



# WPAN/ZigBee



## IEEE 802.15.4/ZigBee 868/915/2450 MHz Compliance Testing API

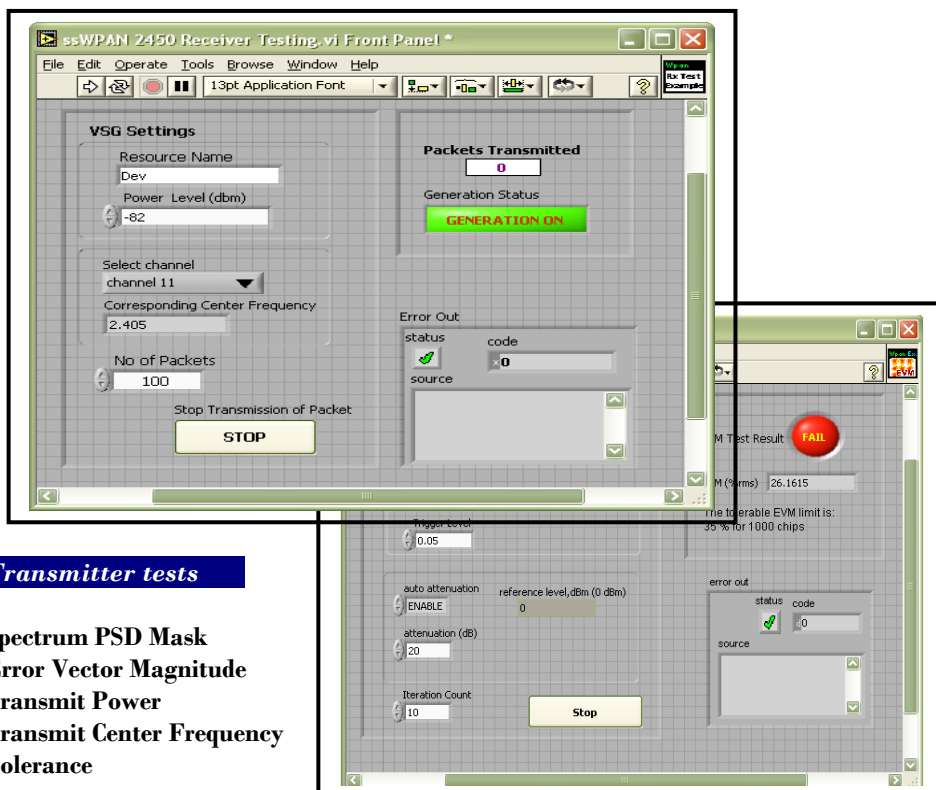
### Overview

SeaSolve's ZigBee Toolkit is a highly optimized platform for the accurate testing of ZigBee devices. The toolkit provides a highly integrated set of individual, reconfigurable VIs for various Compliance tests covering the IEEE 802.15.4/ZigBee platform, which can be integrated into the manufacturing process or utilized in development.

The ZigBee toolkit is designed to be used as a library and integrates seamlessly with TestStand. For testing the receiver and transmitter performance of the ZigBee DUT, baseband signal generation software and baseband signal analysis software is provided within the ZigBee Toolkit APIs.

SeaSolve's ZigBee Toolkit provides the flexibility to configure various RF parameters such as trigger, attenuation, and power levels.

SeaSolve's ZigBee Toolkit, concurrent with user-defined parameters, facilitates the deployment of a comprehensive compliance testing setup that reduces a device's time to market and minimizes hardware and deployment costs.



### Transmitter tests

Spectrum PSD Mask  
Error Vector Magnitude  
Transmit Power  
Transmit Center Frequency  
Tolerance

### Receiver Tests

Receiver Sensitivity  
Maximum Input Power  
Adjacent Channel Jamming Resistance  
Alternate Channel Jamming Resistance

### Transmitter test Configuration

Configure Attenuation level  
Configure Reference level  
Configure Trigger

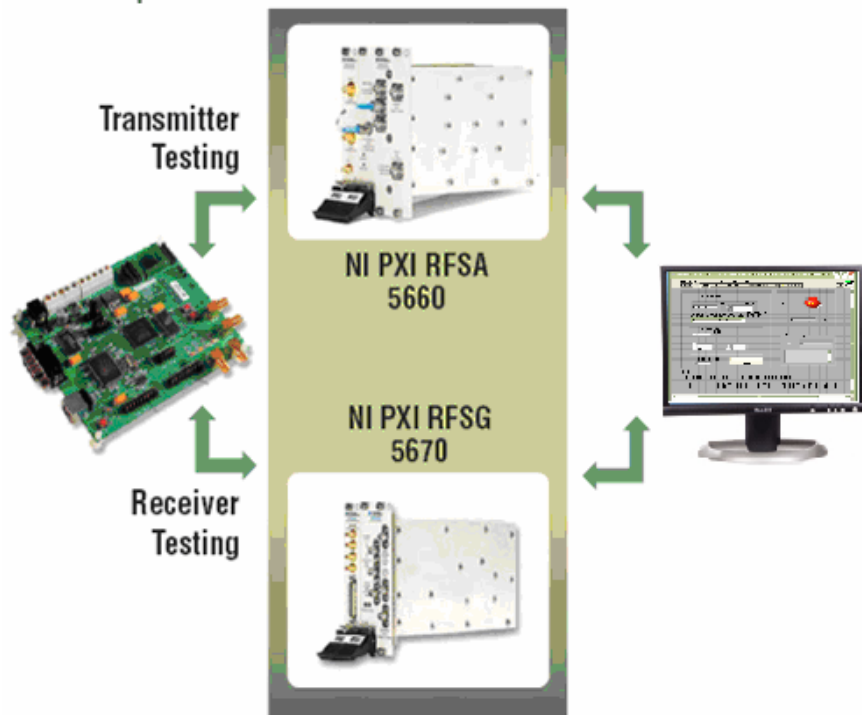
### Receiver test Configuration

Configure Power level  
Configure hardware settings  
Channel of operation  
Configure packets for transmission

### Highlights

Frequency range - 868/915/2450 MHz bands  
Data rate - 20/40/250 kbps  
Chip rate - 300K/600K/2M chips/s  
Symbol rate-20/40/62.5 ksymbol/s  
Modulation Scheme - BPSK and OQPSK  
Inbuilt Trigger voltage levels  
Minimum user interaction with hardware  
Seamless integration with NI PXI Instruments

## Test Set Up



The ZigBee toolkit is based on the powerful PXI platform comprising of the NI PXI-5660 RF Signal Analyzer and NI PXI-5670 RF Signal Generator.

This inexpensive setup provides one of the most optimized solutions ideal for reducing test times and speeding up product development.

For transmitter testing, only the RFSA is required; For receiver testing, only the RFSG is required.

## Integration with TestStand

The ZigBee toolkit is designed to integrate seamlessly with TestStand and can be used as a library.

For testing the receiver and transmitter performance of the ZigBee DUT, baseband signal generation software and baseband signal analysis software are integrated into the ZigBee Toolkit APIs.

## Cost effectiveness

The ZigBee toolkit optimizes both cost and throughput to ensure satisfactory performance for the tester/designer in a user friendly manner.

## Making testing more efficient

The responsibility of a manufacturing engineer is to guarantee that every device/equipment that is shipped performs consistently well in the expected manner. SeaSolve's ZigBee toolkit provides a set of VIs that help the manufacturing engineer verify the performance of a ZigBee device during and after production

## Advantages

- Ideal for manufacturing tests
- Integrates seamlessly with TestStand
- Included in a LabVIEW library
- Speeds up the development process by simplifying the required test programming
- Access to internal parameters such as power, attenuation, and reference levels
- Debugging DUT errors is easy
- Reduces time to market
- Cost-effective solution addressing a broad range of testing capabilities

