eGM-A20 BT4.0 Single Mode Module

OEM General User and Installation Guide

1. OEM Usage Instructions

1.1 Installation

eGM-A20 is a stamp mount Bluetooth module supplied 2-layer PCB. The final assembly recommended reflow profiles are:
For RoHS/Pb-free applications, Sn96.5/Ag3.0/Cu0.5 solder is recommended.
- Maximum peak temperature of 230° - 250°C (below 260 °C).
- Maximum rise and fall slope after liquidous of < 2°C/second.
- Maximum rise and fall slope after liquidous of < 3°C/second.
- Maximum time at liquidous of 40 – 80 seconds.

1.2 Restricted Area

The mother board should have no bare conductors or vias in this restricted area, because it is not covered by stop mask print. Also no copper (planes, traces or vias) are allowed in this area , because of mismatching the on-board antenna.

1.3 Antenna Issues

eGM-A20 is shipped with different antenna designs:
· eGM-A20C comprises a ceramic antenna which as a component is soldered to the circuit board. This is functional for a eGM-A20C integrated into a plastic housing. No additional antenna is required.
· When eGM-A20A using an external Antenna the antenna is fixed and cannot be removed or replaced by the end user. The performance of the internal antenna respectively the external antenna has in any case to be checked within the final integration environment. eGM-A20A routes the antenna signal to pin 25. The gain of the external antenna shall not exceed +2dBi.
Adjacent PCBs, components, cables, housings etc. could otherwise influence the radiation pattern or be influenced by the radio wave energy.

It must be ensured that the antenna is not co-located or operating in conjunction with any other antennas, transmitters, cables or connectors. When the internal ceramic antenna is used, certain restrictions are to be considered.

1.4 Operating Conditions

The permitted operating and storage temperatures, power supply requirements, and I/O tolerances are specified in the eGM-A20 datasheet.

1.5 RF Exposure Warning

The eGM-A20B or C 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 device's external antenna must be installed in accordance with provided instructions and it must be operated with a minimum of 20cm spacing between antennas and all persons' bodies (excluding extremities of hands, wrists and feet) during wireless mode of operation. Further, this transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

2. Notice of FCC Regulatory Compliance

This module has been tested and found to comply with the FCC Part15 Rules. These limits are designed to provide reasonable protection against harmful interference in approved installations. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

eGM-A20 complies with 47 CFR Part 2 and Part 15 of the FCC Rules and with. 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.

Modifications or changes to this equipment not expressly approved by EGIGA TECHNOLOGIES CO LTD may void the user's authority to operate this equipment.

3. Modular Approval

3.1 FCC ID: 2ABQH-eGMA20

In accordance with FCC Part 15, the eGM-A20 is listed above as a modular transmitter device.

In support of the modular transmitter approval, the following is stated:

1) The module does have buffered modulation / data inputs.

2) The module does regulate its own power supply.

3) The module does have a permanently attached antenna.

4) The module can be tested as a stand-alone device.

5) The module is labeled with the proper FCC ID, and labeling instructions are provided to OEM end users for external product labels.

6) The module does have instruction for proper use.

7) The module does meet the FCC RF regulations.

3.2 IC-ID: 11696A-eGMA20

The eGM-A20 has been tested to fulfill the IC requirements. Test reports RSS-210 of Industry Canada are available on request.

This device complies with Industry Canada license-exempt RSS standard(s). 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.

4. Label Instructions

The outside of final products that contain a eGM-A20 device must display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains Transmitter Module FCC ID: 2ABQH-eGMA20”.

Any end product integrating the Model: eGM-A20A or B or C must be labeled with at least the following information: This device contains transmitter with IC-ID: 11696A-eGMA20

5. Bluetooth Qualification

The eGM-A20 is a qualified design according to the Bluetooth Qualification Program Reference Document (PRD) V2.1.

The Qualified Design ID (QDID) is: B022156

And must display label of Bluetooth Smart with icon.