Zigbee® Range Test Bundle

This bundle was created to assist dealers with setting up Zigbee communications between RTI handheld devices and the ZM-24/XP-3/KX3 Zigbee Transceivers. The bundle utilizes the Counter Driver and some internal Zigbee specific variables that will report the status of Zigbee communications between an RTI handheld and a Zigbee Transceiver.

You may use this file in two different ways:

Method A – Use test file

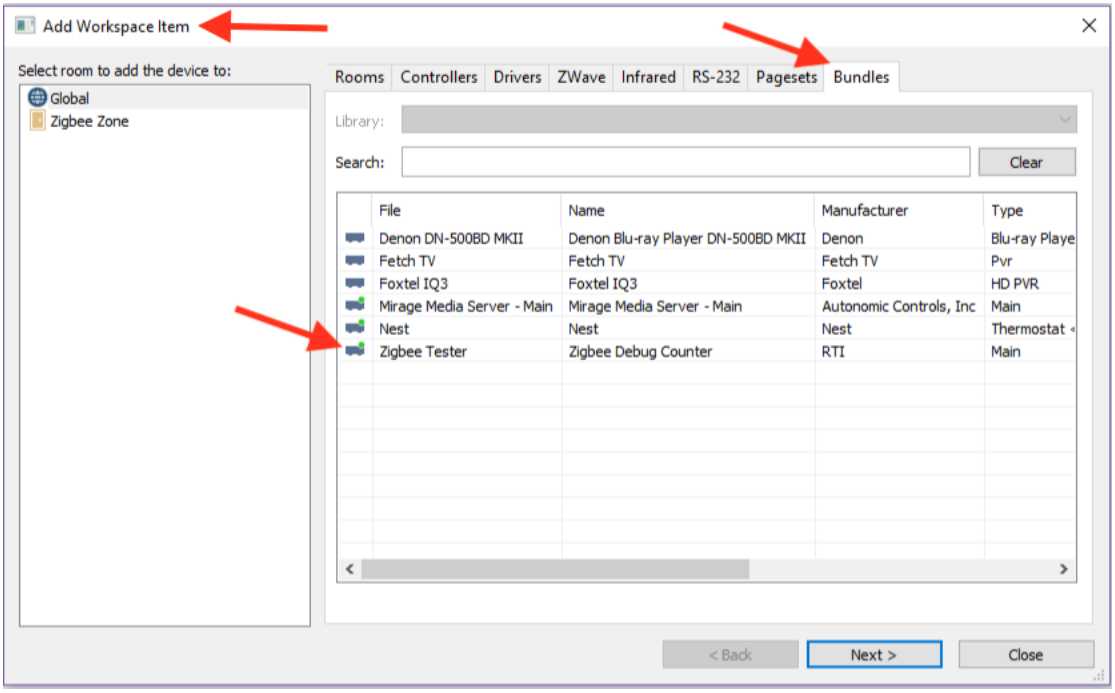
1) Open the file in APEX, change the processor if necessary.
2) Send the system file to the applicable controllers.

Method B – Add to your system file

1) Copy the file to the bundles area on your PC. By default, this is found in Documents/Integration Designer/Templates.
2) Rename the file extension to {filename}.apexbundle
3) Follow the directions below.

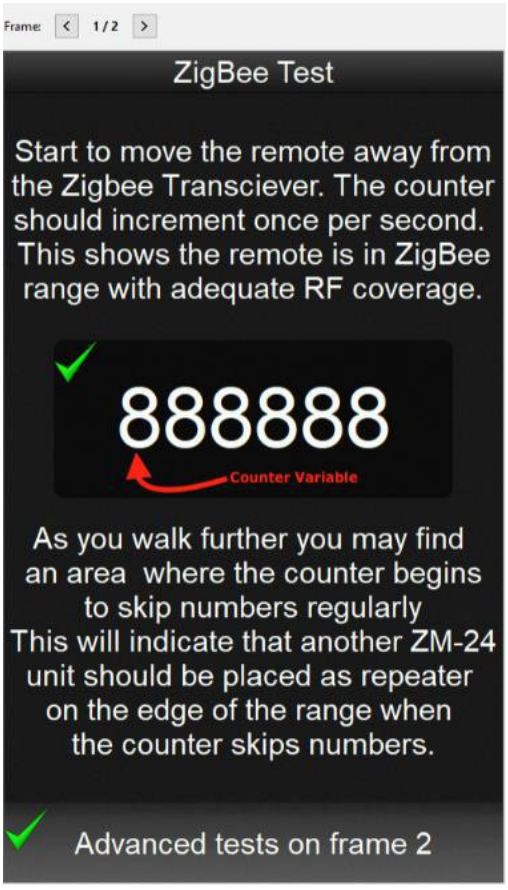
Using the bundle:

Once you have created your Apex file with rooms and controllers, open the "Add Workspace Item" window (Device>Add) Select the "Bundles" tab and select the bundle called "Zigbee Tester."



The ZigBee User Interface
The bundle has UI layouts for Pro24z, T2i, T2x, T3x, T4x and will also install the counter driver to your XP processor. Each remote has two sections:

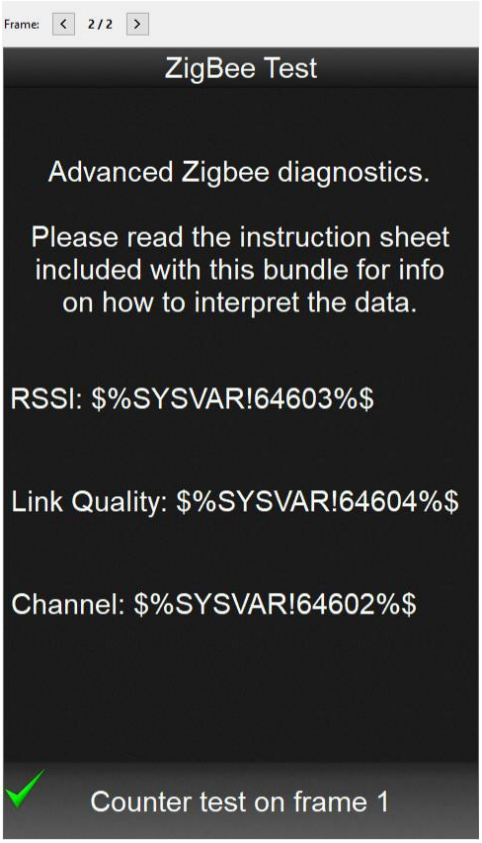
The Zigbee Counter



This is the first frame or page of the UI. The "Zigbee Counter" is a simple variable that displays a number that increments in value once a second. To use it:

1) Load the file to the remote and XP processor
2) Reset the power on the remote while holding the remote close to the Zigbee transceiver.
3) You should see the number incrementing once per second. Now start walking away from the Zigbee transceiver.
4) If you see the number starting to skip, then you have reached the edge of range for that Zigbee transceiver. This is a good indication that you may need to add a repeater or create a second Zigbee network if more range is required.
5) Follow the instructions on adding a ZM-24 repeater – Click here for instructions.

Advanced Zigbee Diagnostics



This page/frame contains 3 variables RSSI, Link Quality and Channel. They are designed to evaluate the integrity of the ZigBee network.
NOTE: These variables cannot be viewed on the T2i as its operating system does not support it.

- **RSSI** (Received Signal Strength Indicator)**:**
  - This a measurement of how well your remote can hear a signal from the Zigbee transceiver. Placing a remote next to the transceiver, you can expect to see a reading of around -30. A low reading would be around -90.

- **LQI** (Link Quality Index):
  - This is a better measure of the quality of the link to the transceiver than RSSI because the RSSI value only shows the strength of the last packet received. An LQI of 255 is the maximum value; lower numbers indicate a lower-quality link. An RSSI of -100 indicates no ZigBee signal is available.

- **Channel:**
  - This is the RF channel that the ZM-24/XP-3/KX3 has chosen. Once the network is formed, this will never change. The channel number will be in the range of 11 – 26.

- It is possible that ZigBee signal quality could be compromised by having an overlapping Wi-Fi channel. In some cases, changing the Wi-Fi channel could improve signal quality. If you are using Wi-Fi auto channel selection, this could cause signal overlap occasionally.
- The chart below shows how the selected Zigbee channel overlaps with Wi-Fi:

Zigbee Channel	Frequency	Wi-Fi Conflict
11	2.405 GHz	Overlaps Wi-Fi Ch 1
12	2.410 GHz	Overlaps Wi-Fi Ch 1
13	2.415 GHz	Overlaps Wi-Fi Ch 1
14	2.420 GHz	Overlaps Wi-Fi Ch 1
15	2.425 GHz	Overlaps Wi-Fi Ch 6
16	2.430 GHz	Overlaps Wi-Fi Ch 6
17	2.435 GHz	Overlaps Wi-Fi Ch 6
18	2.440 GHz	Overlaps Wi-Fi Ch 6
19	2.445 GHz	Overlaps Wi-Fi Ch 6
20	2.450 GHz	Overlaps Wi-Fi Ch 11
21	2.455 GHz	Overlaps Wi-Fi Ch 11
22	2.460 GHz	Overlaps Wi-Fi Ch 11
23	2.465 GHz	Overlaps Wi-Fi Ch 11
24	2.470 GHz	Overlaps Wi-Fi Ch 11
25	2.475 GHz	No Conflict (US/CAN) / Overlaps Wi-Fi Ch 13
26	2.480 GHz	No Conflict (US/CAN) / Overlaps Wi-Fi Ch 13

Zigbee Installation Step by Step

For complete Zigbee installation step by step Click Here