

# 5G/4G/3G/2G, NB-IoT, Cat-M, GNSS WORLD BAND COMBINATION ANTENNA

Part Numbers: 2108823-1

## FEATURES & BENEFITS

- On board SMD Metal stamping antenna
- Wide Band coverage for 3G, 4G and 5G with GPS(Included Beidou and GNSS)
- Bandwidth and performance dependent on ground plane size/ design suggested Available in Tray packaging for automatic mounting
- Minimal keep out zone requirement
- Performance dependent on ground plane size and design.

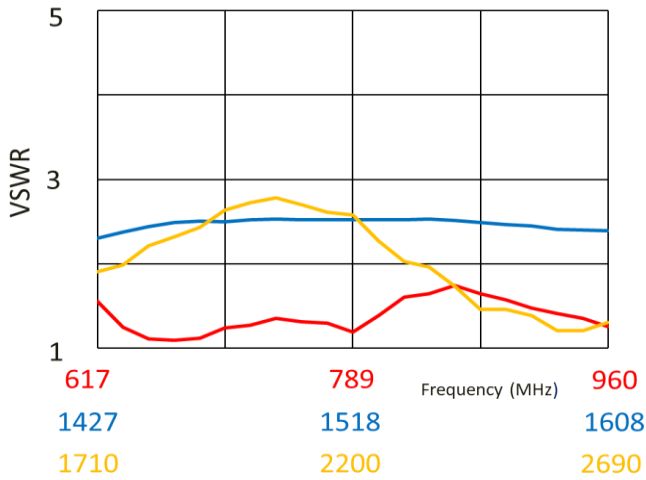
## SPECIFICATIONS

Frequency Range (MHz)	617-960	1427-1608	1710-2690	3300-3800	4300-4700	5150-5875	5925-7125
VSWR	< 1.8:1	< 2.6:1	< 2.8:1	< 1.8:1	< 1.5:1	< 2.0:1	< 2.5:1
Average Efficiency	87%	54%	70%	70%	73%	58%	51%
Peak Gain	2.5dBi	2.9dBi	4.8dBi	4.6dBi	3.0dBi	2.2dBi	2.5dBi
Average Gain	-0.6dBi	-2.6dBi	-1.6dBi	-1.6dBi	-1.4dBi	-2.4dBi	-3.0dBi
Power Handling	5 Watt cw						
Feed Point Impedance	50 ohms unbalanced						
Polarization	Linear						
Size	52.0 mm x 21.3 mm x 15.0 mm						
Weight	< 6.5 g						
Mounting	Surface mount						
Operating Temperature	-40 to +85°C						
Storage Temperature	-40 to +85°C						
Packaging Specification	Tray						
Hazardous Materials	A certificate of conformance is available from the product page on TE website.						

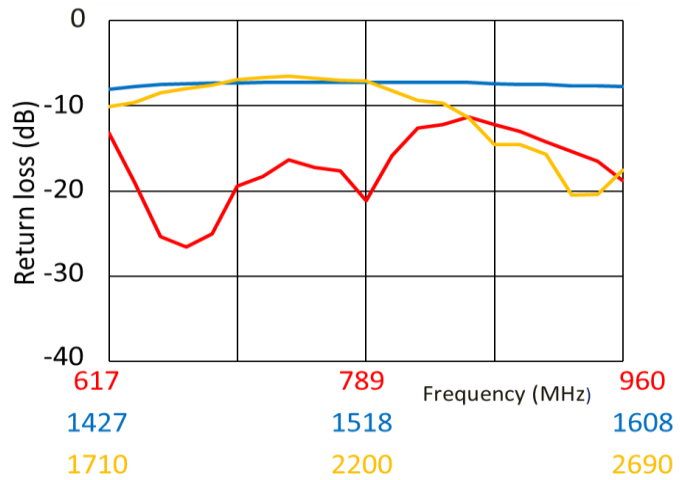
Data measured in free space and on reference ground plane of 135 mm length and 60.0 mm width, application data might vary

## RF DATA

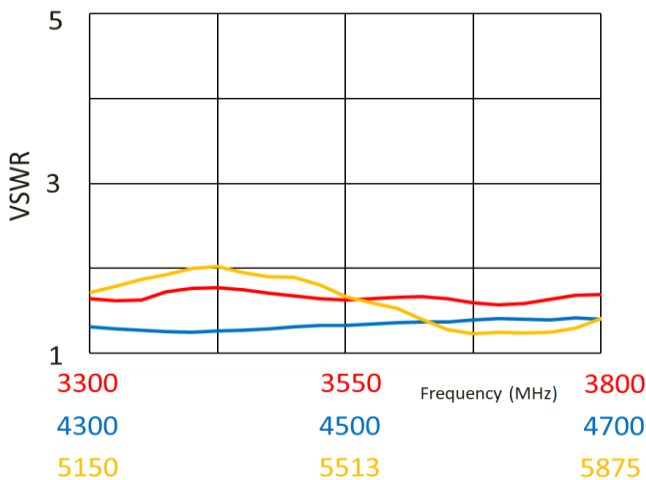
VSWR



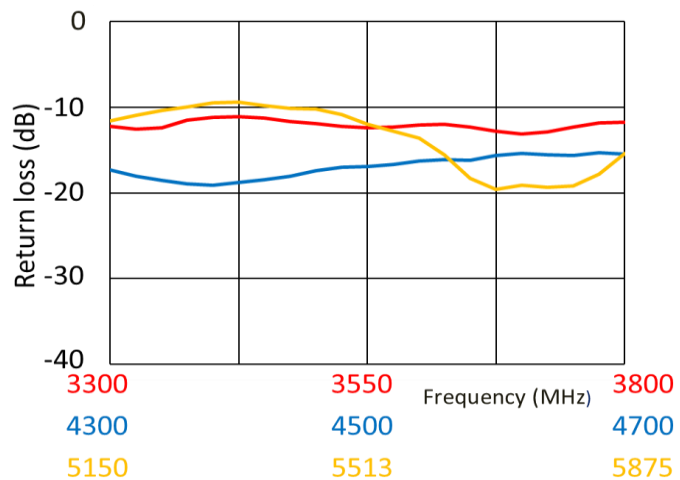
Return Loss



VSWR



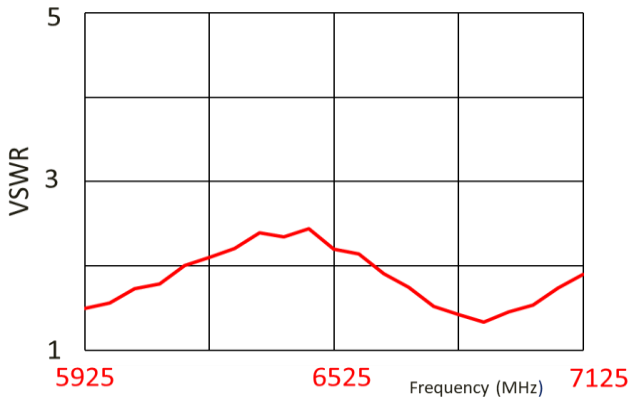
Return Loss



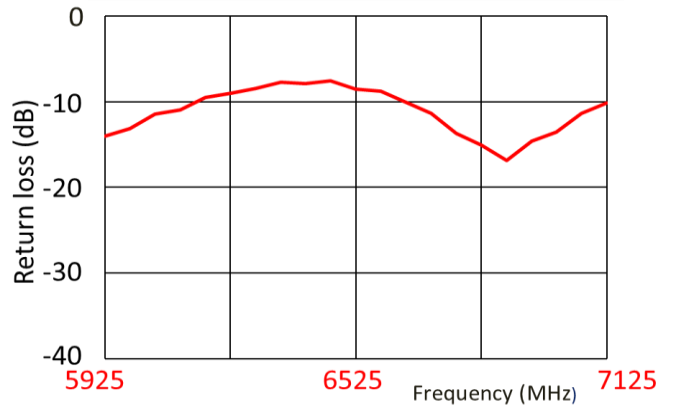
Data measured in free space and on reference ground plane of 135mm length and 60mm width, application data might vary

## RF DATA

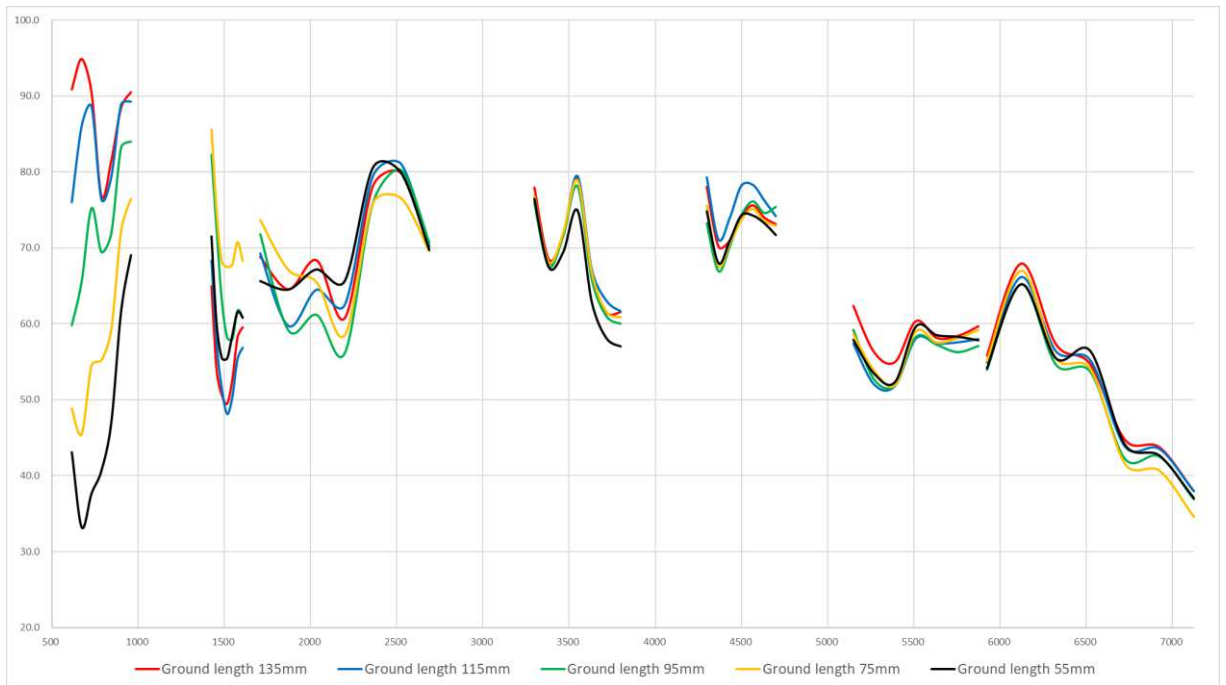
### VSWR



### Return Loss



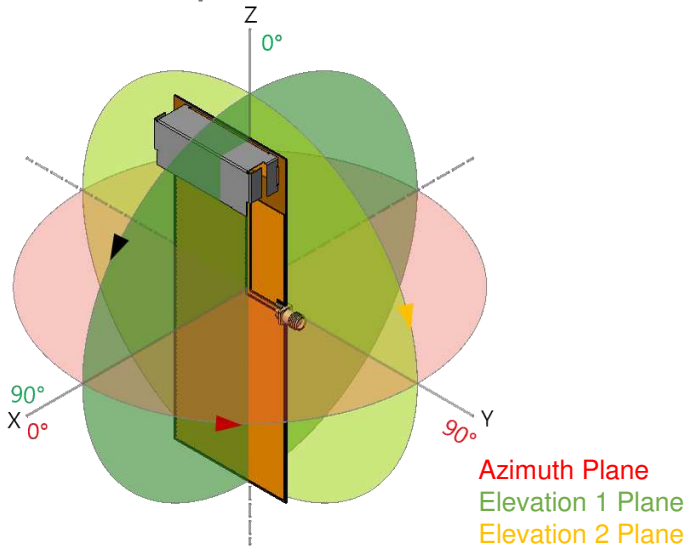
## Efficiency vs. Ground plane length



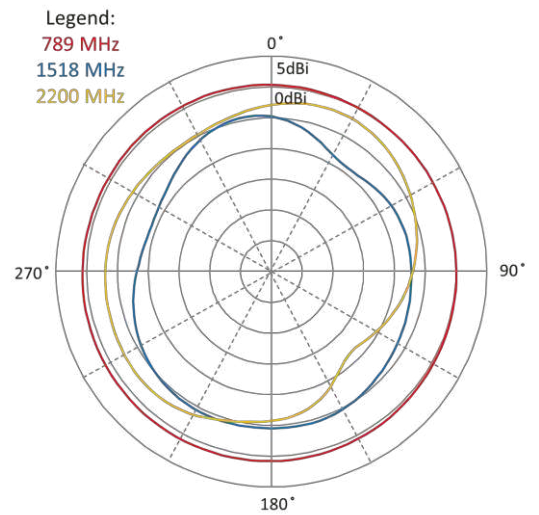
Data measured in free space and on reference ground plane of 135mm length and 60mm width, application data might vary

# RADIATION PATTERN

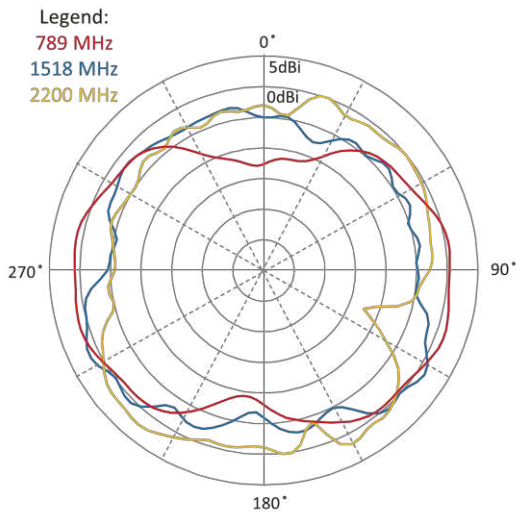
## Test setup



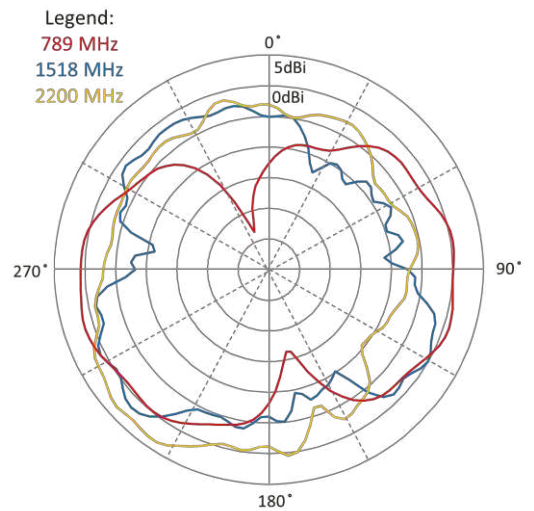
## Azimuth



## Elevation 1



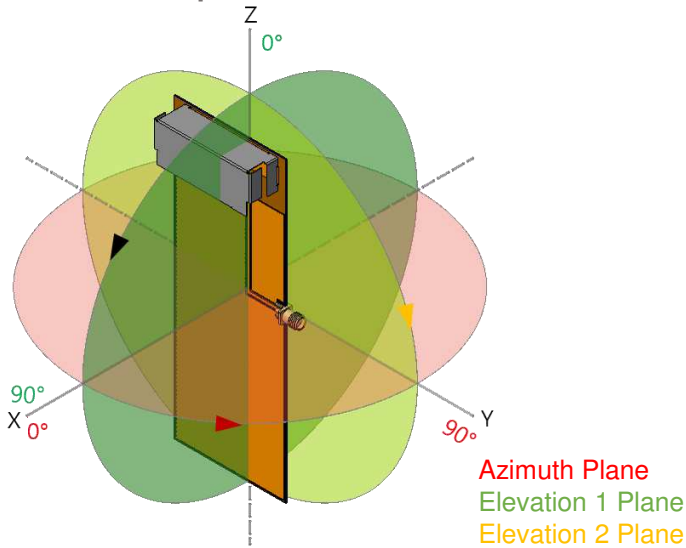
## Elevation 2



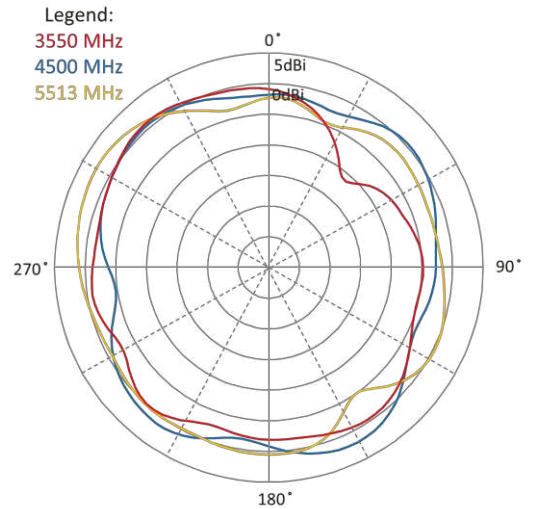
Data measured in free space and on reference ground plane of 135mm length and 60mm width, application data might vary

## RADIATION PATTERN

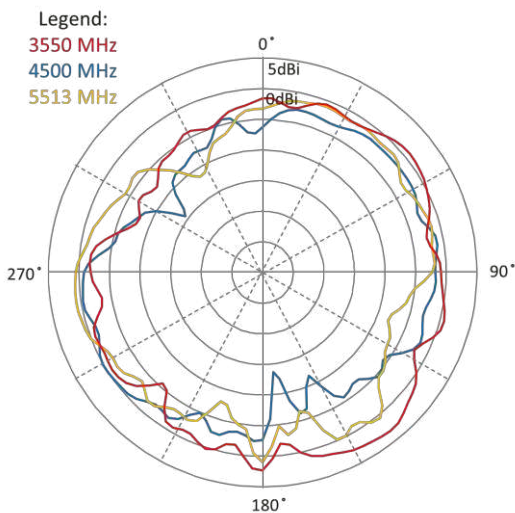
Test setup



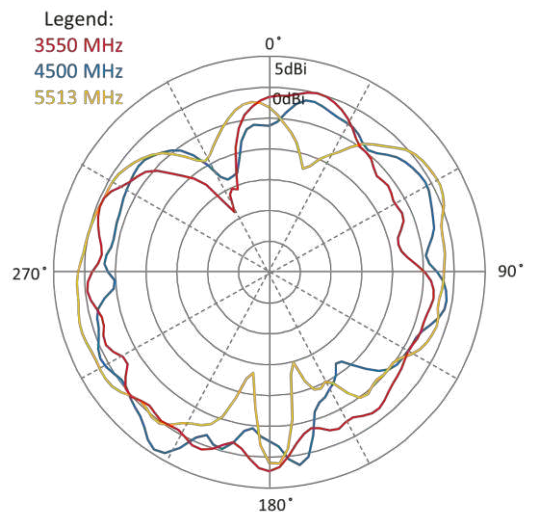
Azimuth



Elevation 1



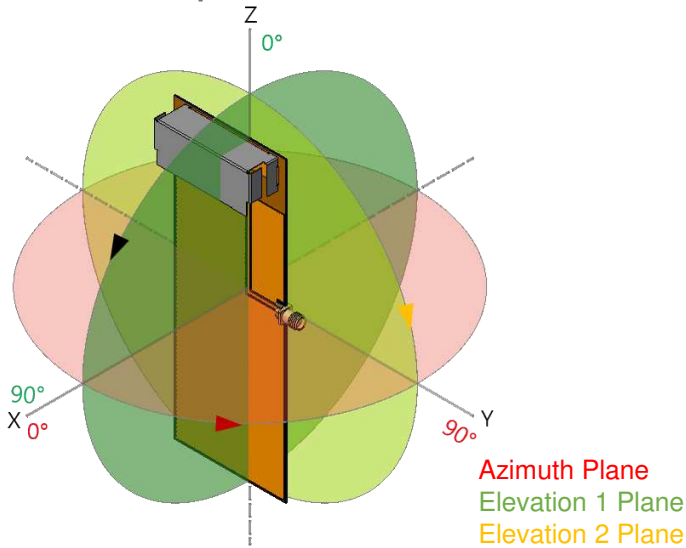
Elevation 2



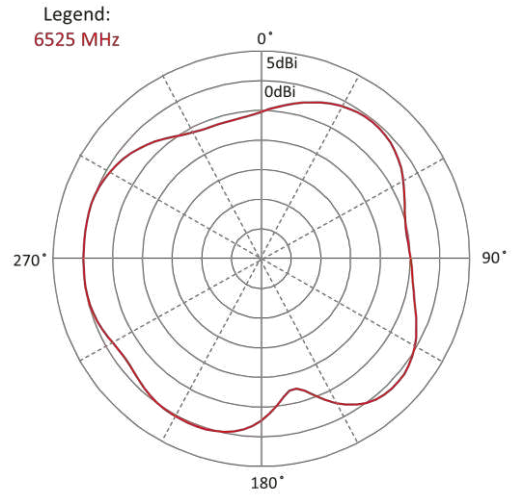
Data measured in free space and on reference ground plane of 135mm length and 60mm width, application data might vary

## RADIATION PATTERN

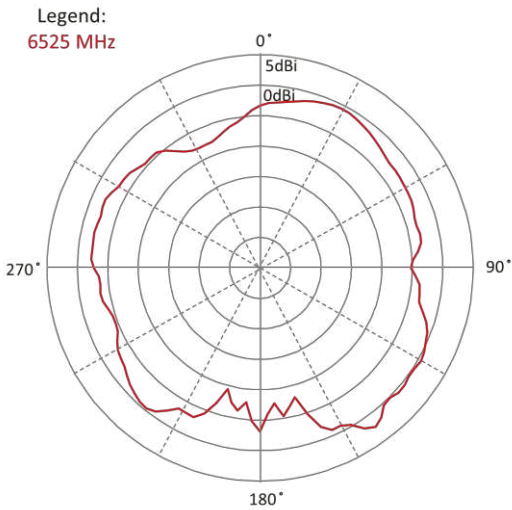
### Test setup



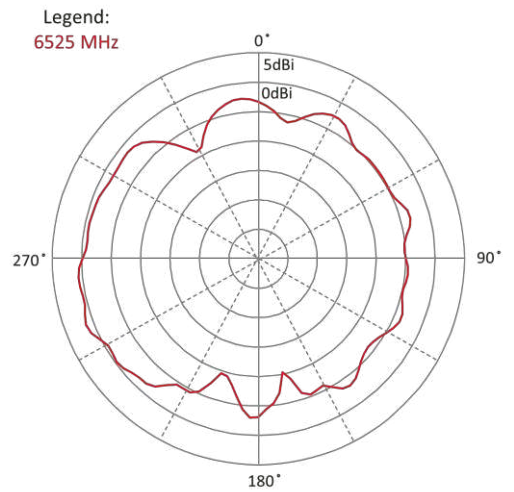
### Azimuth



### Elevation 1

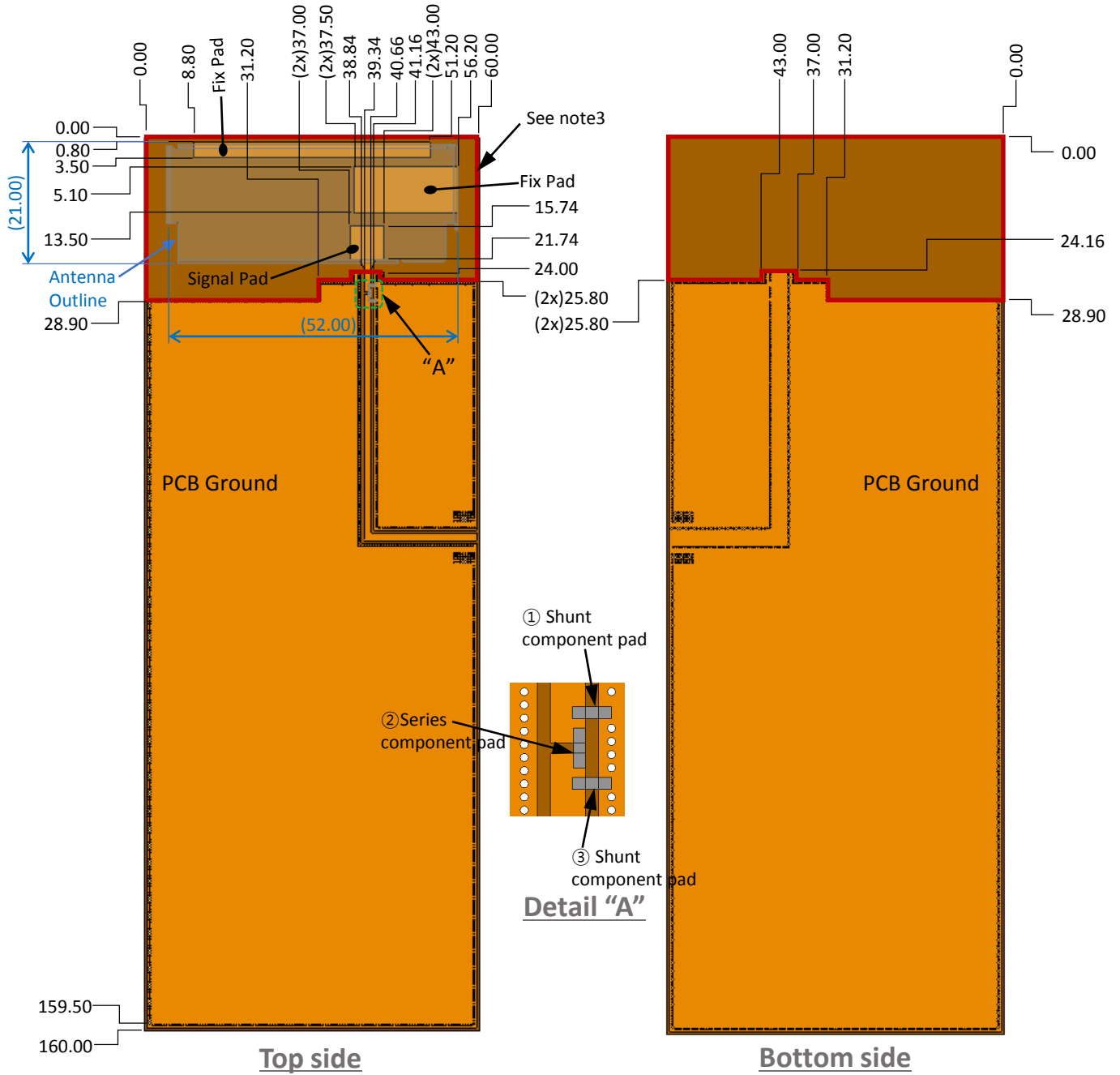


### Elevation 2



Data measured in free space and on reference ground plane of 135mm length and 60mm width, application data might vary

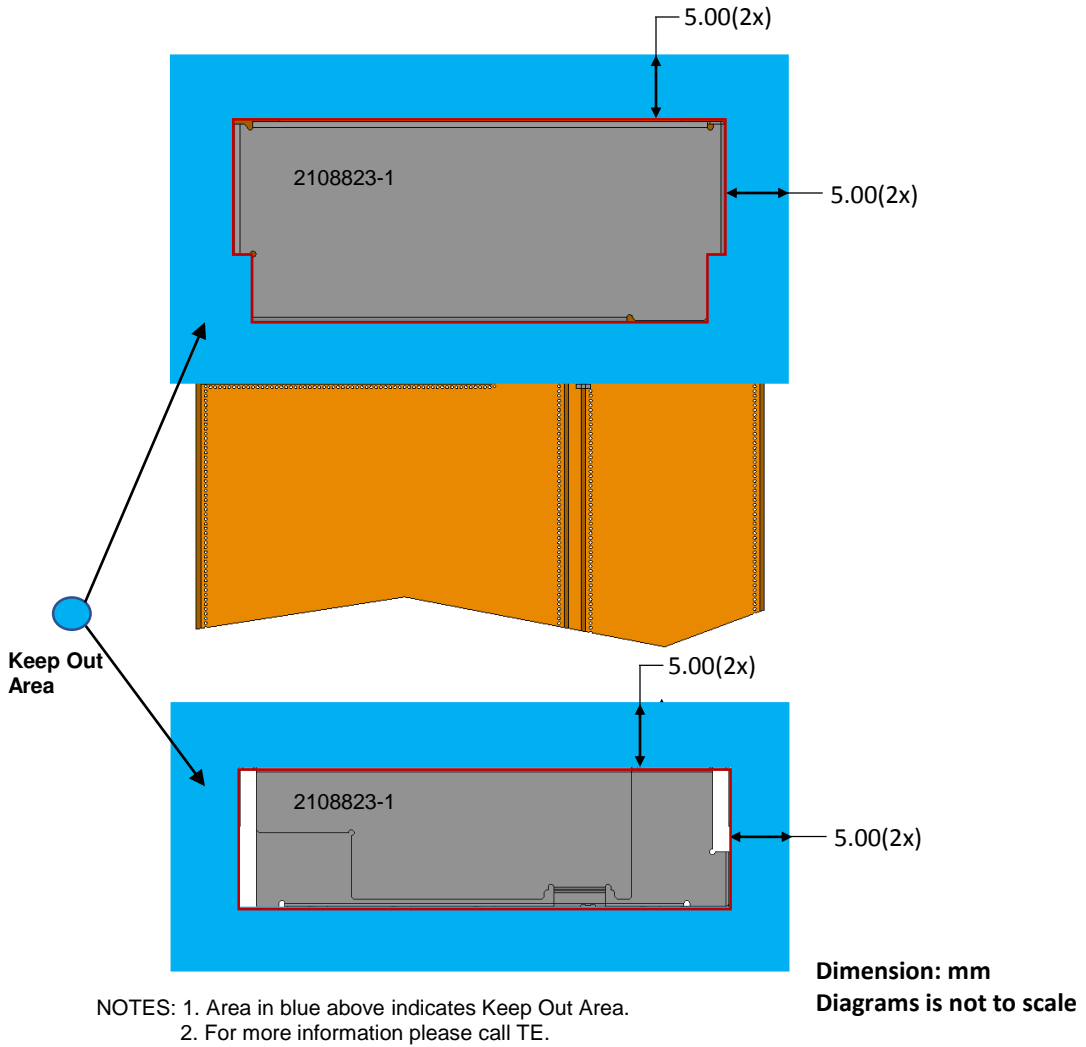
# MOUNTING GUIDE



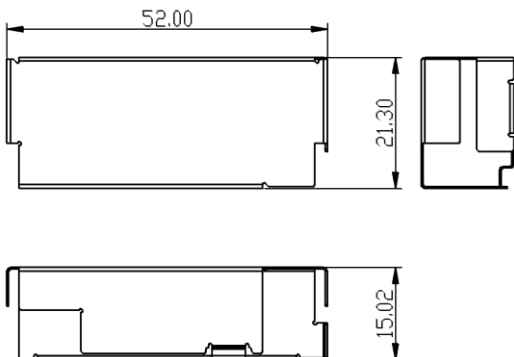
**Bottom side**  
Dimension: mm  
Diagrams is not to scale

- NOTES:** 1. Antenna must be mounted on the edge of PCB.  
 2. NC = Non connection (mechanical mounting pads).  
 3. No copper allowed in designated area on all PCB layers –   
 4. For more information please call TE.  
 5. Measured with below matching circuit condition.  
 ① NC ② 1nH ③ 18nH  
 6. Reference PCB Dimension(mm) - 60.0 x 160.0 x 0.8t

## KEEP OUT AREA



## DIMENSIONS



Dimension: mm  
Diagrams is not to scale

## PACKAGING

2108823-1 (BULK)



### TE TECHNICAL SUPPORT CENTER

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico:	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

For phone numbers in other countries, go to [te.com/support-center](http://te.com/support-center)

### te.com

TE Connectivity, TE Connectivity (logo) are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2020 TE Connectivity Ltd. family of companies All Rights Reserved.

07/2020