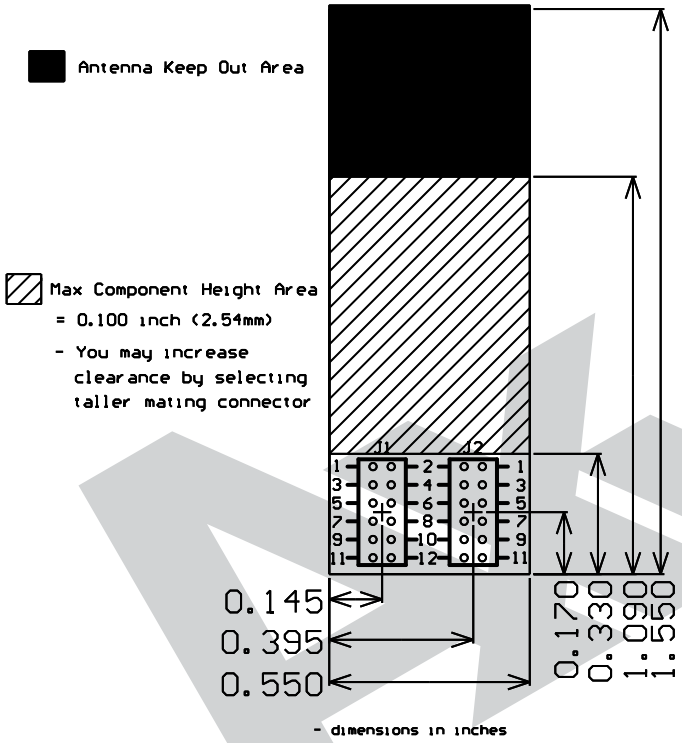
PCB Layout Dimensions and Pinout Information
For Interfacing to the Axxess HPZM2 Zigbee Radio Module

Zigbee Chip: Silicon Lab's EM250 SoC
Power Requirements: +3.3VDC @ 200mA



Antenna Keep Out Area on Interface Board

- Keep electrical noise generating components as far away as possible
- Keep ground planes as far away as possible

Board Size

- 0.55 inch(W) x 1.55 inch(L)
- 0.225 inch height
- 0.285 inch height off of Interface Board when using Samtec FTS-106-02-L-DV

J1 and J2

- 12 position, 2x6, 0.05in x 0.05in pitch, pin header
- Female Header on Axxess HPZM2 Module
- Use Samtec FTS-106-02-L-DV or equivalent on Interface PCB

J1 and J2 Interface Board Pinout *

J1-1 GPIO4, ADC0	J2-1 Vcc = +3.3VDC (Connected to J1-4)
J1-2 GPIO7, ADC3	J2-2 SIF_MISO
J1-3 GPIO6, ADC2	J2-3 GND
J1-4 Vcc = +3.3VDC	J2-4 SIF_MOSI
J1-5 GND	J2-5 GND
J1-6 GPIO8	J2-6 SIF_CLK
J1-7 GPIO9, UARTTx	J2-7 SIF_LOAD
J1-8 GPIO10, UARTRx	J2-8 SIF_RESET
J1-9 GPIO14	J2-9 GPIO11
J1-10 GPIO15	J2-10 GPIO12
J1-11 GPIO16	J2-11 GPIO5, ADC1
J1-12 NC	J2-12 NC

*Please visit http://www.silabs.com/products/wireless/zigbee/Pages/zigbee-chips-em250.aspx for more information on programming interface and tools for the EM250 SoC

NOTE: This information should be referenced when designing the host interface PCB to the Axxess HPZM2 Zigbee Radio Module

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TITLE: **HPZM2 USER'S MANUAL** DATE: **JULY 10 2014** REVISION:

United States (FCC)

This equipment complies with Part 15 of the FCC rules and regulations.

To fulfill FCC Certification requirements, and OEM manufacturer must comply with the following regulations: (1) The modular transmitter must be labelled with its own FCC ID number, and, if the FCC ID number is not visible when the module is installed inside another advice, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

Example of label required for OEM product containing HPZM2 module

Contains FCC ID: HPZM2
The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: The Original Equipment Manufacturer (OEM) must ensure that the OEM modular transmitter must be labelled with its own FCC ID number. This includes a clearly visible label on the outside of the final product enclosure that displays the content shown below. If the FCC ID is not visible then the outside of the device into which the module is installed must also display a label referring to the enclosed equipment.

IMPORTANT: This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation (FCC 15.19). The internal / external antenna(s) used for this mobile transmitter must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT: The module is limited to OEM installation only. OEM integrators are responsible for ensuring that the end-user has no manual instructions to remove or install module. The module is limited to installations in mobile or fixed applications, according to Part 2.1091(b). Separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

IMPORTANT: OEM integrators must include the following instructions and statements in the user manual (i.e. end product): (1) statements and labeling as required per Part 15.19 and 15.21, and (2) end-users must be provided with transmitter/antenna installation requirements and operating conditions for satisfying RF exposure compliance: (i) a separate section should clearly state “FCC RF Exposure requirements”, (ii) Required operating conditions for end users, (iii) antenna or transmitter installation requirements where relevant (i.e. “ The internal / external antenna(s) used for this mobile transmitter must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.”)

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Canada (IC)

Equipment is subject to certification under the applicable RSSs, shall be permanently labelled on each item, or as an inseparable combination. The label must contain the following information for full compliance:

For HPZM2 module:

Certification Number: **Manufacturer's Name, Trade Name or Brand Name:** **Model Name:**	**IC: 9709A-HPZM2** **AXXESS HPZM2 ZRM** **HPZM2**

The Industry Canada certification label of a module shall be clearly visible at all times when installed in the host device, otherwise the host device must be labelled to display the Industry Canada certification number of the module, preceded by the words “Contains transmitter module”, or the word “Contains”, or similar wording expressing the same meaning, as follows:

Contains transmitter module IC: 9709A-HPZM2

The applicant for equipment certification of the module shall provide with each unit of the module either a label such as described above, or an explanation and instructions to the user as to the host device labelling requirements.

IMPORTANT: This equipment for which a certificate has been issued is not considered certified if it is not properly labelled. The information on the Canadian label can be combined with the manufacturer’s other labelling requirements.

IMPORTANT: Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1(l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IMPORTANT: To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication. The antenna used with this module must be installed to provide a separation distance of at least 20cm from all persons, and must not transmit simultaneously with any other antenna or transmitter.

Conformément à la réglementation d'Industrie Canada, le présent éemetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

IMPORTANT: The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population. Consult Safety Code 6, obtainable from Health Canada’s website www.hc-sc.gc.ca/rpb.

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EUROPEAN UNION (ETSI)

The HPZM2 Module has been certified for use in European Union countries. If the HPZM2 Module is incorporated into a product, the manufacturer must ensure compliance of the final product to the European harmonized EMC and low-voltage/safety standards. A Declaration of Conformity must be issued for each of these standards and kept on file as described in Annex II of the R&TTE Directive.

Furthermore, the manufacturer must maintain a copy of the HPZM2 Module documentation and ensure the final product does not exceed the specified power ratings, antenna specifications, and/or installation requirements as specified in the user manual. If any of these specifications are exceeded in the final product, a submission must be made to a notified body for compliance testing to all required standards.

IMPORTANT: The 'CE' marking must be affixed to a visible location on the OEM product. The CE mark shall consist of the initials "CE" taking the following form:

- If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
- The CE marking must have a height of at least 5mm except where this is not possible on account of the nature of the apparatus.
- The CE marking must be affixed visibly, legibly, and indelibly.

More detailed information about CE marking requirements you can find at "**DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**" on 9 March 1999 at section

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