

Antenna Assembly Guide



Revision History

Version	Date	Description
01	2015-04-10	Initial release
02	2015-06-26	Add product description Add other housing examples
03	2016-02-23	QUBE3406 EOL
04	2016-05-10	Add SET requirement for antenna cable space
05	2017-03-24	Add housing notes

Introduction

- In order to maintain the antenna performance, assembly method is important. Because most of antennas are subject to affect surrounding environments like metal or PCB panel.
- This documents introduce some method to install antenna and caution
But it is difficult to explain all case of assembling antenna. so users should be careful to install antenna according to each situation.
- 3 type assembly method are introduced
 - Using screw
 - Using soldering
 - Using slide structure
- When housing antenna, there are some caution point

Product description

- QUBE XX XX
 ① ②

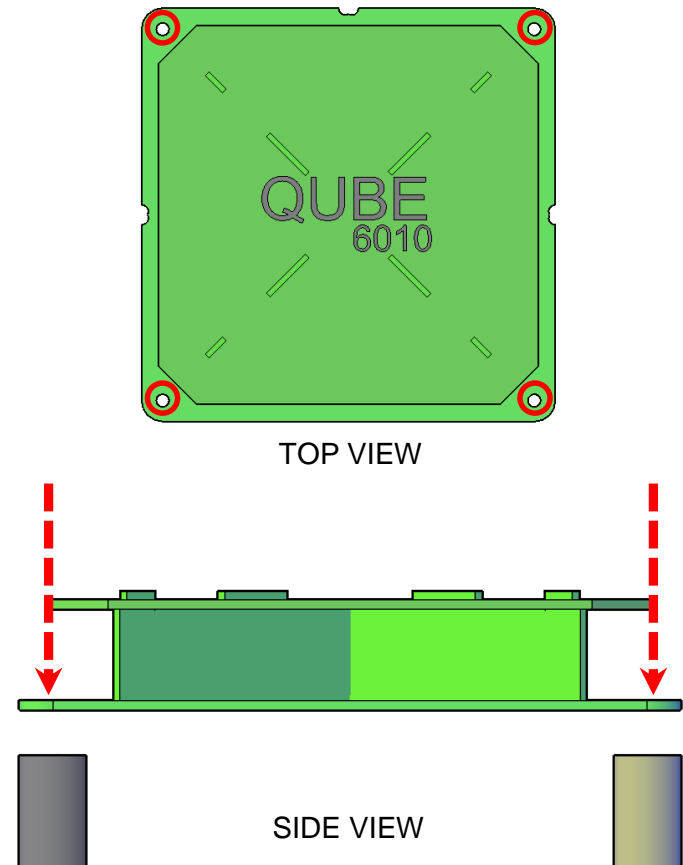
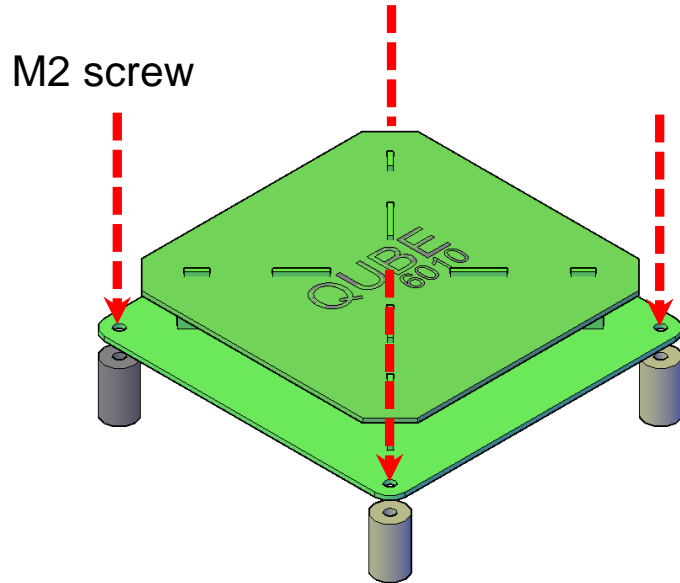
① : Top square size

② : Thickness top to bottom

Ex) QUBE6015 : 60x60mm top square and 15mm thickness

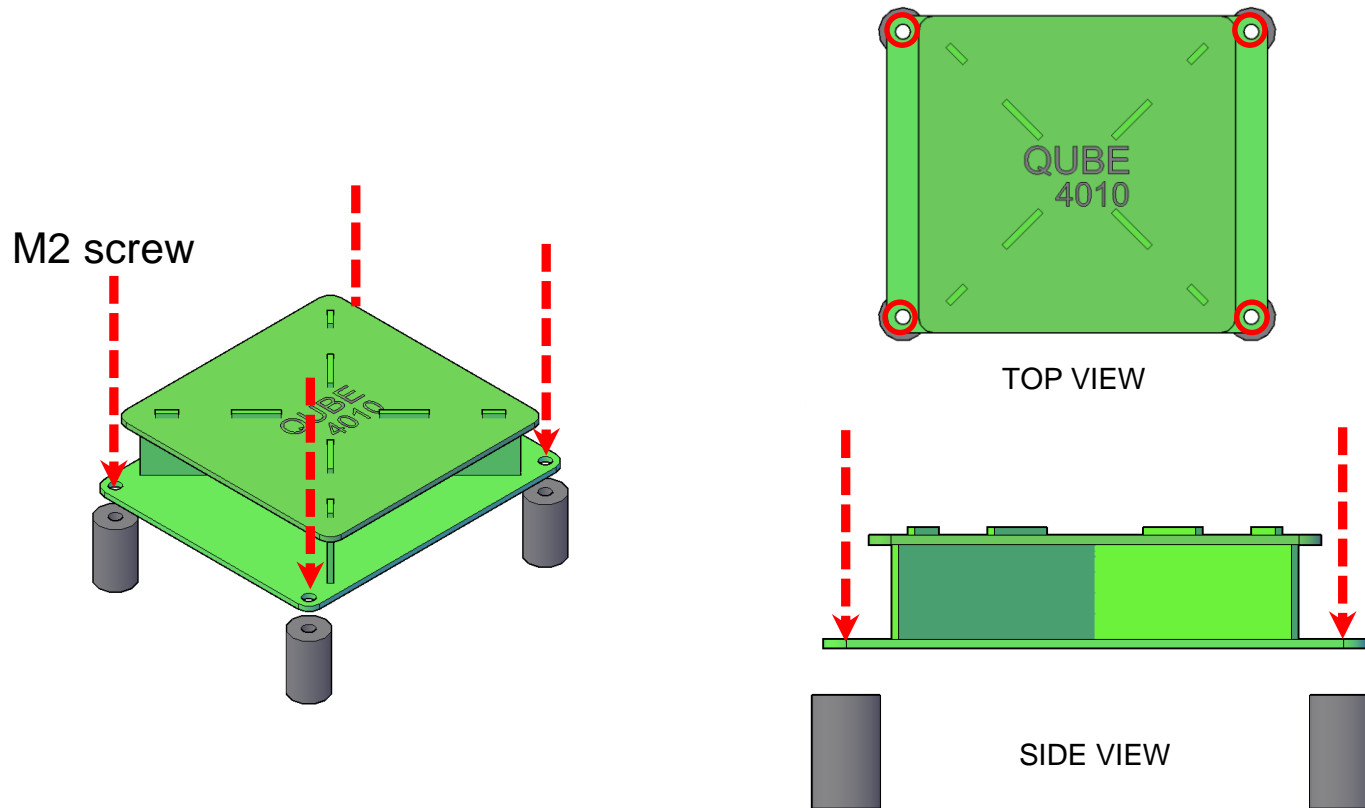
How to assemble antenna : using screw (1/2)

- QUBE60xx antenna have four hole to screw a antenna to user case
- The size of hole is M2



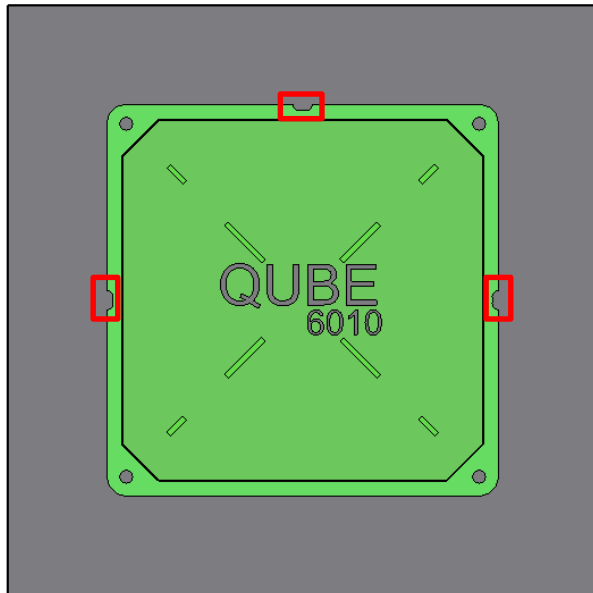
How to assemble antenna : using screw (2/2)

- QUBE40xx or QUBE34xx antenna also have four hole to screw a antenna to user case
- The size of hole is M2, too

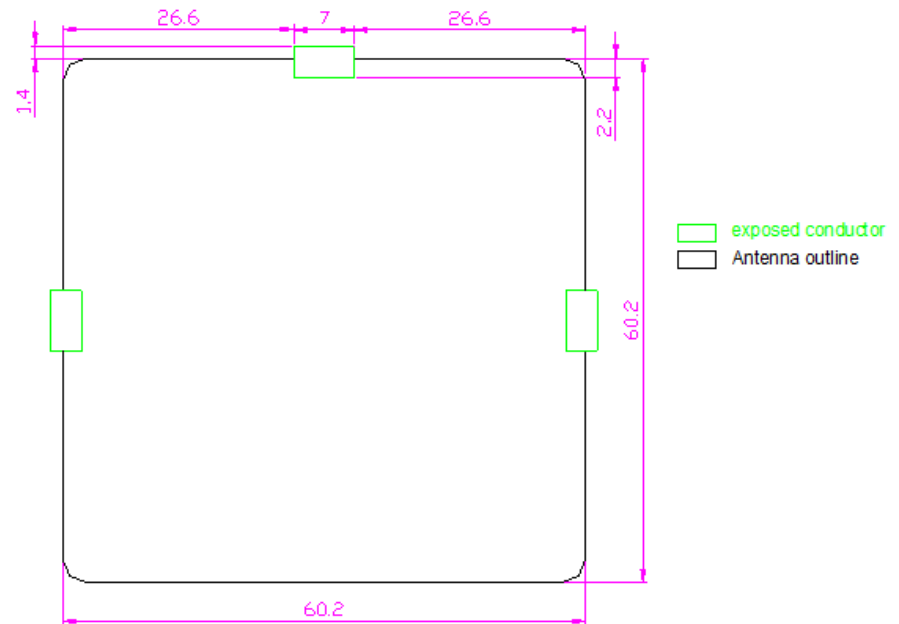


How to assemble antenna : using Soldering (1/2)

- QUBE60xx have three soldering point at bottom plate of antenna
- User can attach QUBE60xx to your base PCB board directly



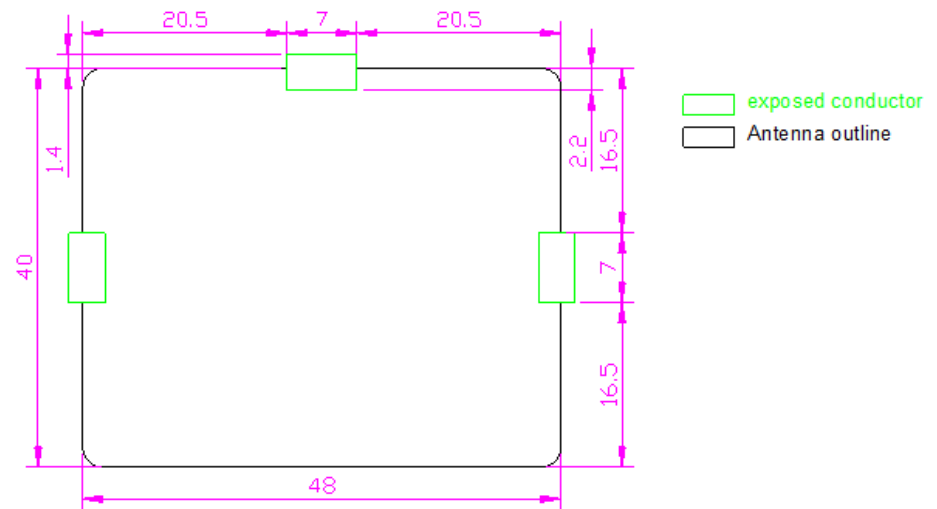
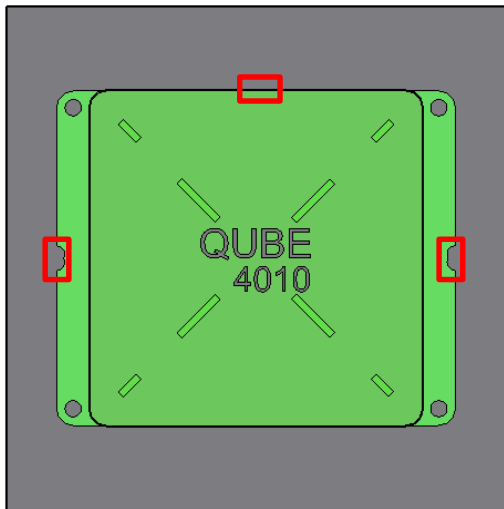
 Soldering point



Antenna footprint

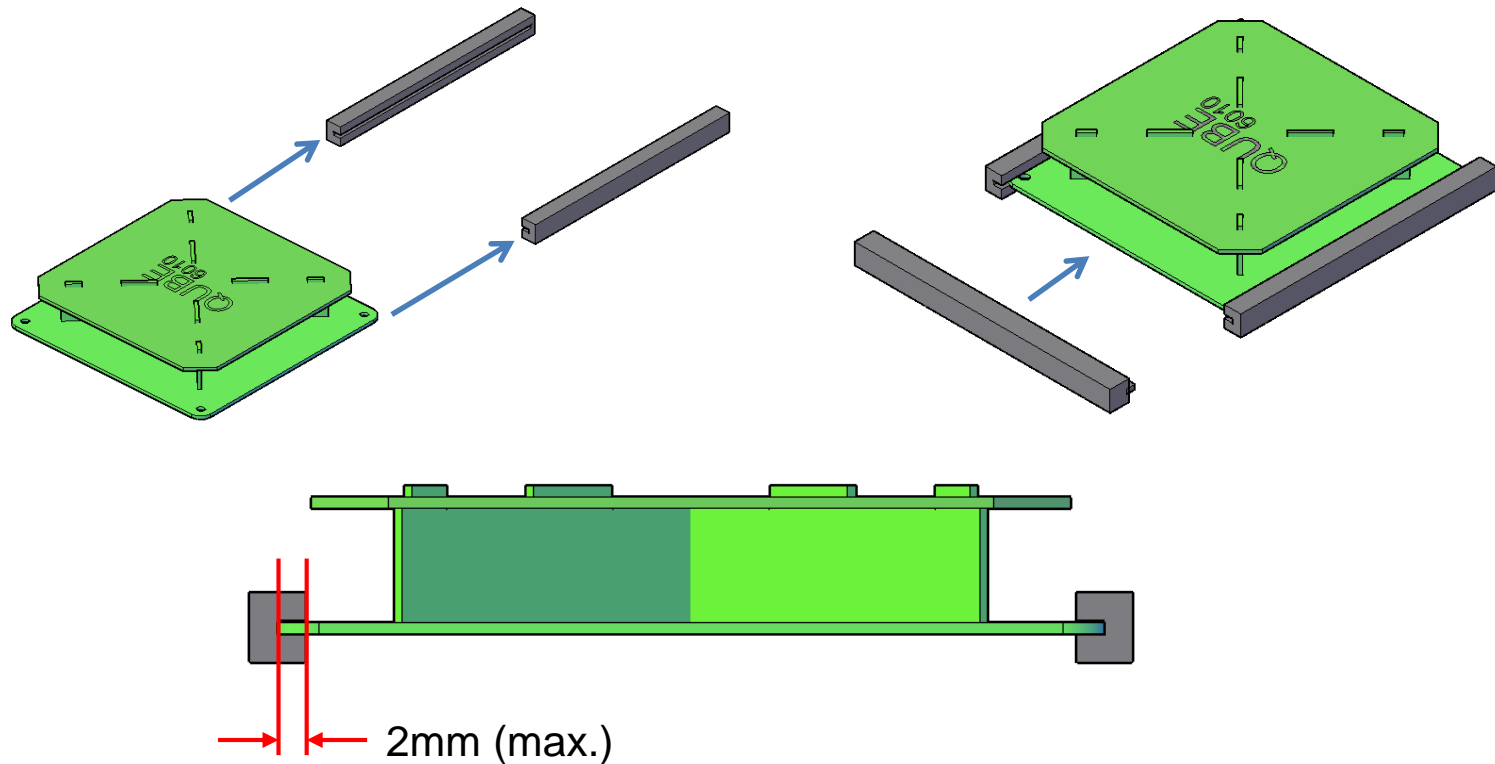
How to assemble antenna : using Soldering (2/2)

- QUBE40xx have three soldering point at bottom plate of antenna
- User can attach QUBE40xx to your base PCB board directly



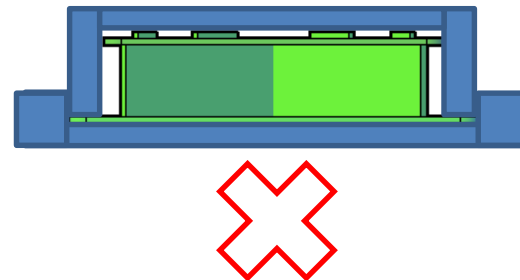
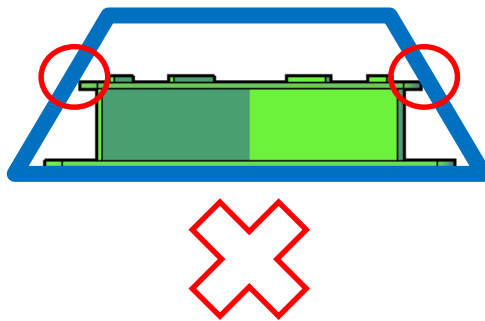
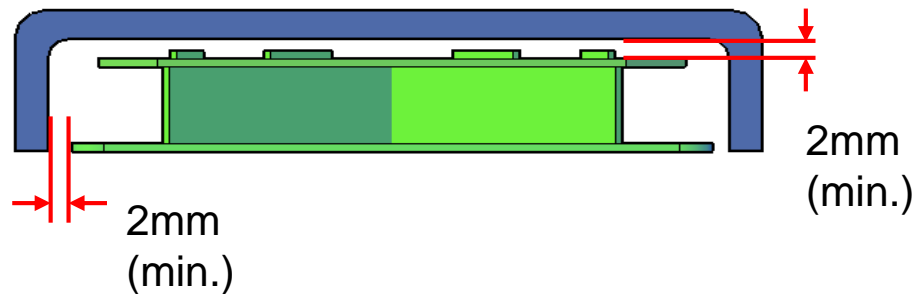
How to assemble antenna : using Slide

- QUBE60xx can be installed to slide type case
- Depth which enclosed antenna is max. 2mm
- This method help you assemble antenna without any damage



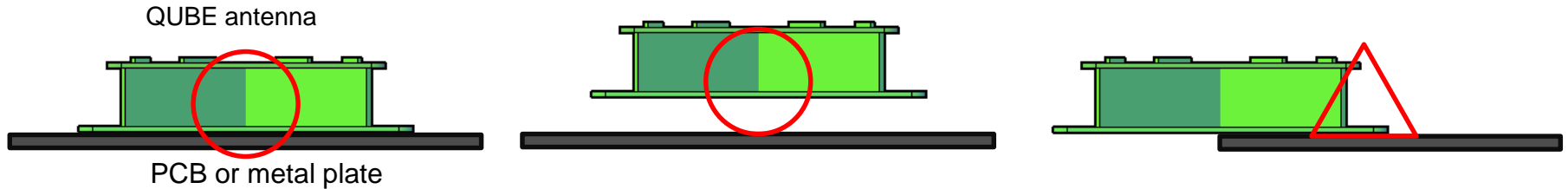
How to install Housing

- The bottom plate of antenna can be screwed to case or soldered to PCB
- But upper plate of antenna should not be contacted to case
- The minimum distance between antenna and case is 2mm



Others (1/3)

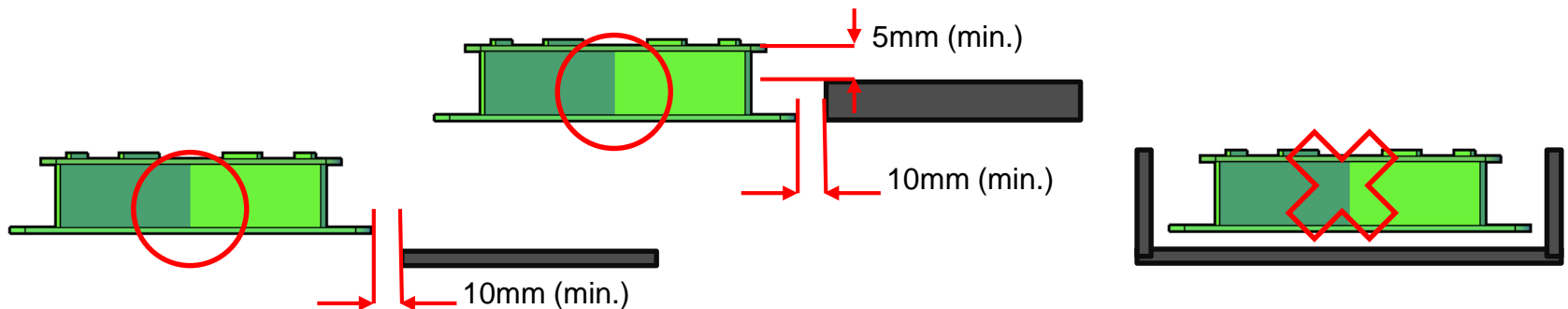
1. QUBE antenna can be installed on the PCB or metal.



2. Other PCB or metal should not contact inside antenna and be located upside antenna

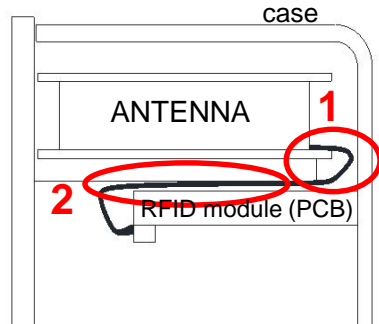


3. Other PCB or metal should be located min.10mm away from antenna.
Additionally, Thickness of other PCB or metal is min. 5mm lower than antenna top plate



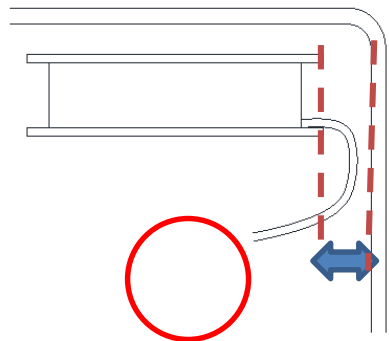
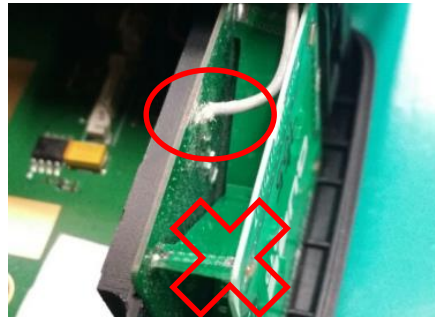
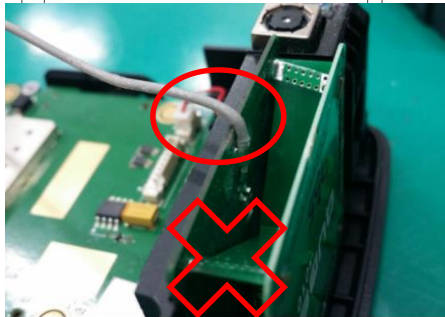
Others (2/3)

4. Make enough space for antenna cable path from antenna to module



1) Not enough gap between case and Antenna can make cable crack or distortion.

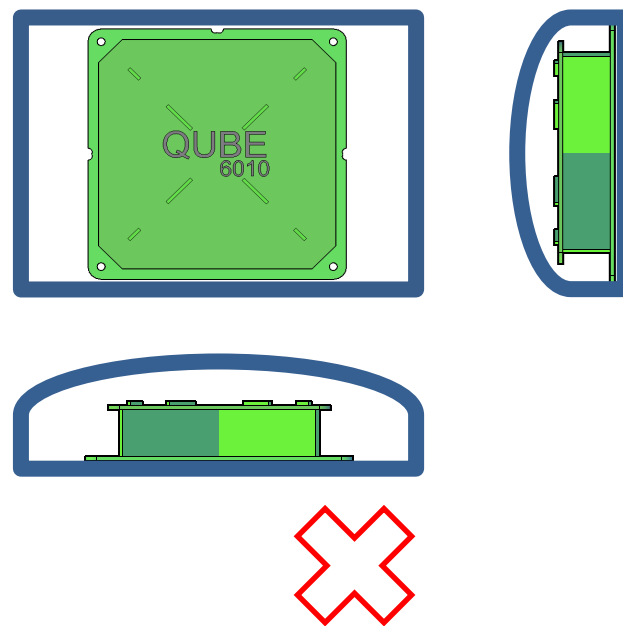
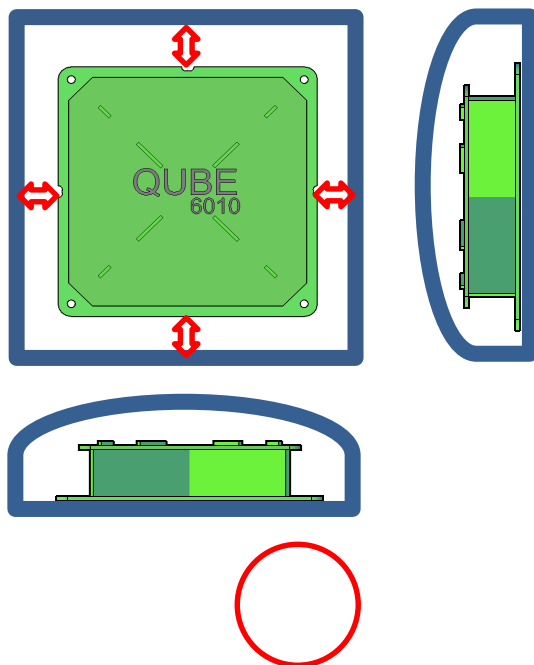
2) Not enough path from antenna to module can make unstable antenna performance.



For antenna line, the gap between case and antenna is recommended **at least 5mm**.

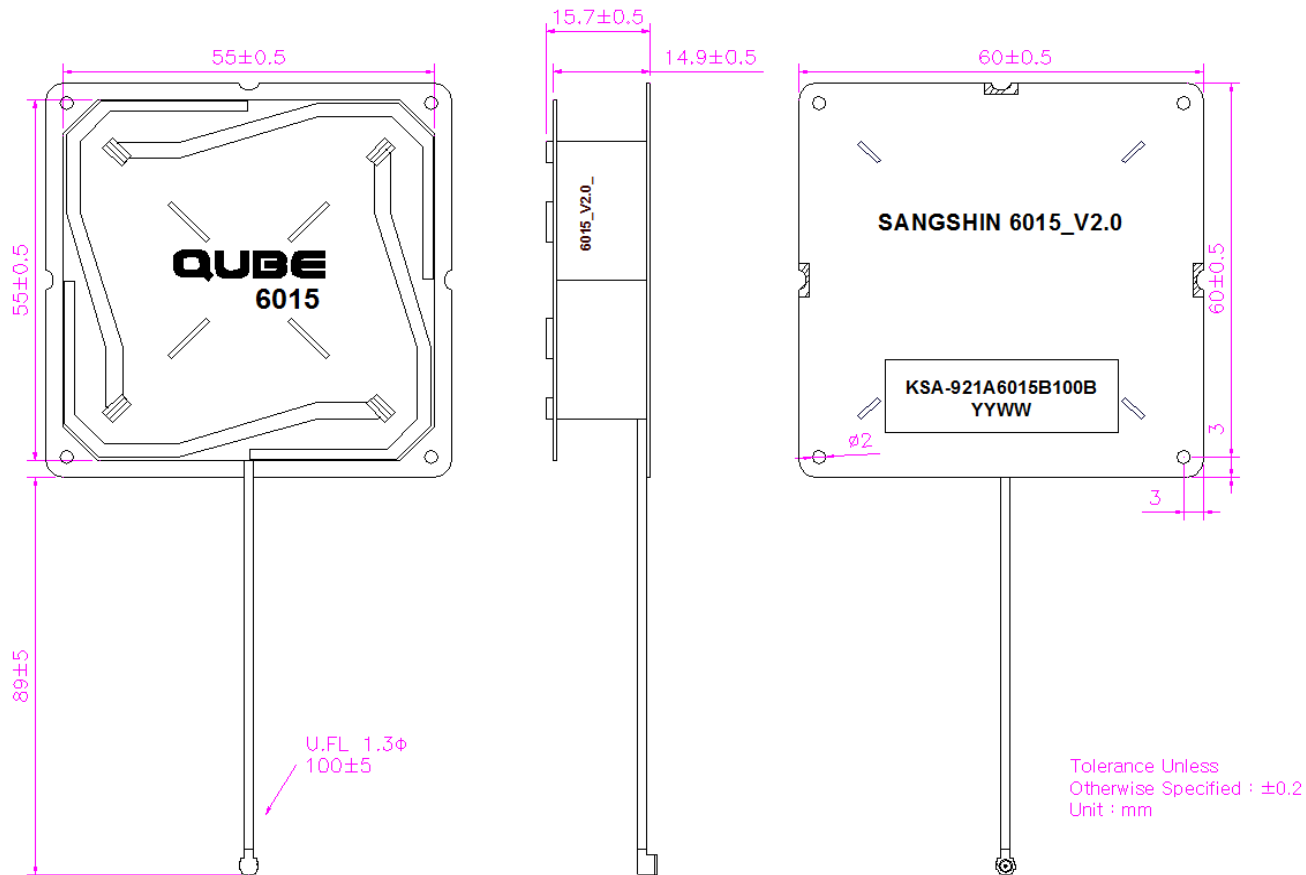
Others (3/3)

5. Make gap equally between case and antenna TOP PCB.



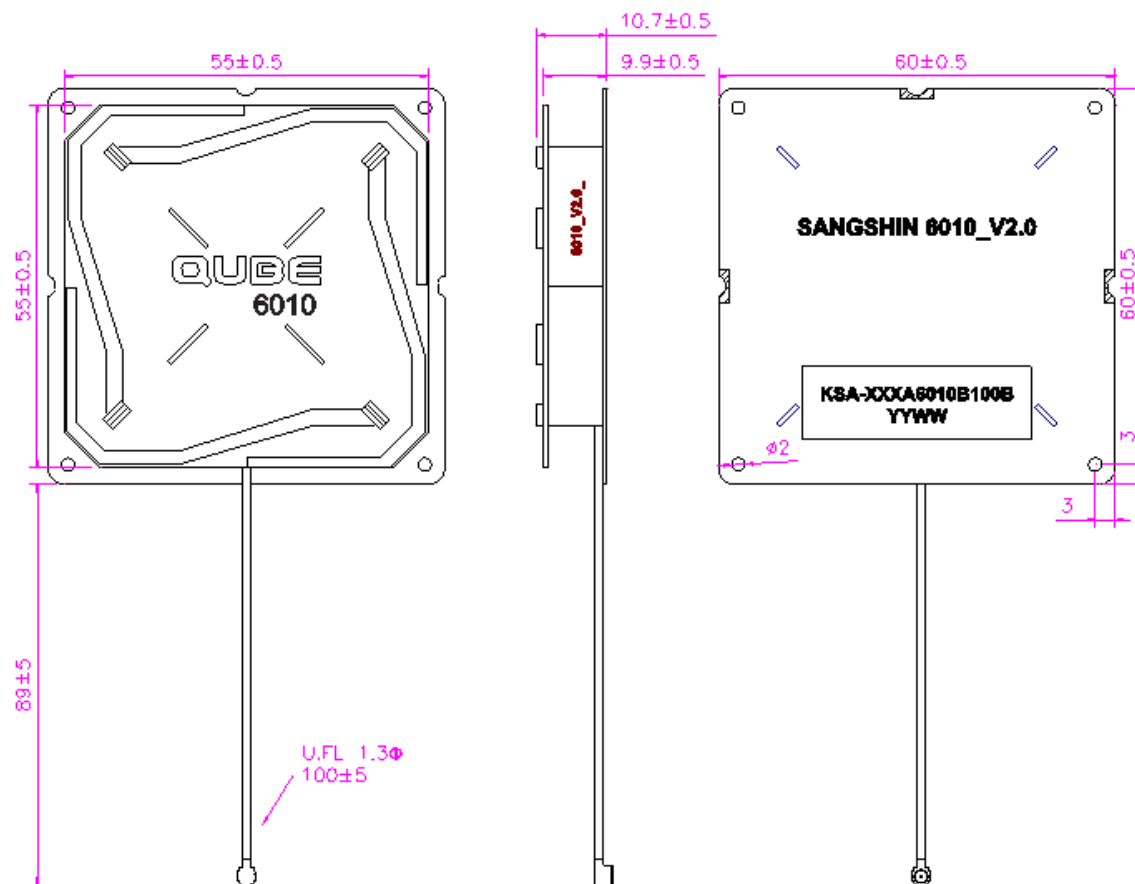
[Appendix1] PHYCHIPS' Antenna Dimension

- QUBE 6015



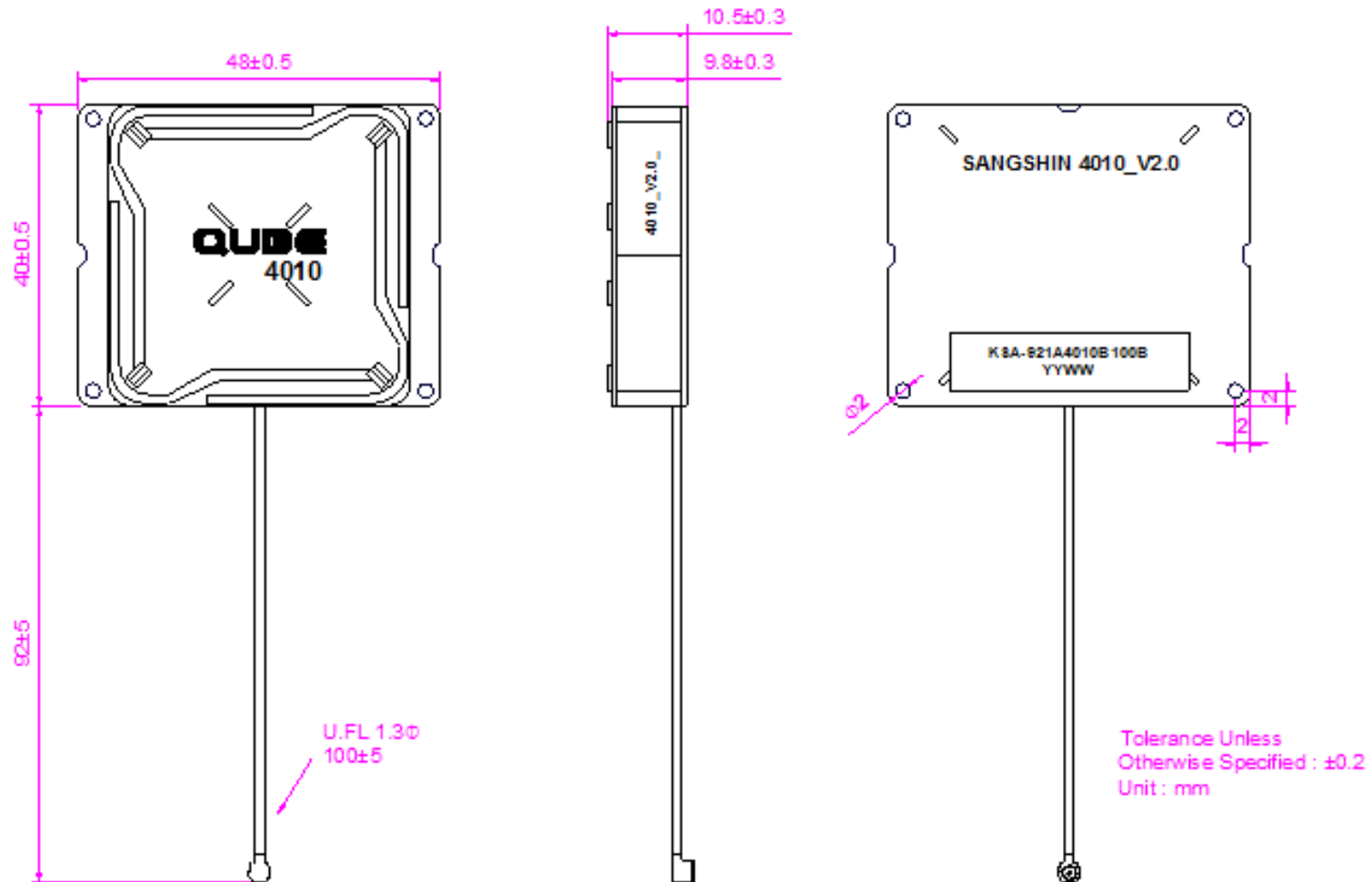
[Appendix1] PHYCHIPS' Antenna Dimension

- QUBE 6010



[Appendix1] PHYCHIPS' Antenna Dimension

- QUBE 4010



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