modules for 802.15.4 ZigBee,
Bluetooth, Thread and Matter Applications



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Description

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BeRex Inc. has announced the availability of the [8TR8217](#), [8TR8218](#) and [8TR8219](#) multi-function front-end RFIC modules designed for 802.15.4 ZigBee, Bluetooth, THREAD and Matter applications.

The [8TR8217](#), [8TR8218](#) and [8TR8219](#) combine a power amplifier for transmission with a low-noise amplifier for the receiver, a pair of SPDT (single-pole dual-throw) or SP3T (single-pole triple-throw) switches for transmit/receive/bidirectional functionality, along with a filter network and 50-ohm input and output matching circuitry. All of these are packaged in a compact 3.0 mm x 3.0 mm x 0.45 mm 16-pin QFN package.

The [8TR8217](#), [8TR8218](#) and [8TR8219](#) offer cutting-edge technology, providing up to +23 dBm saturated output power and ultra-low noise figures of 1.6 dB to 1.9 dB. These devices can operate with a wide voltage range from 2.2 to 4.0 V and an operating temperature range from -40°C to +125°C. Their enhanced energy efficiency makes them ideal for battery-powered operation.

Key Features:

Frequency Band

8TR8217= 2.4 GHz to 2.485 GHz

8TR8218= 2.4 GHz to 2.485 GHz

8TR8219= 2.4 GHz to 2.485 GHz

Transmit Saturated Output Power/2nd,3rd Harmonics

8TR8217= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

8TR8218= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

8TR8219= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

Receiver Noise Figure

8TR8217= 1.6 dB (Current 12 mA)

8TR8218= 1.6 dB (High Current Mode, 12 mA), 1.9 dB (Low Current Mode, 5.5 mA)

8TR8219= 1.9 dB (Current 5.5 mA)

Gain

8TR8217 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)
8TR8218 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)
8TR8219 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)

Bypass Mode

8TR8217 = No support
8TR8218 = 1.7 dB (Insertion Loss), 3.5 Î¼A (Current)
8TR8219 = 1.7 dB (Insertion Loss), 3.5 Î¼A (Current)

Recommended Operating Conditions

8TR8217 = 2.2~4.0 V (Supply Voltage), -40Â°~+125Â° (Operating Temperature)
8TR8218 = 2.2~4.0 V (Supply Voltage), -40Â°~+125Â° (Operating Temperature)
8TR8219 = 2.2~4.0 V (Supply Voltage), -40Â°~+125Â° (Operating Temperature)

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- 1. BeRex
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Date Created

April 29, 2024

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