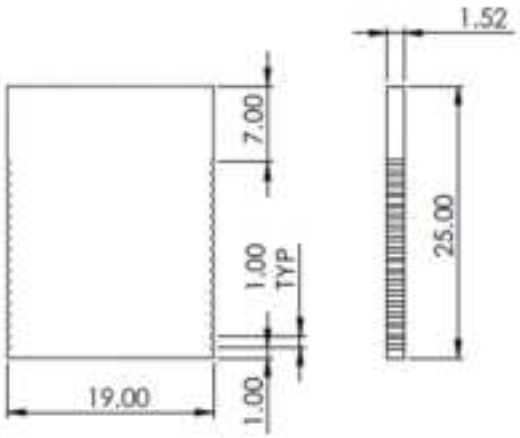
Zigbee BLE Module C0945

Antenna Guidelines

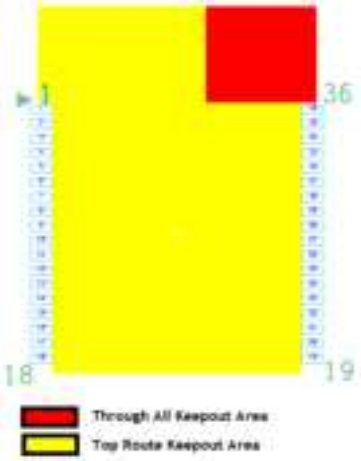
1. Module Dimensions

- The module is of fixed dimensions and no outside changes are permitted.
- Refer to ‘B9604module.dxf’ for footprint.



2. Module Connections

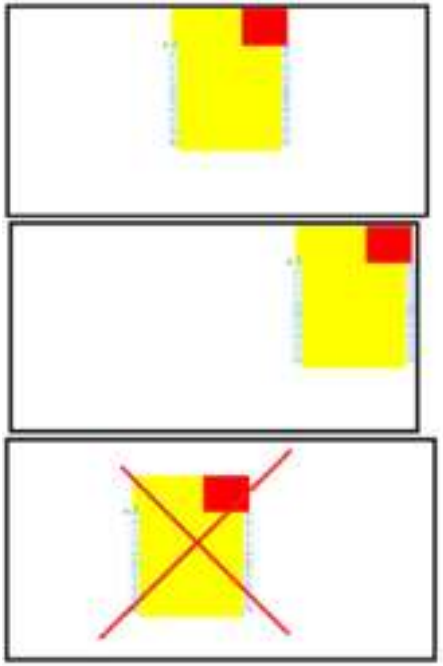
- Recommended Module land Pattern



- Recommended to place the module along the PCB edge.
- Keep area under the antenna clear of any copper.
- Do not put any via under the module as they may cause problems.
- Do not route traces on PCB layer directly under the module.

3. Module Placement

- Recommended Module placement on host board



4. Antenna

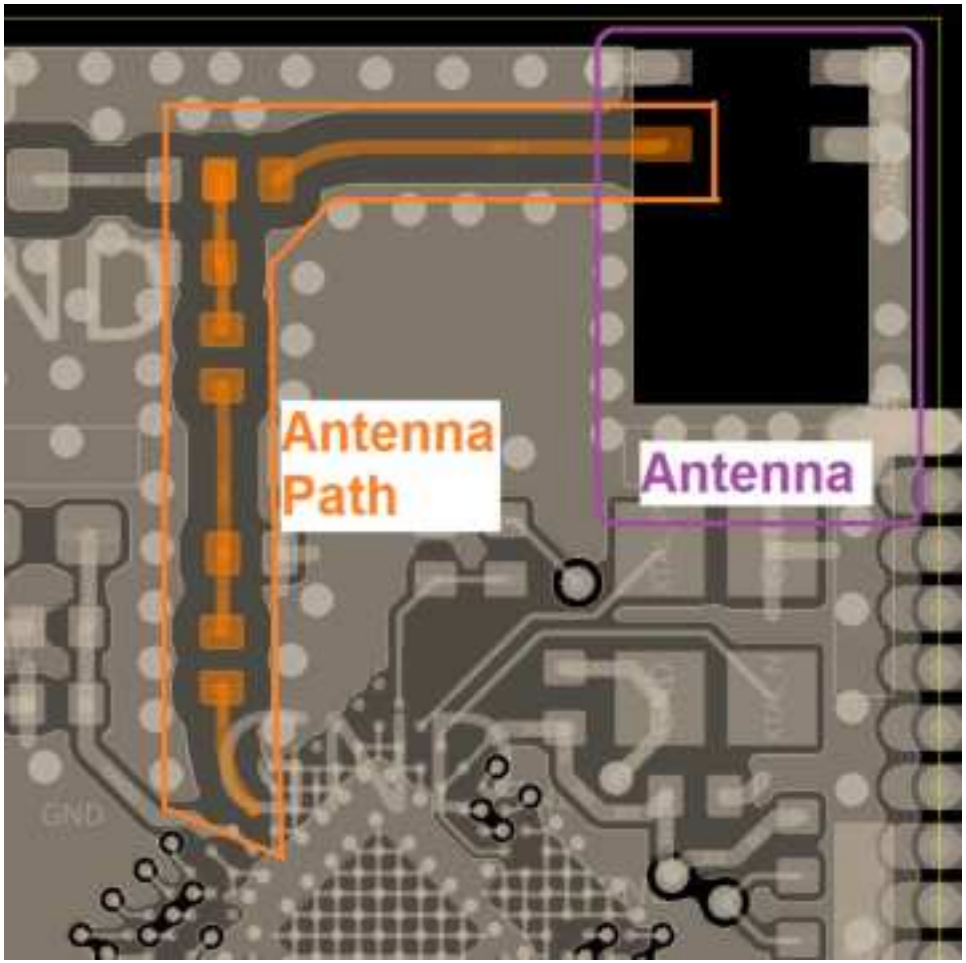
- The module comes with a chip antenna design that followed the specifications of the antenna.
- About the signal line between PCB and an antenna on the module
  - It is a 50-ohm line design.
  - Fine tuning of return loss etc. can be performed using a matching network. However, it is required to check "Class1 change" and "Class2 change" which the authorities define then.
- The concrete contents of a check are the following two points.
  1. An antenna gain is lower than a gain given in antenna specifications.
  2. The emission level is not getting worse.

4. Antenna

- Please refer KDB 996369 D04 Module Integration Guide for guidance, installation instructions and testing requirements.

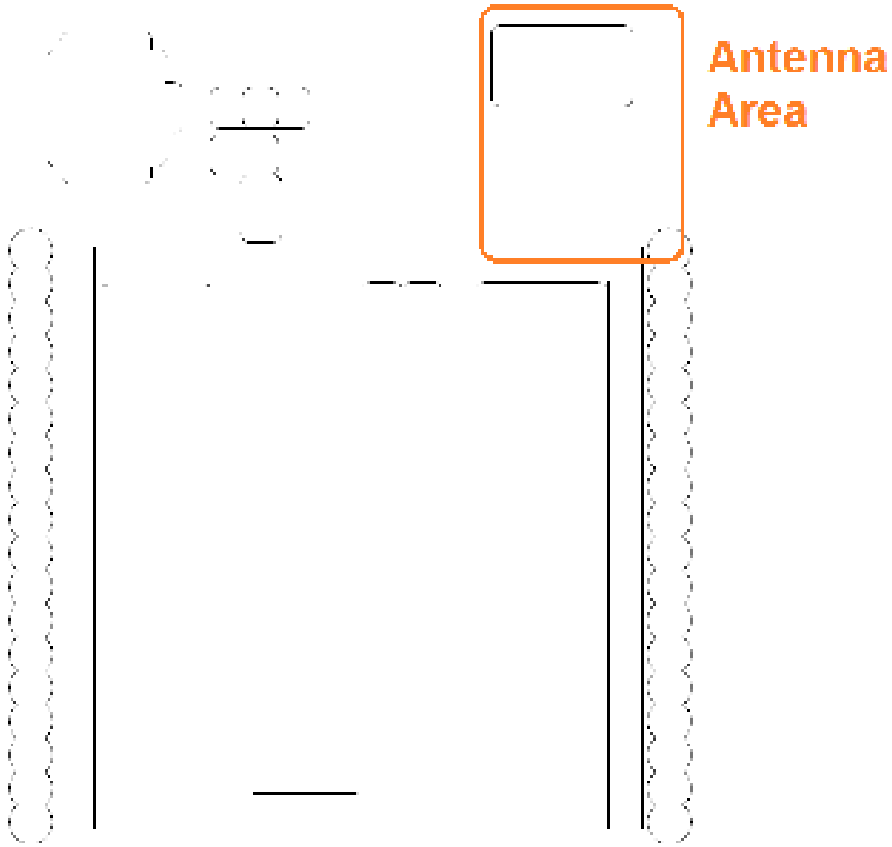
4. Antenna

- Antenna trace path is as shown below.



4. Antenna

- Antenna locations are as shown below.



5. Bill of Materials

Internal Antenna	
Tuning Value	Tuning # 1
REF DES	
RF1	IND, 5.6nH, SMD, 0402
RF2	CAP, 0.4pF, SMD, 0402
RF3	CAP, 0.5pF, SMD, 0402
RF4	RES, 0R, SMD, 0402
X2	Chip Antenna

6. Warning

- The module comes with a chip antenna design that followed the specifications of the antenna.
- The module has fixed antenna tuning values.
- Module is intended for Leviton's use only.
- Any party involved should follow provided guidelines for layout of the module.
- Third party or outside customer is not allowed to change the antenna tuning values unless consulted and approved by the module manufacturer. Necessary filing and testing to be done by third party or outside customer in that case to prove regulatory compliance.