

MGM210L Installation Guide

Figure 1 is showing the optimal installation of MGM210L to an application PCB. The size and shape of the application PCB has an impact to the radiation patterns and radiation efficiency of the antenna. An optional installation is shown in Figure 2. Metal objects in close proximity of the antenna will have negative impact to the radiation efficiency.

Planar inverted-F antenna of MGM210L

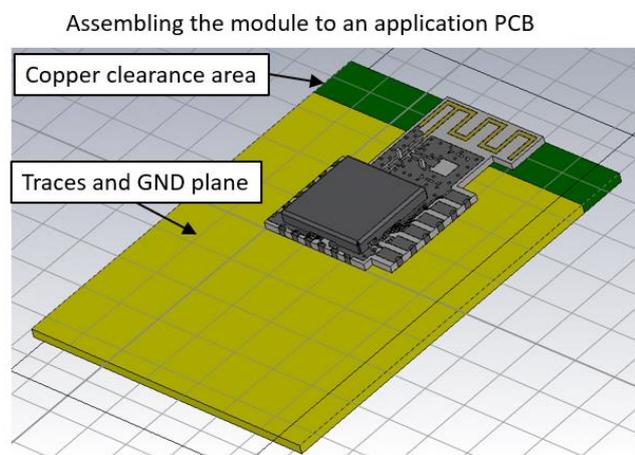
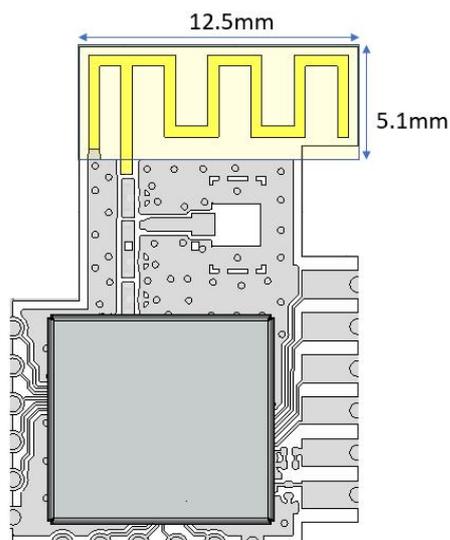


Figure 1: Installing the module to an application PCB

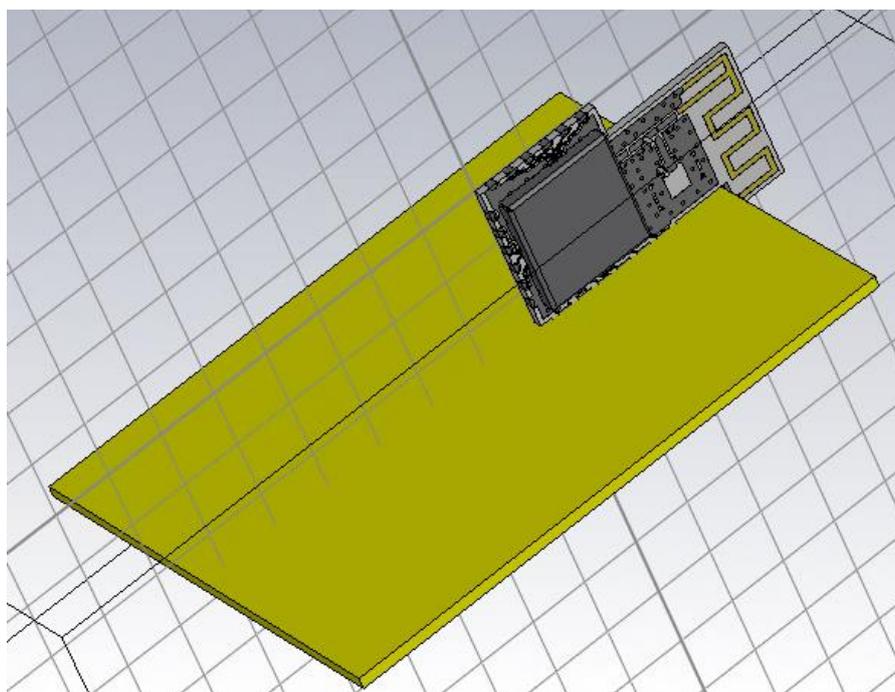


Figure 2: Optional installation to an application PCB

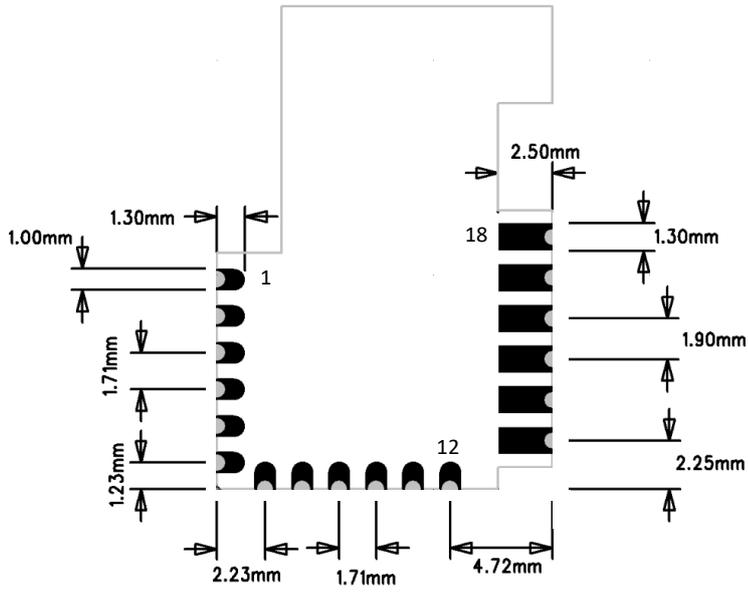


Figure 3: MGM210L footprint

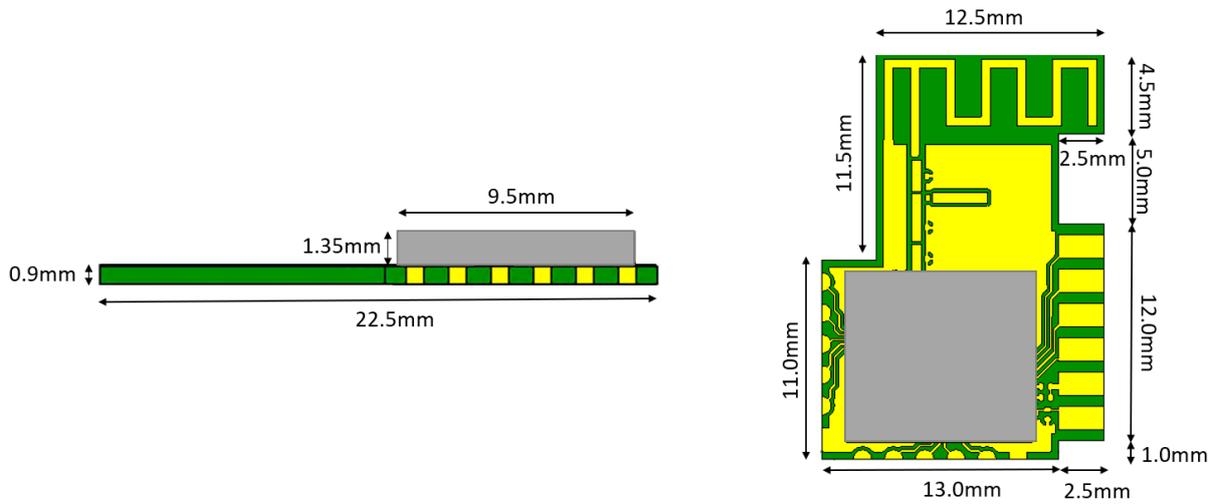


Figure 4: MGM210L external dimensions

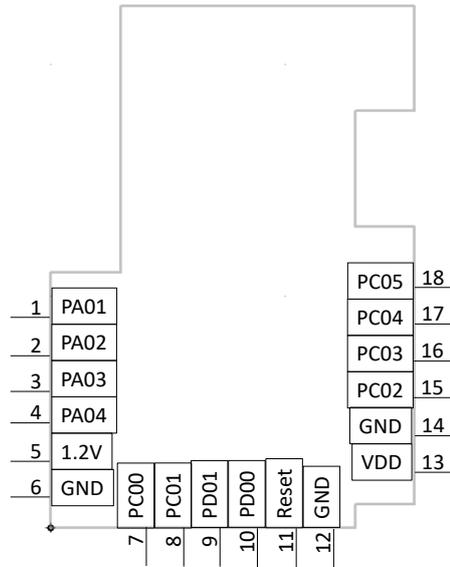


Figure 5: MGM210L pinout

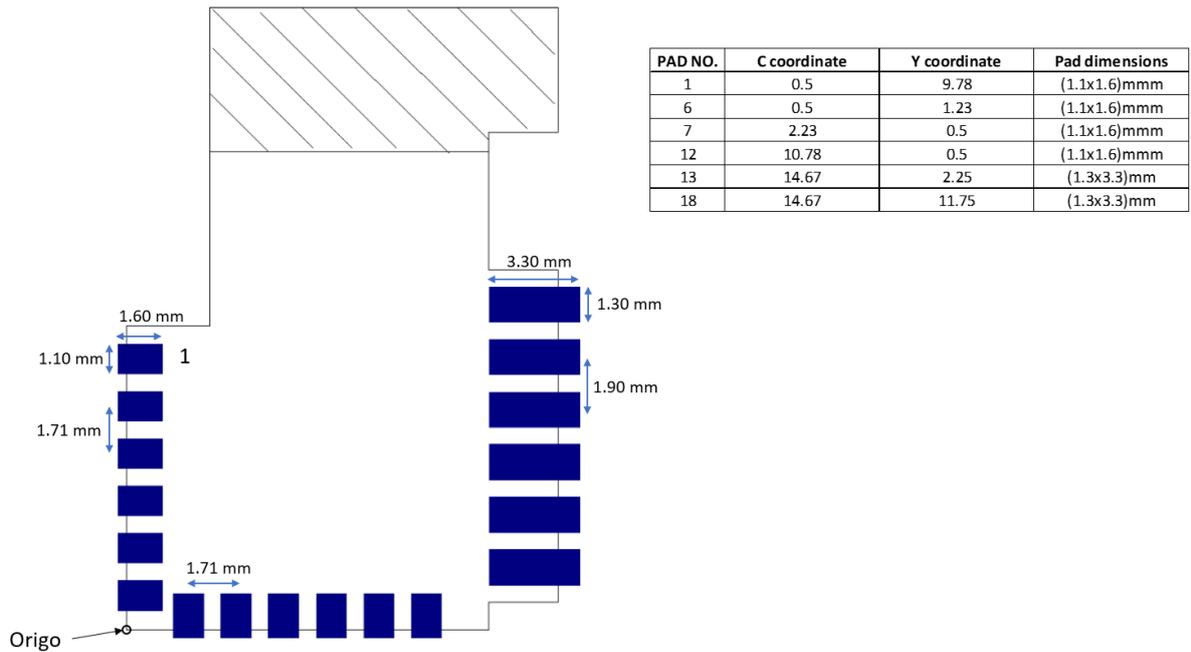


Figure 6: Recommended PCB Land Pattern

FCC

This device 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.

Any changes or modifications not expressly approved by Silicon Labs could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable and mobile limits as demonstrated in the RF Exposure Analysis. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

OEM Responsibilities to comply with FCC Regulations

OEM integrator is responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

- The antenna(s) must be installed such that a minimum separation distance of 12 mm is maintained between the radiator (antenna) and all persons at all times.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

IMPORTANT NOTE: In the event that the above conditions cannot be met (for certain configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The module is labeled with its own FCC ID. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final product must be labeled in a visible area with the following:

“Contains Transmitter Module FCC ID: QOQMGM210L”

or

“Contains FCC ID: QOQMGM210L”

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product.

ISED Canada

This radio transmitter (IC: 5123A-MGM210L) has been approved by Industry Canada to operate with the embedded antenna. Any other antenna types are strictly prohibited for use with this device

This device complies with Industry Canada's license-exempt RSS standards. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

RF Exposure Statement

Exception from routine SAR evaluation limits are given in RSS-102 Issue 5.

The module meets the given requirements when the minimum separation distance to human body is 20 mm.

RF exposure or SAR evaluation is not required when the separation distance is same or more than stated above. If the separation distance is less than stated above the OEM integrator is responsible for evaluating the SAR.

OEM Responsibilities to comply with IC Regulations

The module has been certified for integration into products only by OEM integrators under the following conditions:

- The antenna must be installed such that a minimum separation distance as stated above is maintained between the radiator (antenna) and all persons at all times.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.

As long as the two conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions cannot be met (for certain configurations or co-location with another transmitter), then the ISEDC authorization is no longer considered valid and the IC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate ISEDC authorization.

End Product Labeling

The module is labeled with its own IC ID. If the IC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

“Contains Transmitter Module IC: 5123A-MGM210L”

or

“Contains IC: 5123A-MGM210L

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product