

# Part No. 1004848

## GNSS / BT Antenna Assembly

1561 MHz, 1575 MHz, 1603 MHz, 2400 - 2485 MHz

Supports: Tracking, Smart Home, Agriculture, Healthcare, Industrial Devices



KYOCERA AVX antennas deliver on the key needs of device designers for higher functionality and performance in a small form factor. These innovative antennas provide compelling advantages for GNSS/BT enabled devices, such as having a direct connection to the PCB which avoids the use of connectors and cables.

### GNSS / BT Antenna Assembly

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#### KEY BENEFITS

##### Reduced Costs & Time-to-Market

Standard antennas eliminate design fees, redesign cycle time and minimize risk associated with customer solution. Quicker time to market.

##### Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

##### Environmental Compliance

Products are the latest RoHS version compliant.

#### APPLICATIONS

- Embedded design
- POS, Headsets, Tablets
- Gateway, Access Point
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

### Electrical Specifications

Typical characteristics measured 84 mm x 198 mm ground plane above 155 mm x 230 mm metal box

Frequency (MHz)	1575	1559 - 1591	1593 - 1610	2400 - 2485
Bands	GPS	Galileo	GLONASS	BT
Peak Gain	3.53 dB	3.59 dB	3.42 dB	2.95 dB
Average Efficiency	53%	54%	54%	43%
VSWR Match	1.3:1	1.3:1	1.3:1	1.65:1
Feed Point Impedance	50 $\Omega$ unbalanced			

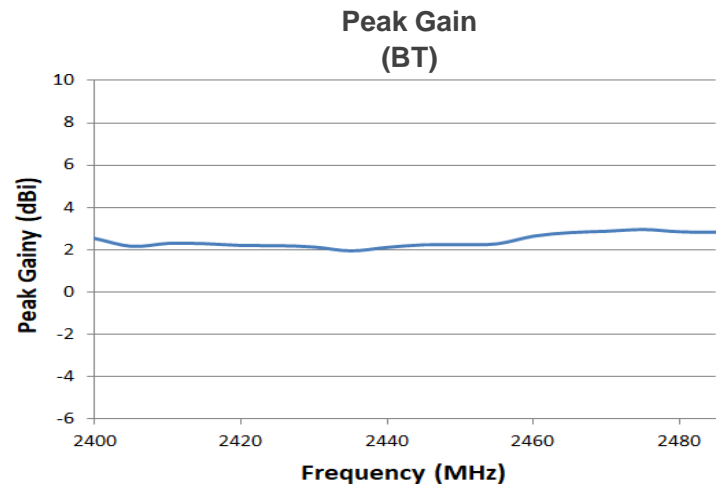
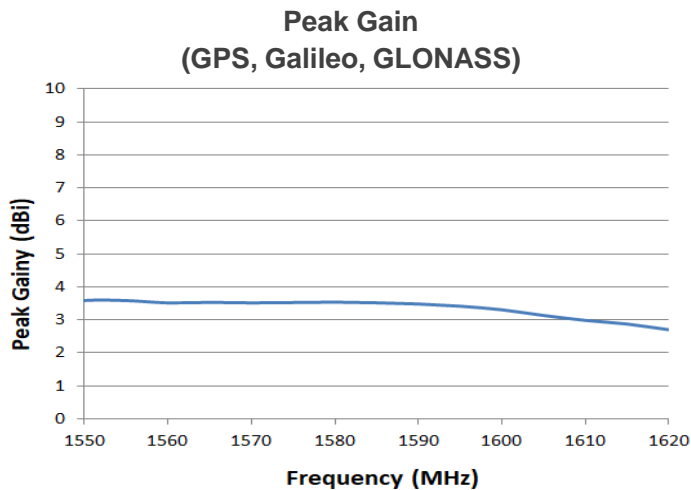
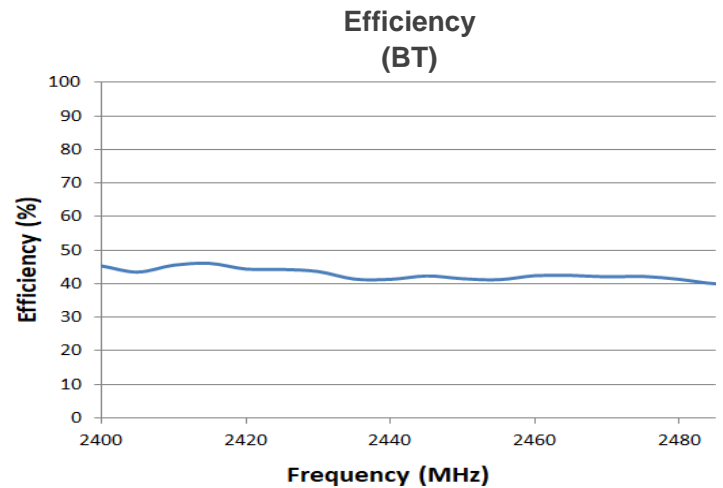
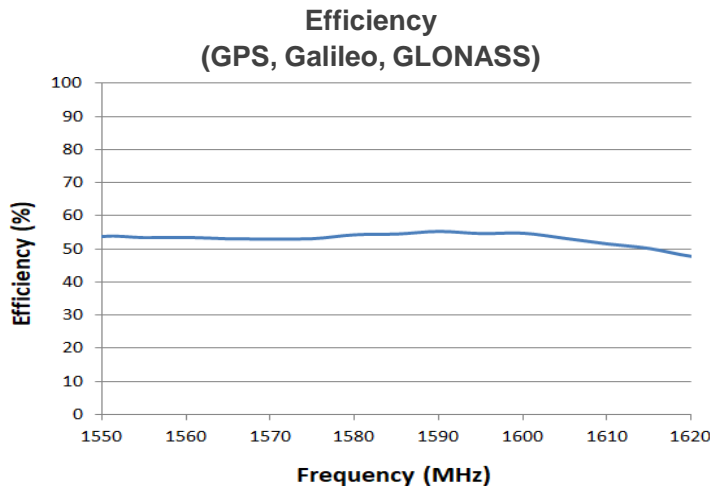
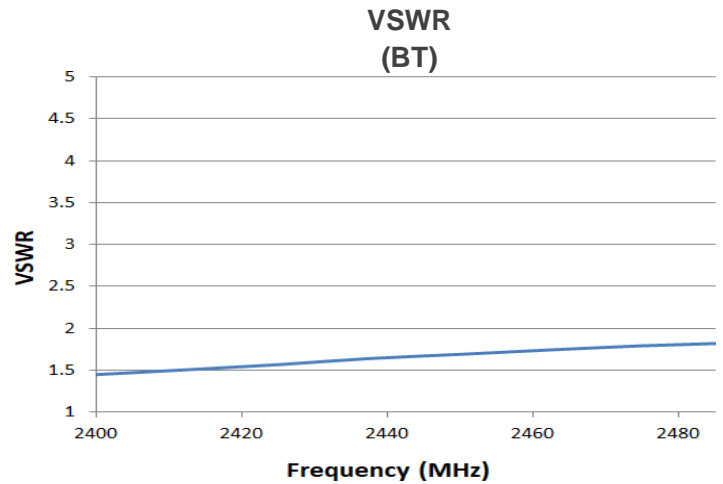
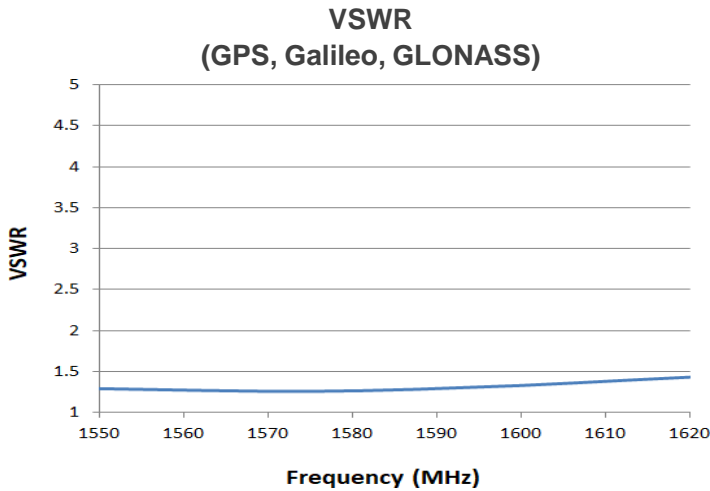
### Mechanical Specifications & Ordering Part Number

Ordering Part #	1004848
Dimensions (mm)	61.13 x 12.63 x 17.18
Mounting Type	Screw Mount
Color	Black
Storage Temperature / Humidity	< +30 °C / < 65%
Operation Temperature Range	-40 °C to +85 °C
Weight (g)	6
Standard(s) Compliance	RoHS

**GNSS / BT Antenna Assembly Specifications**  
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

**Typical Return Loss, VSWR, Efficiency, Peak Gain Plots**

Typical performance on 84 mm x 198 mm ground plane above 155 mm x 230 mm metal box



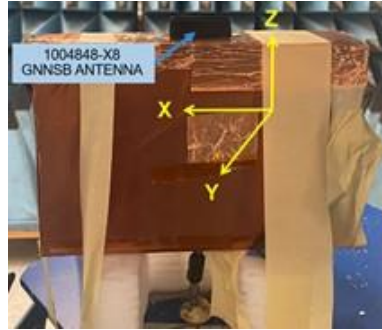
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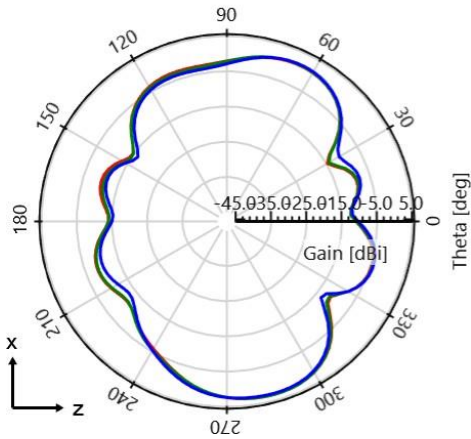
### Antenna Radiation Patterns

Typical performance on 84 mm x 198 mm ground plane above 155 mm x 230 mm metal box  
Measured @ 1.561 GHz, 1.575 GHz, 1.603 GHz

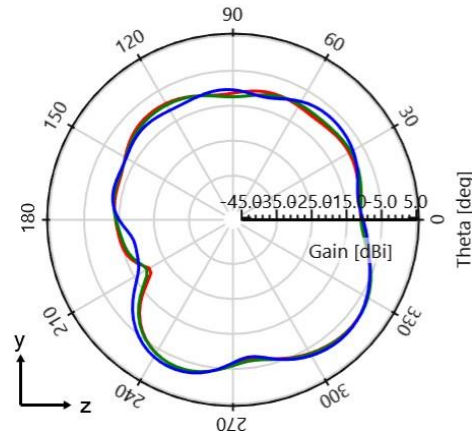
- ☒ 1565 MHz
- ☒ 1575 MHz
- ☒ 1605 MHz



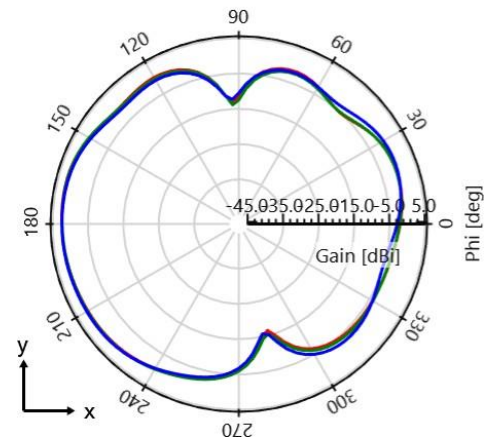
1004848\_X8 GPS Ant - Gain -  $\phi = 0$  deg [Plane XZ]



1004848\_X8 GPS Ant - Gain -  $\phi = 90$  deg [Plane YZ]



1004848\_X8 GPS Ant - Gain -  $\theta = 90$  deg [Plane XY]



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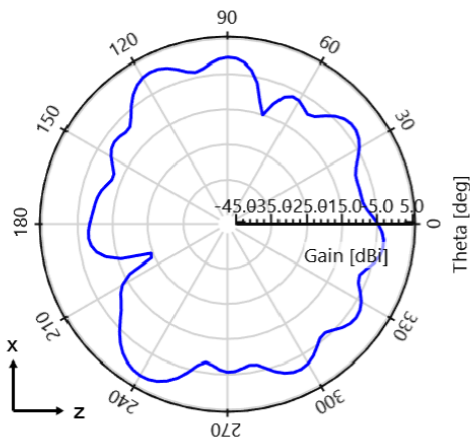
### Antenna Radiation Patterns

Typical performance on 84 mm x 198 mm ground plane above 155 mm x 230 mm metal box  
Measured @ 2400 - 2485 MHz

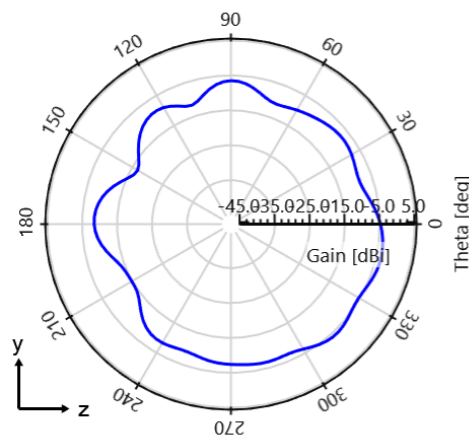
— 1004848\_X8 BT Ant



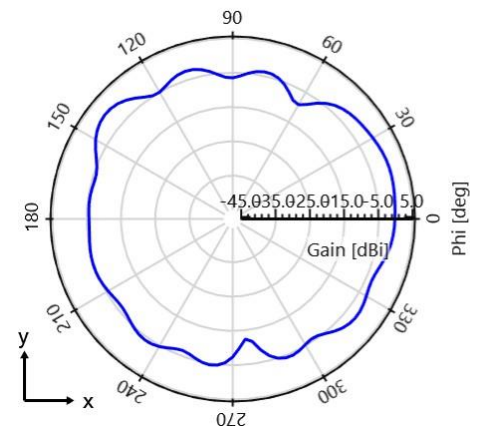
Gain (Total) -  $\phi = 0$  deg - 2440 MHz [Plane XZ]



Gain (Total) -  $\phi = 90$  deg - 2440 MHz [Plane YZ]



Gain (Total) -  $\theta = 90$  deg - 2440 MHz [Plane XY]

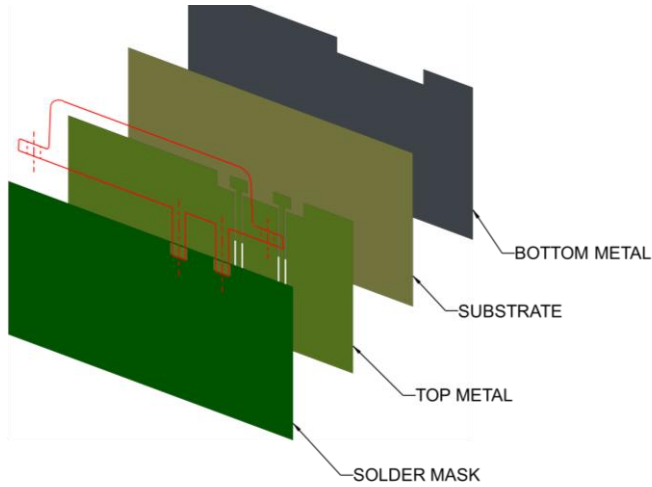


# GNSS / BT Antenna Assembly Specifications

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## Antenna Layout

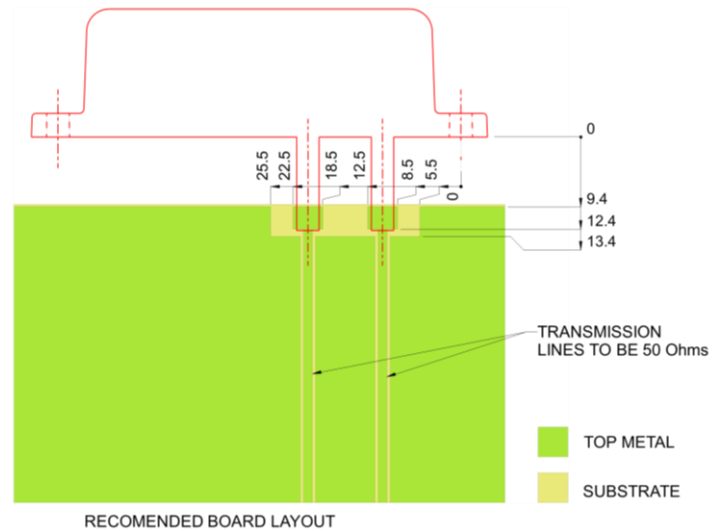
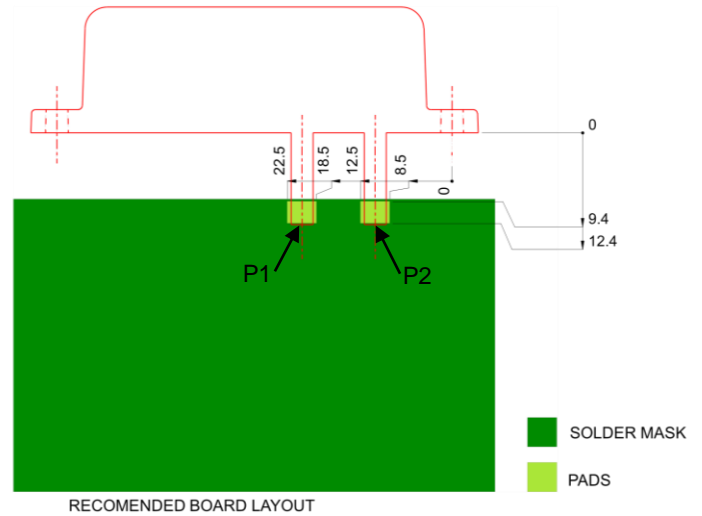
Typical Layout Dimensions (mm)



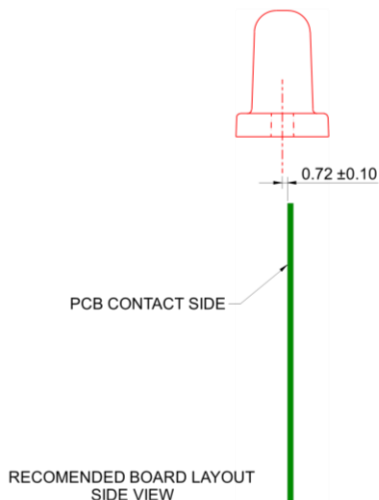
RECOMENDED BOARD LAYOUT

## Pin Descriptions

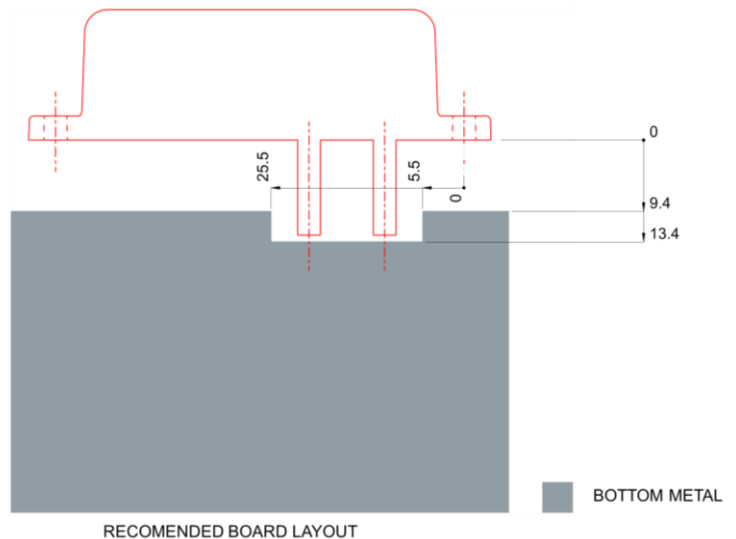
Pin#	Description
1	BT Pin
2	GNSS Pin



RECOMENDED BOARD LAYOUT



RECOMENDED BOARD LAYOUT  
SIDE VIEW



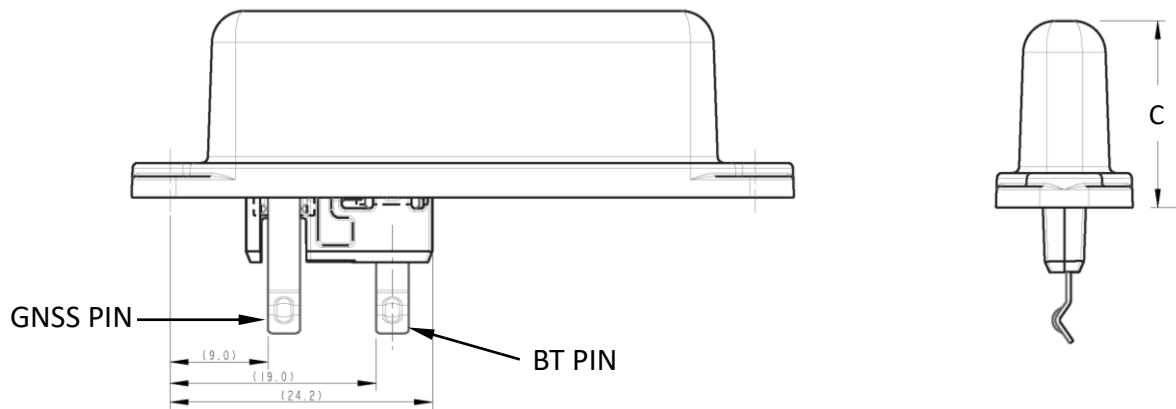
RECOMENDED BOARD LAYOUT

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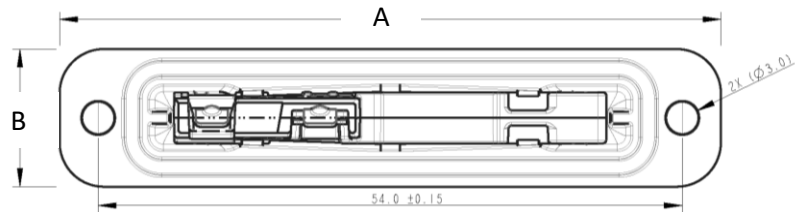
**Mechanical Dimensions**

Typical Antenna Dimensions (mm)

Part Number	Description	A	B	C
1004848	GNSS / BT Antenna Assembly	61.13	12.63	17.18



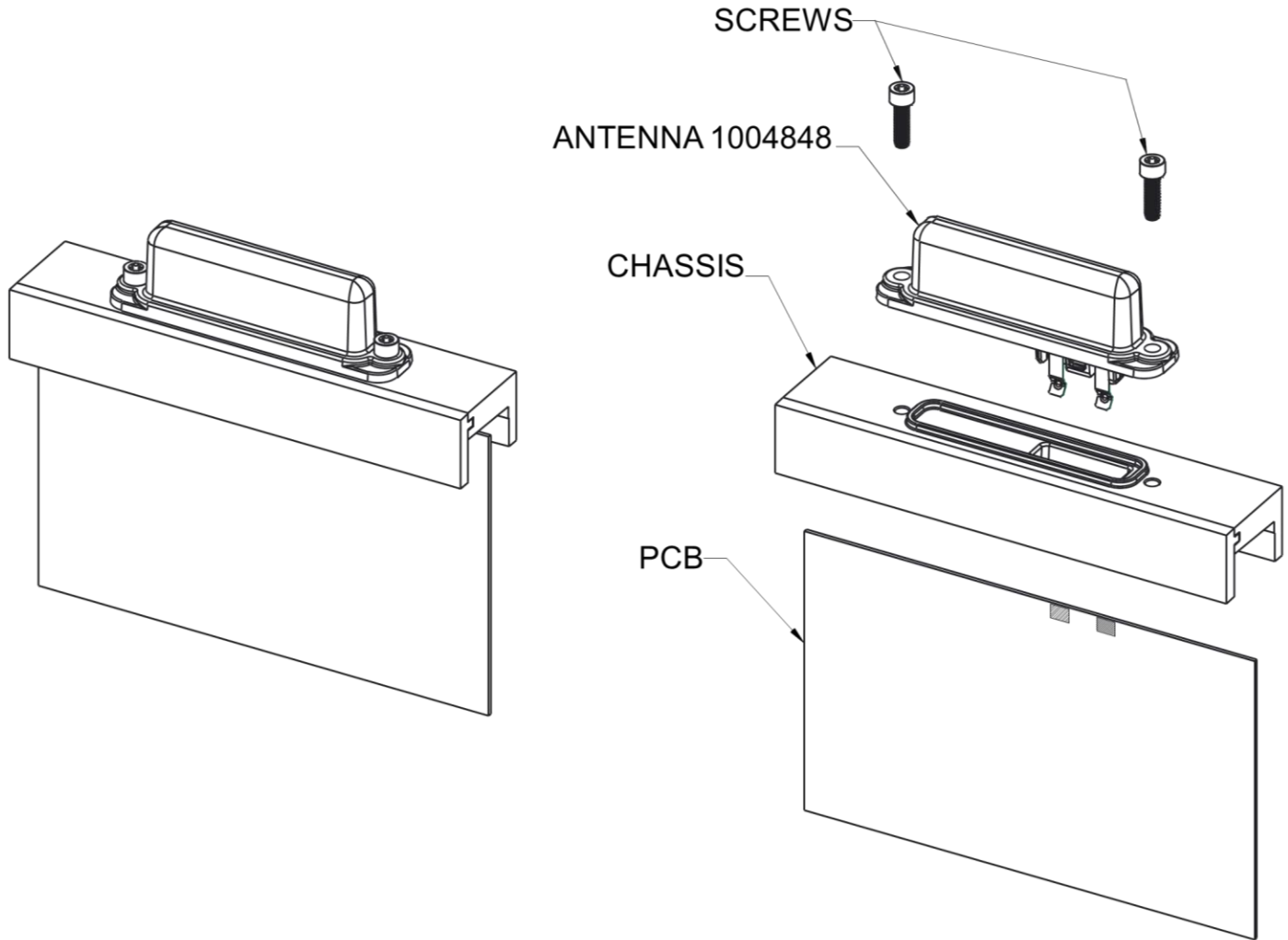
**Side View**



**Bottom View**

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## Mounting Recommendations



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### Mounting Recommendations Cont.

FOR WATERTIGHT REQUIREMENTS WE RECOMMEND TO USE GROOVE & FLAP SEALANT FEATURES + RTV

