

Part No. 1004848

GNSS / BT Antenna Assembly

1.561 GHz, 1.575 GHz, 1.603 GHz, 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.

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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.

Reliability

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 84mm x 198mm ground plane above 155mm x 230mm metal box

Frequency (GHz)	1.575	1.559 - 1.591	1.593 - 1.610	2.400 - 2.485
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 Ω unbalanced			
Antenna Type	External Monopole Antenna			

Mechanical Specifications & Ordering Part Number

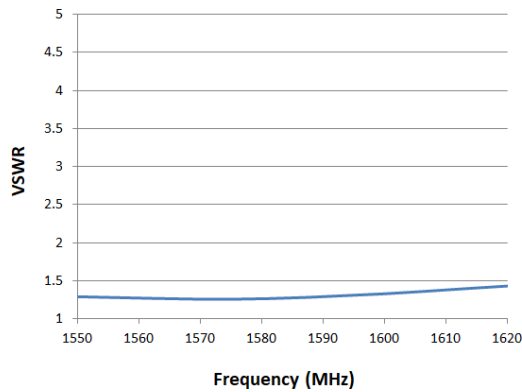
Ordering Part #	1004848
Dimensions (mm)	61.13 x 12.63 x 17.18
Mounting Type	Screw Mount
Color	Black
Weight (g)	6
Standard(s) Compliance	RoHS

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

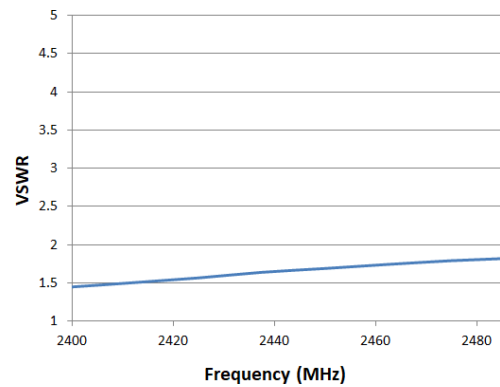
Typical Return Loss, VSWR, Efficiency, Peak Gain Plots

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

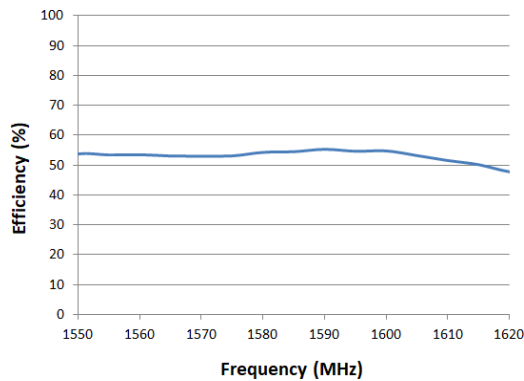
VSWR - GPS, Galileo, GLONASS



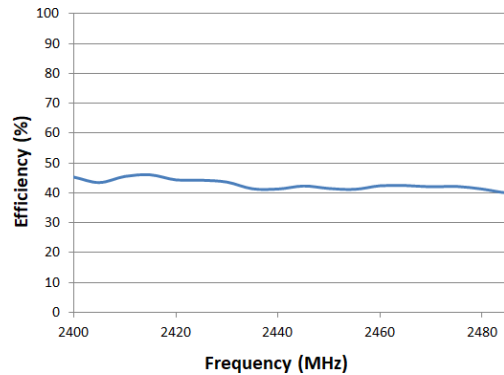
VSWR - BT



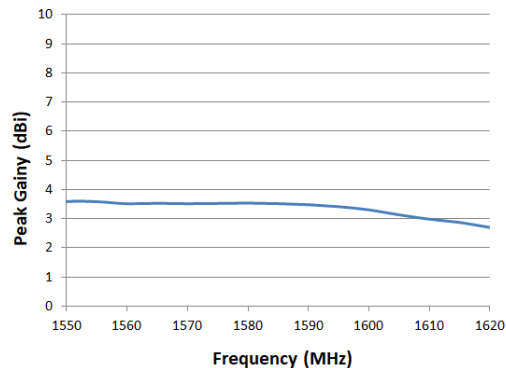
Efficiency - GPS, Galileo, GLONASS



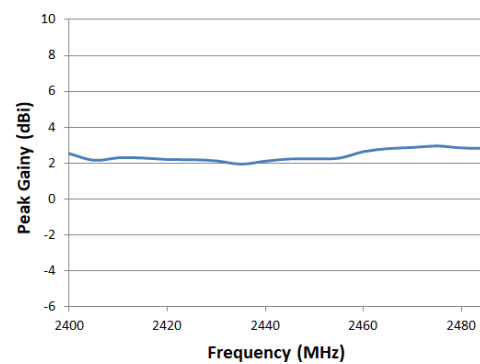
Efficiency - BT



Peak Gain - GPS, Galileo, GLONASS



Peak Gain - BT

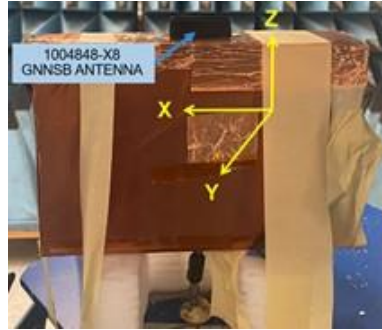


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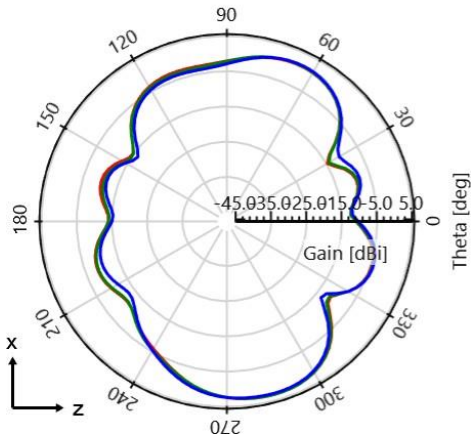
Antenna Radiation Patterns

Typical performance on 84mm x 198mm ground plane above 155mm x 230mm metal box
Measured @ 1.561 GHz, 1.575 GHz, 1.603 GHz, 2400 - 2485 MHz

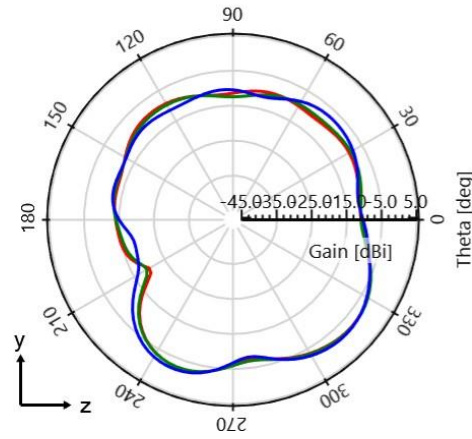
- ☒ 1565 MHz
- ☒ 1575 MHz
- ☒ 1605 MHz



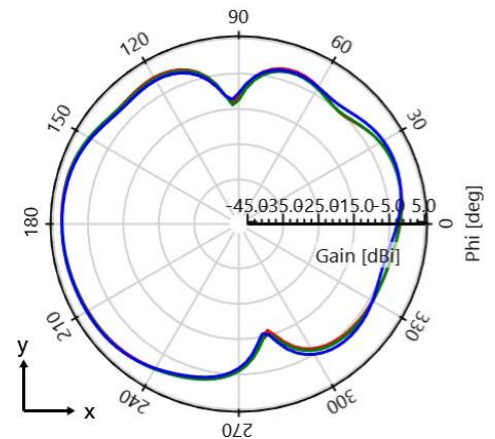
1004848_X8 GPS Ant - Gain - $\phi = 0$ deg [Plane XZ]



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



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

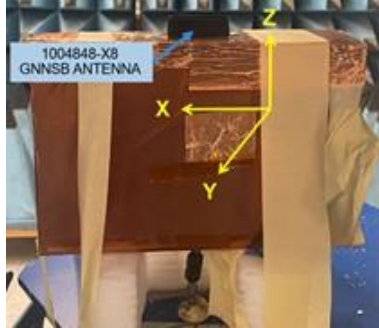


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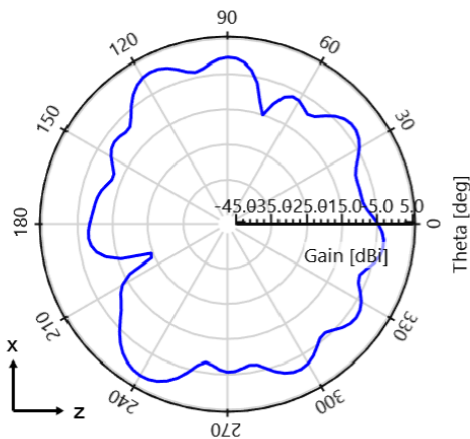
Antenna Radiation Patterns Cont.

Typical performance on 84mm x 198mm ground plane above 155mm x 230mm metal box
Measured @ 1.561 GHz, 1.575 GHz, 1.603 GHz, 2400 - 2485 MHz

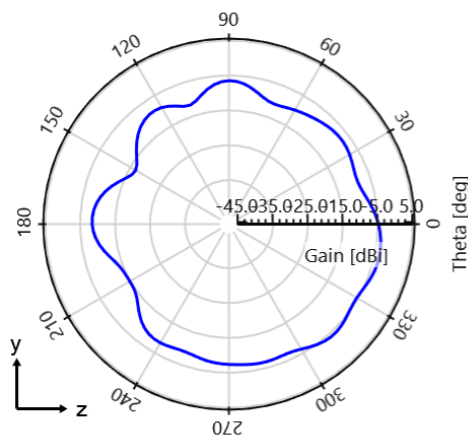
— 1004848_X8 BT Ant



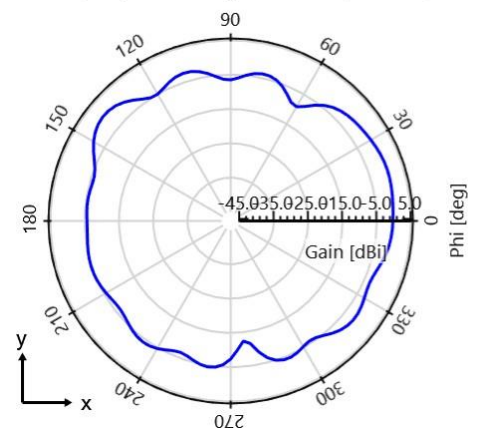
Gain (Total) - $\phi = 0^\circ$ - 2440 MHz [Plane XZ]



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



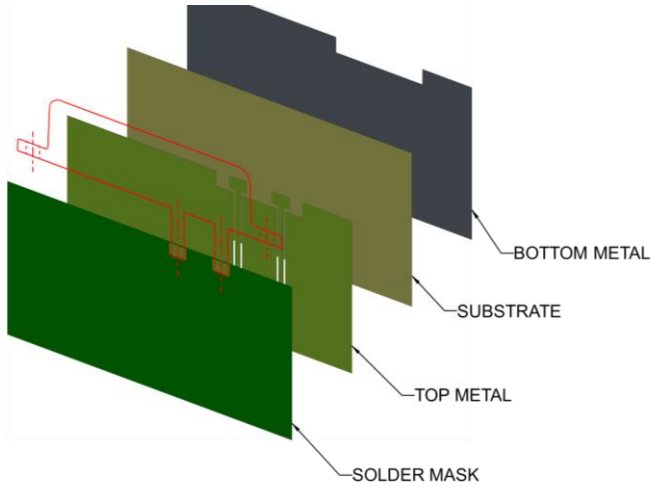
Gain (Total) - $\theta = 90^\circ$ - 2440 MHz [Plane XY]



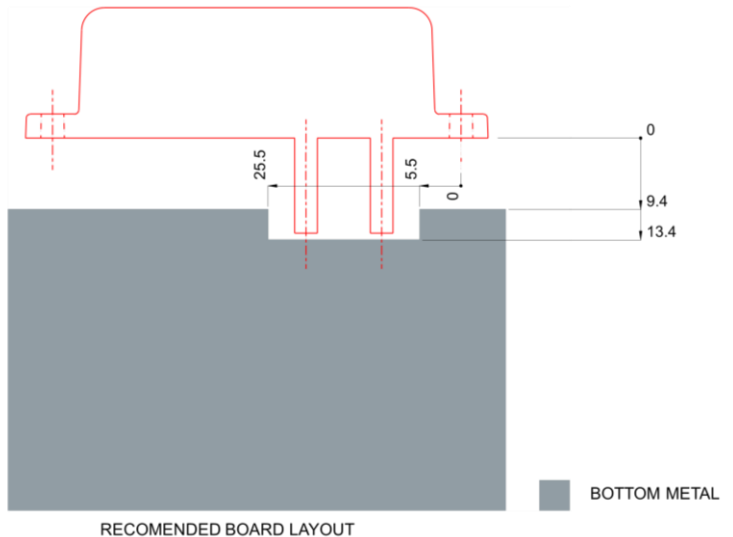
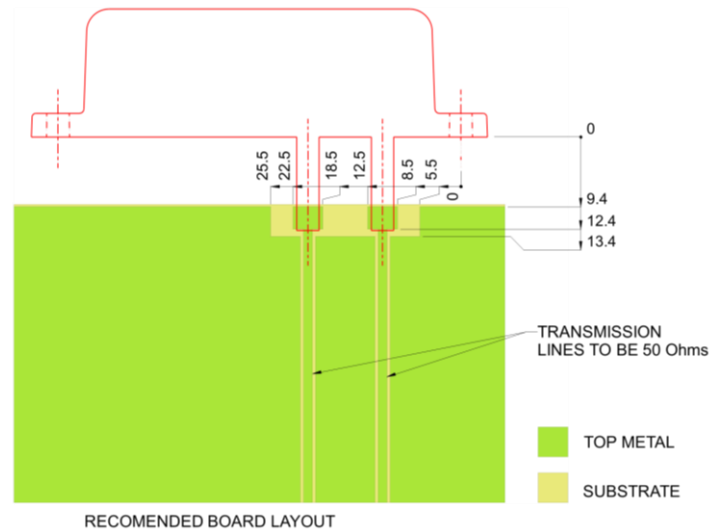
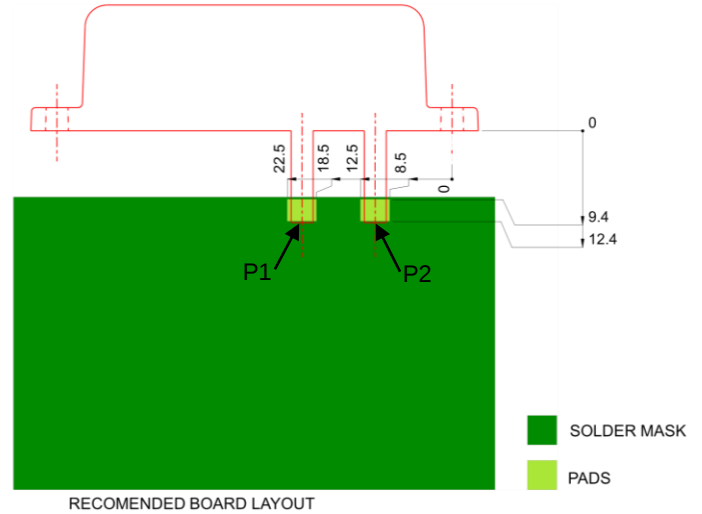
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Antenna Layout

Typical Layout Dimensions (mm)

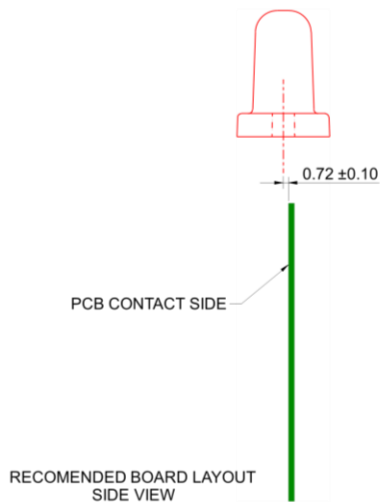


RECOMENDED BOARD LAYOUT



Pin Descriptions

Pin#	Description
1	BT Pin
2	GNSS Pin

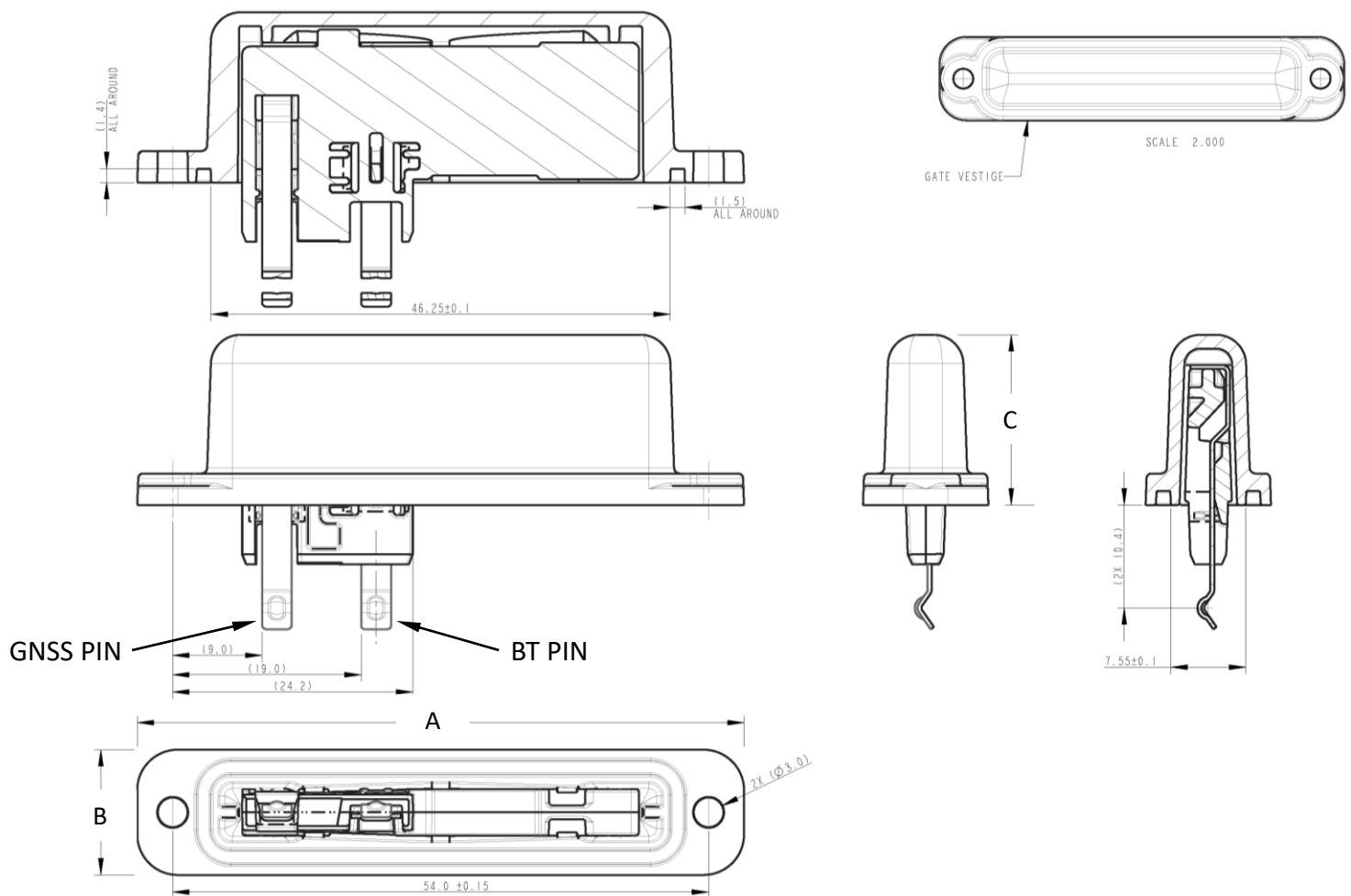


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Mechanical Dimensions

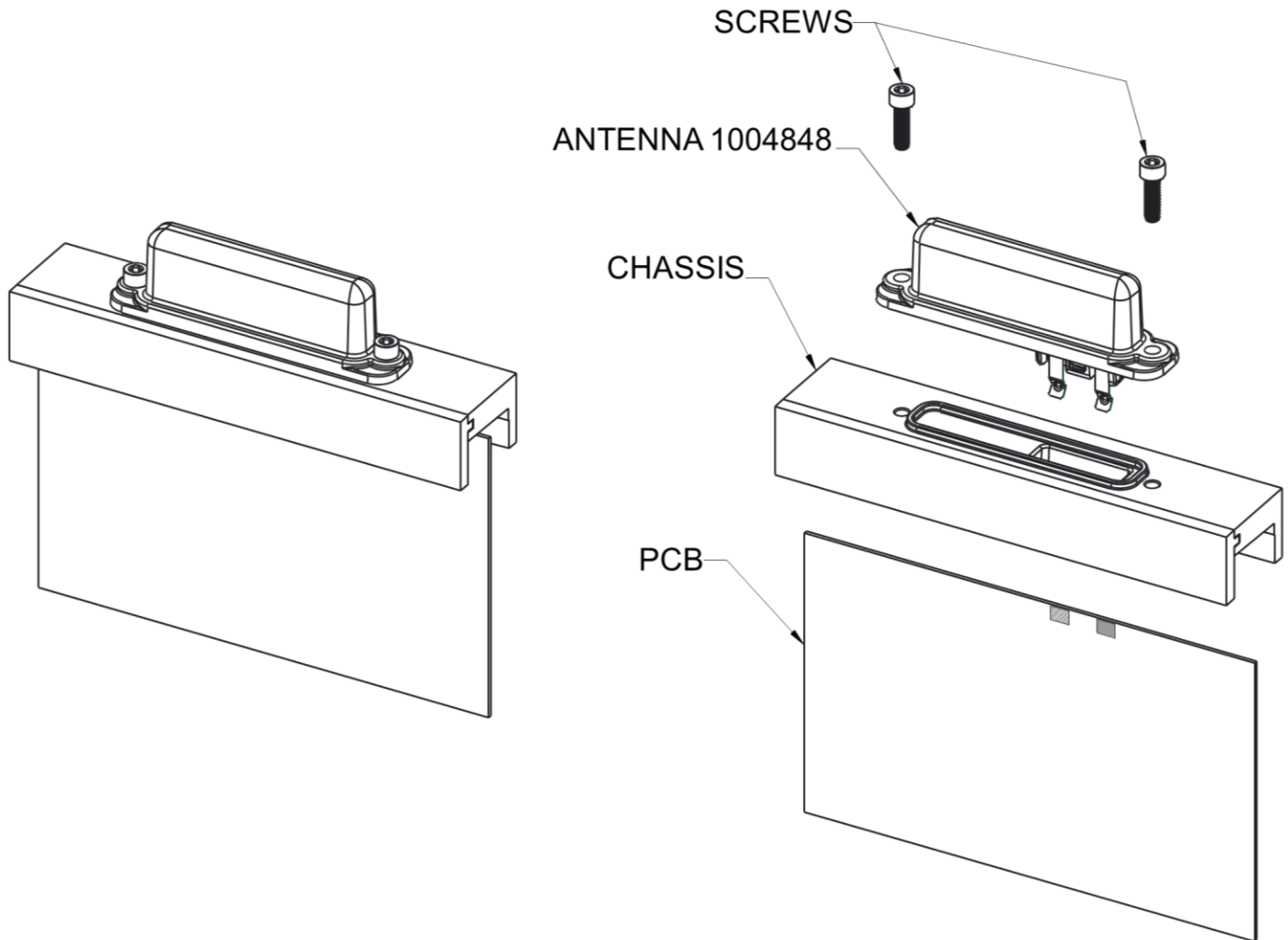
Typical antenna dimensions, in mm.

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



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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

