Resolution Products, Inc.

Zwave Daughter Board
FCC ID: U5X-RE934Z

Certification Test Report

December 15, 2014

Contents

1. Introduction

This device is a transceiver for use in home automation applications. It controls other devices such as lights, thermostats, door locks, etc. This module mates with the Resolution Products RE6100 board to add Zwave (home automation) ability to that board. The device is powered by its RE6100 parent board with 3.3V.

The device transmitter contains a Zensys ZM5202AU Zwave module centered at 908.42MHz. The device measures 1.8 x 1.8".

Certification is requested under FCC Rules, Part 15, Subpart C, Paragraph 15.231.

2. Statement of Compliance

Specific sections of FCC Rules Part 2 that require information or listing are given below.

2.1. FCC Part 2 §2.907

This is an application for certification of original equipment

2.2. FCC Part 2 §2.911

a) This application has been filed electronically using form 731.
b) All required information has been supplied in this application and its attachments.
c) This application has been electronically signed by an officer of Resolution Products, Inc.
d) The technical test data has been signed by the agency performing the testing.
e) Signature supplied in appropriate block on form 731.
f) Processing fee has been paid.
g) Signatures have been supplied electronically.

2.3. FCC Part 2 §2.913

a) This application has been filed electronically.
b) Appropriate fees have been filed electronically.
c) Equipment samples shall be supplied as requested.

2.4. FCC Part 2 §2.915

We are requesting a grant of certification. This application shows compliance with the technical standards.

2.5. FCC Part 2 §2.925

A label shall be affixed to each piece of equipment, showing the FCC identifier. The label shall read "FCC ID: U5X-RE934Z". See Exhibit B for a photograph showing the label and location on the device.

2.6. FCC Part 2 §2.943, 2.945

Sample production equipment shall be submitted to the FCC upon request.

2.7. FCC Part 2 §2.947

a) Measurement procedure follows ANSI C63.4: 2009.
b) A description of utilized test equipment is contained in the report.

2.8. FCC Part 2 §2.948

Radiated measurements were taken at the following FCC-approved facility:
Rhein Tech Laboratories, Inc.
360 Herndon Parkway, Suite 1400

Herndon, VA 20170 USA
Contact: Rick McMurray
703-689-0368

Photographs of the test site are shown in Exhibit J.

2.9. FCC Part 2 §2.1033

a) Form 731 has been filed electronically.
b) The technical report, along with its exhibits, contains the information as follows:
   (1) full name and mailing address of the manufacturer of the device and the applicant for certification:
   Resolution Products, Inc.
   1402 Heggen Street
   Hudson, WI 54016
   (2) FCC Identifier is U5X-RE934Z
   (3) Copy of the installation/user instructions is furnished as Exhibit E.
   (4) A brief description of the device and operation is furnished in Exhibit F. Schematic is furnished in Exhibit G.
   (5) Block diagram furnished in Exhibit H.
   (6) This document constitutes a technical test report.
   (7) Internal and external photographs have been furnished in Exhibits A and C.
   (8) Not applicable. There are no peripheral or accessory devices used with this device. It is a standalone device.
   (9) This application not pursuant to the transition rules of section 15.37
   (10) Not applicable. This device does not include a scanning receiver.
   (11) Not applicable.
   (12) Not applicable.
c) Not applicable. This device shall operate under Part 15 of the rules.
d) Not applicable.
e) Not applicable. This is not a composite system.

3. Discussion of Laboratory Measurements and Rules Compliance

3.1. FCC Part 15 §15.249

The 908.42MHz transmitter is tested and certified under section 15.249.

3.1.1. *FCC Part 15 §15.249(a)*

3.1.1.1. Raw Field Strength Limits

The following field strength limits are specified in §15.249(a):
Fundamental: 94dBuV/m
Harmonics: 74dBuV/m

3.1.1.2. Measured Radiated Field Strength Data

Measured radiated field strength data is shown in Exhibit I. Emissions data was taken at 3 meters in all three orthogonal planes in order to measure the highest peak emissions. Emissions from 0.009 MHz to the tenth harmonic were measured as per §15.33(a). Appropriate correction factors were applied to account for cable and other site-specific losses. This is referred to in the table as the Site Correction Factor. The highest measurements are shown in the table for each frequency showing measurable signal. All spurious emissions in the applicable frequency range were investigated, only the harmonic emissions were present as noted in the test data.

The fundamental signal, at 89.1dBuV/m, passed by 4.9dB.
The highest spurious signal was the 9th harmonic, which passed by 10.4dB.

Photographs of the test site are shown in Exhibit J.

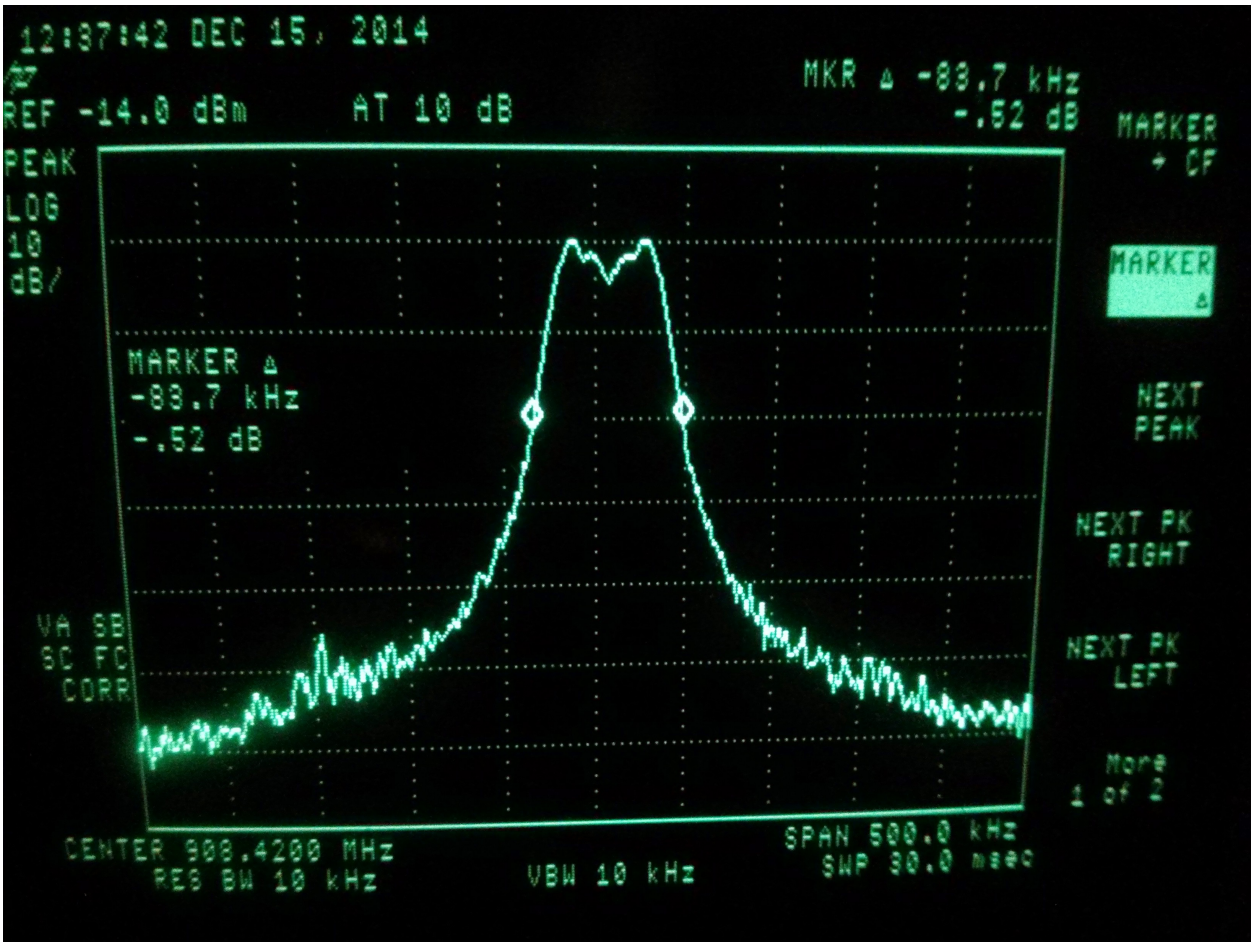
3.1.2. *FCC Part 15 §15.249(d)*

§15.249(d) states that all emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuate by at least 50dB below the level of the fundamental or to the general radiated emissions limits in 15.209, which ever is the lesser attenuation. 15.209 is the lesser attenuation in this case. 15.209 states a limit of 200uV/m, or 46dBuV/m.

The measured radiated field strength data is shown in Exhibit I. Exhibit I shows measurements of all unintentional emissions outside the specified frequency band. This data shows that all emissions, except for harmonics, fall below the required limit.

3.1.3. *FCC Part 2 §2.1049(h)*

The plot below shows the modulated signal. Occupied bandwidth of the modulated signal is 83.7kHz or 0.0837MHz.



3.2. FCC Part 15 §15.207

Conducted line emissions are shown in Exhibit I and show compliance with the limits. Photos of the conducted tests are shown in the test report.