



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

**Part Numbers: 2108784-1, 2108784-2**

### FEATURES & BENEFITS

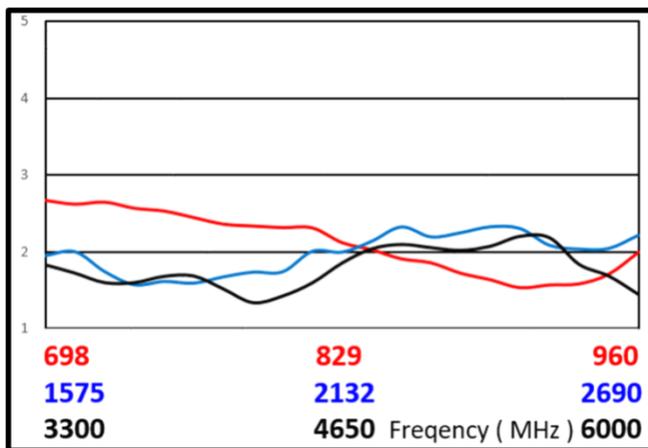
- Omnidirectional coverage
- On board SMD PCB antenna
- Wide Band coverage for 3G, 4G and 5G with GNSS
- Bandwidth and performance dependent on ground plane size/ design suggested minimum ground plane length from antenna feed is 120mm
- Available in Tape & Reel packaging for automatic mounting

### SPECIFICATIONS

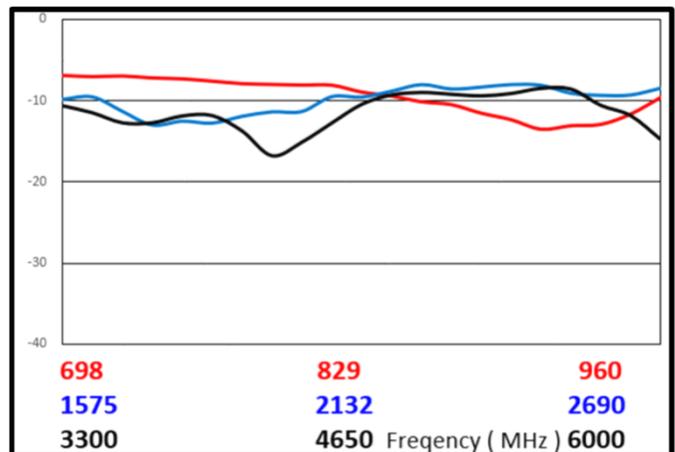
<b>Frequency Range (MHz)</b>	698-960	1575-1608	1710-2690	3300-4000	4000-5000	5000-6000
<b>VSWR</b>	< 2.8:1	< 2.0:1	< 2.5:1	< 1.8:1	< 2.1:1	< 2.3:1
<b>Average Efficiency</b>	57.1%	53.9%	53.4%	59.1%	47.7%	46.6%
<b>Peak Gain</b>	0.4dBi	2.3dBi	3.1dBi	4.0dBi	3.6dBi	1.9dBi
<b>Average Gain</b>	-2.4dBi	-2.6dBi	-2.7dBi	-2.3dBi	-3.2dBi	-3.3dBi
<b>Power Handling</b>	5 Watt cw					
<b>Feed Point Impedance</b>	50 ohms unbalanced					
<b>Polarization</b>	Linear					
<b>Size</b>	38.0 mm x 7.5 mm x 3.2 mm					
<b>Weight</b>	< 1.5 g					
<b>Mounting</b>	Surface mount					
<b>Operating Temperature</b>	-40 to +85°C					
<b>Storage Temperature</b>	-40 to +85°C					
<b>Packaging Specification</b>	Bag & Box / Tape & Reel					
<b>Hazardous Materials</b>	A certificate of conformance is available from the product page on TE website.					
<b>Data measured in free space and on reference ground plane of 120 mm length and 45.0 mm width, application data might vary</b>						

## RF DATA

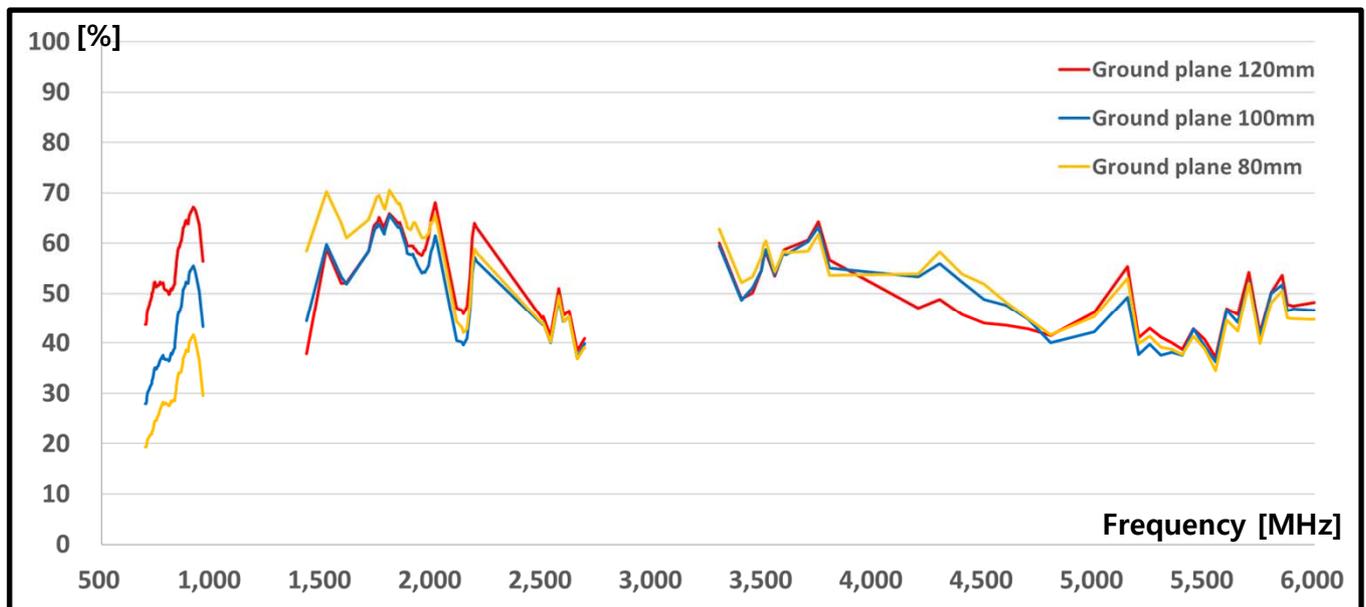
VSWR



Return Loss



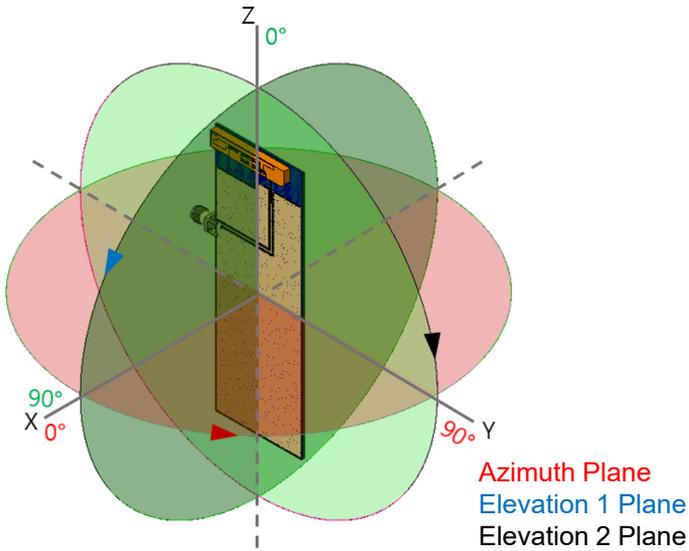
Efficiency vs. Ground plane size



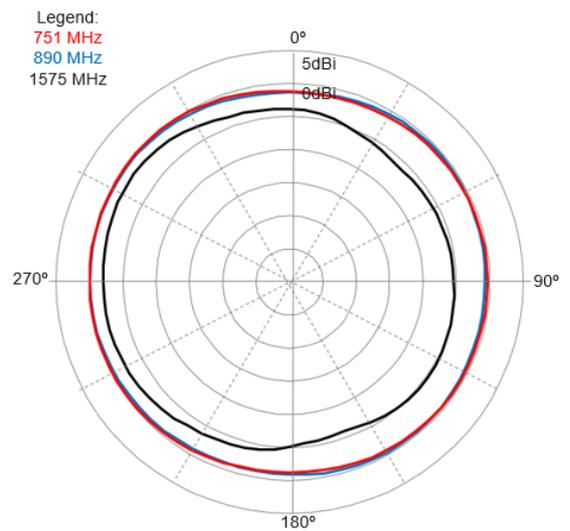
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

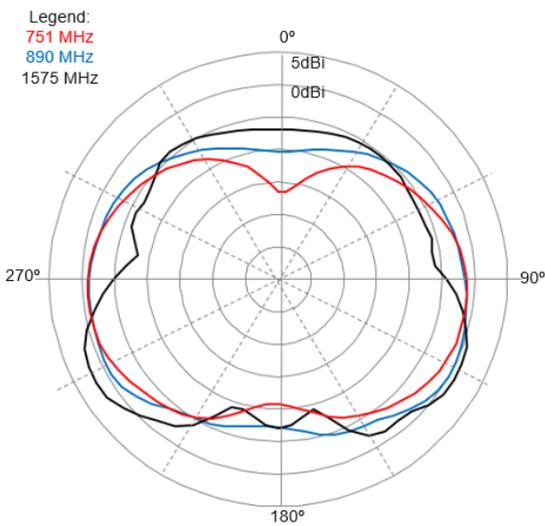
### Test setup



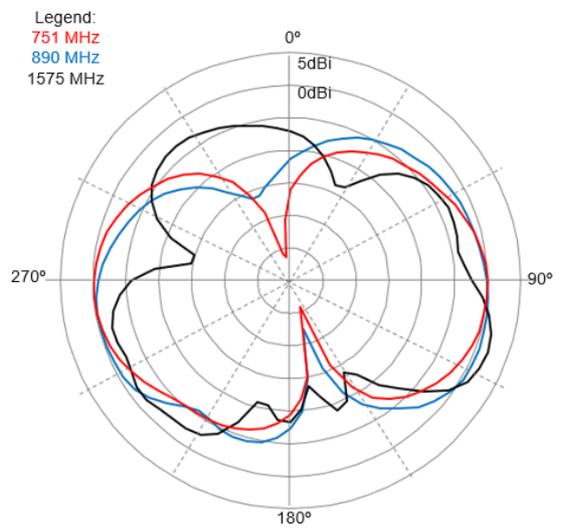
### Azimuth



### Elevation 1



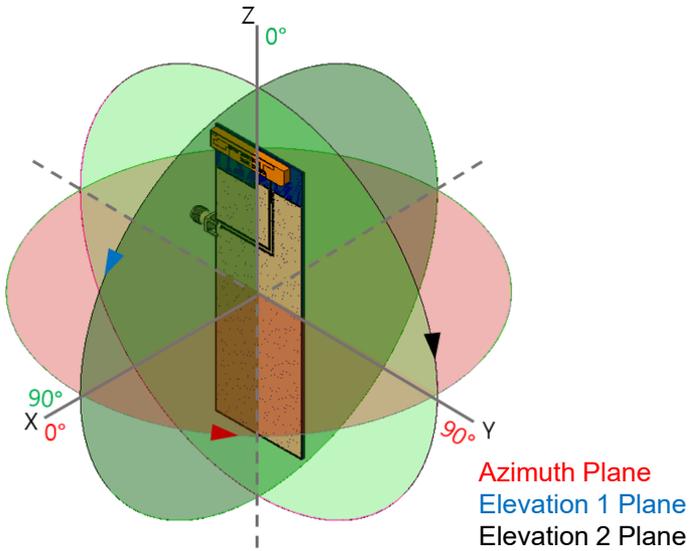
### Elevation 2



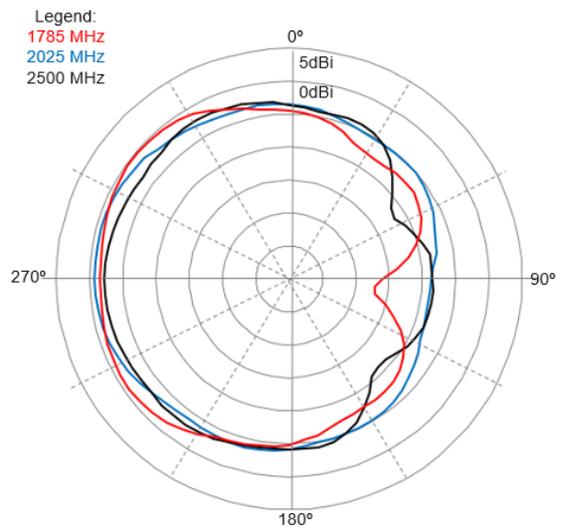
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

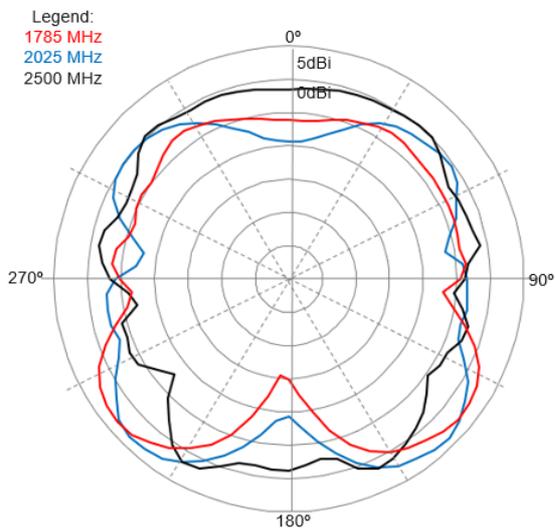
### Test setup



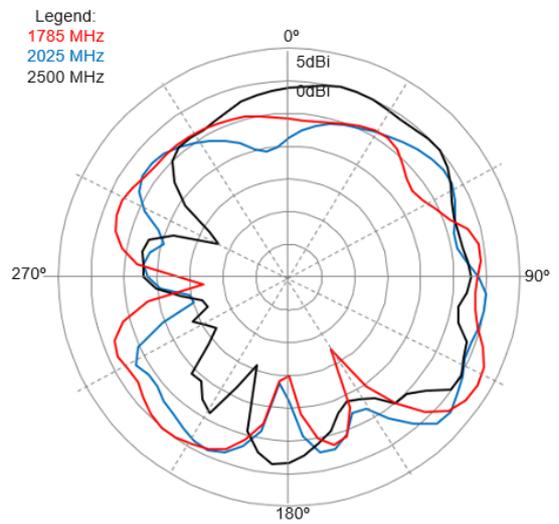
### Azimuth



### Elevation 1



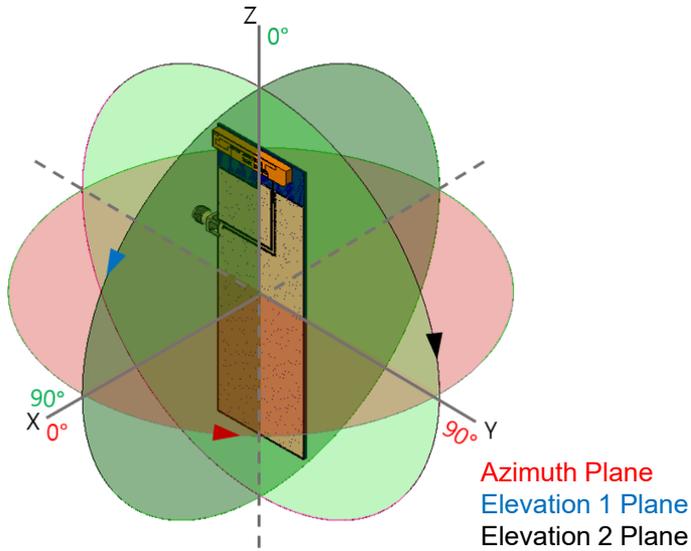
### Elevation 2



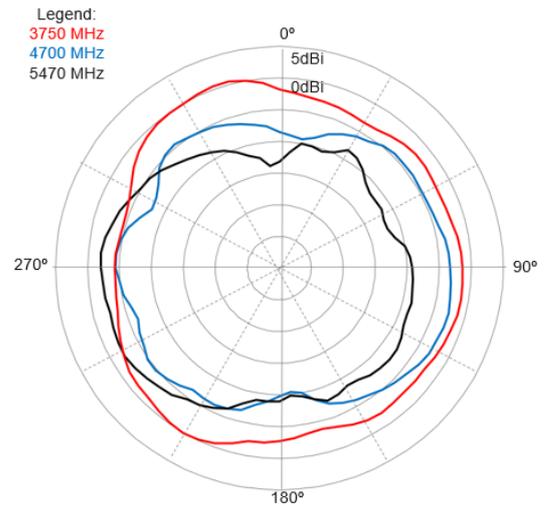
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

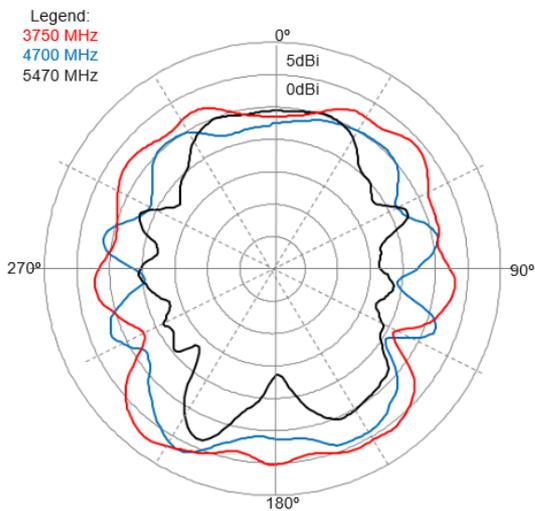
### Test setup



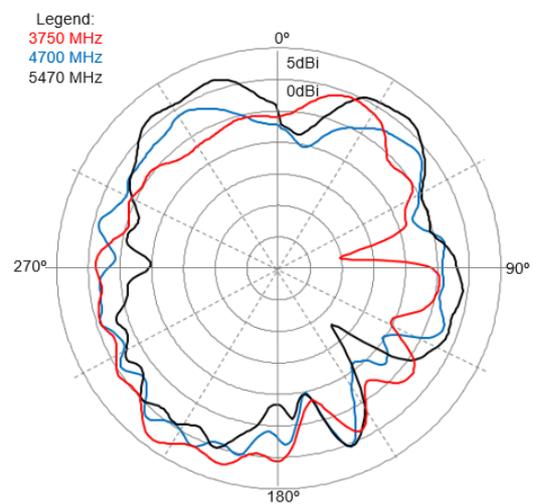
### Azimuth



### Elevation 1



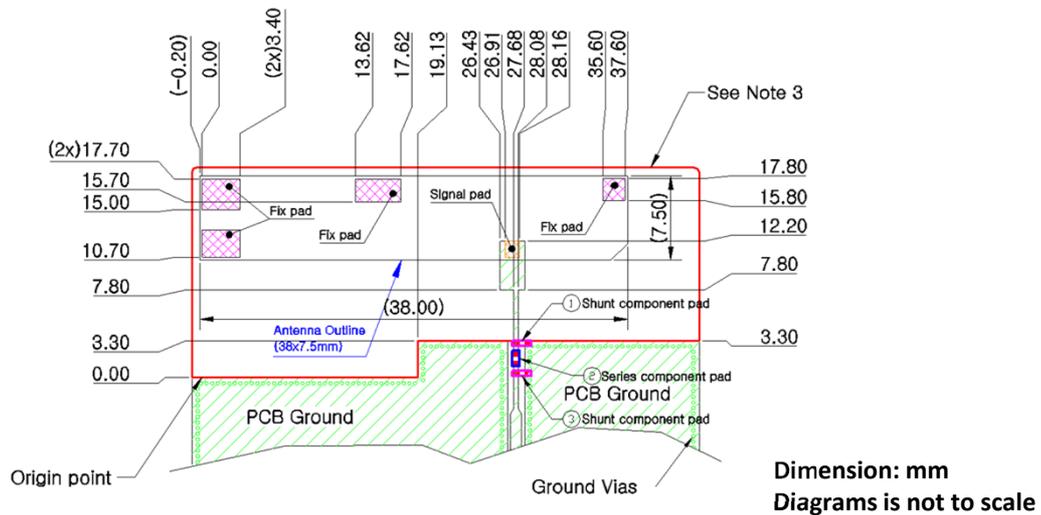
### Elevation 2



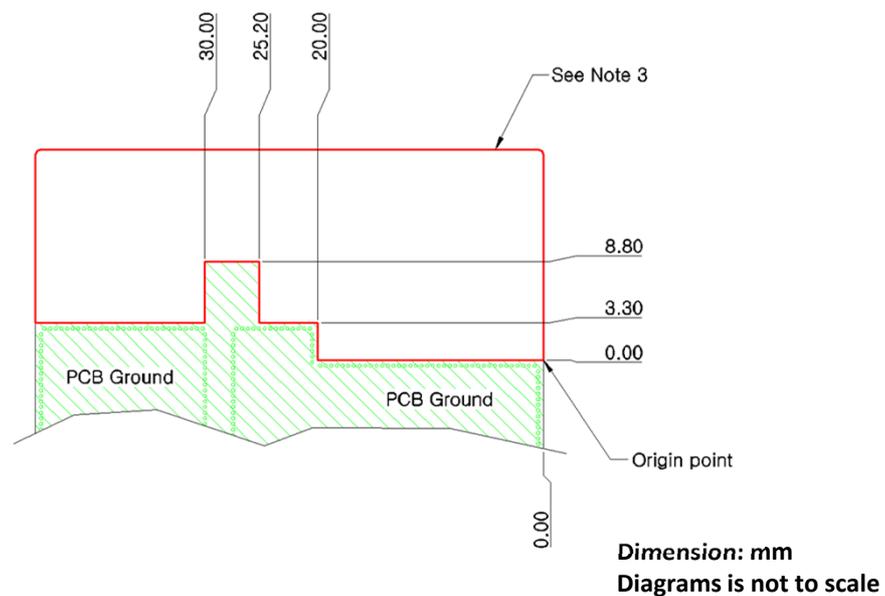
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## MOUNTING GUIDE

### Top side

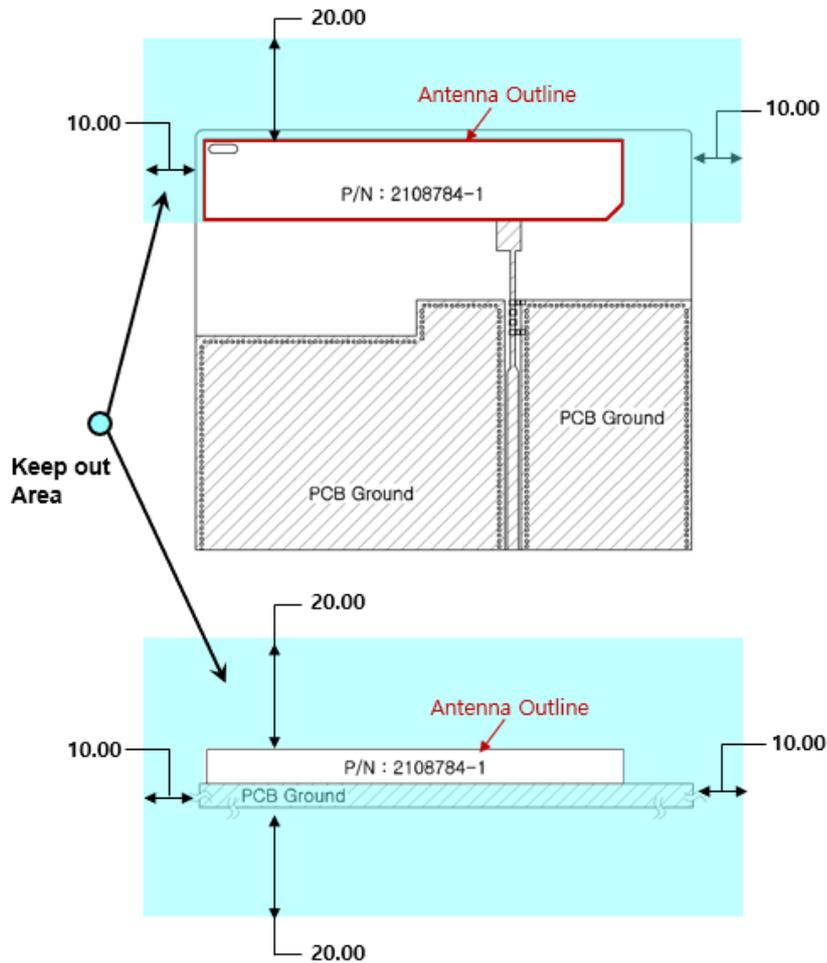


### Bottom side



- 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.(Top side only)
    - ① 10nH, ② 3.3pF, ③ NC
  6. Reference PCB Dimension(mm) - 45.0 x 130.0 x 1.0

## KEEP OUT AREA



## DIMENSIONS



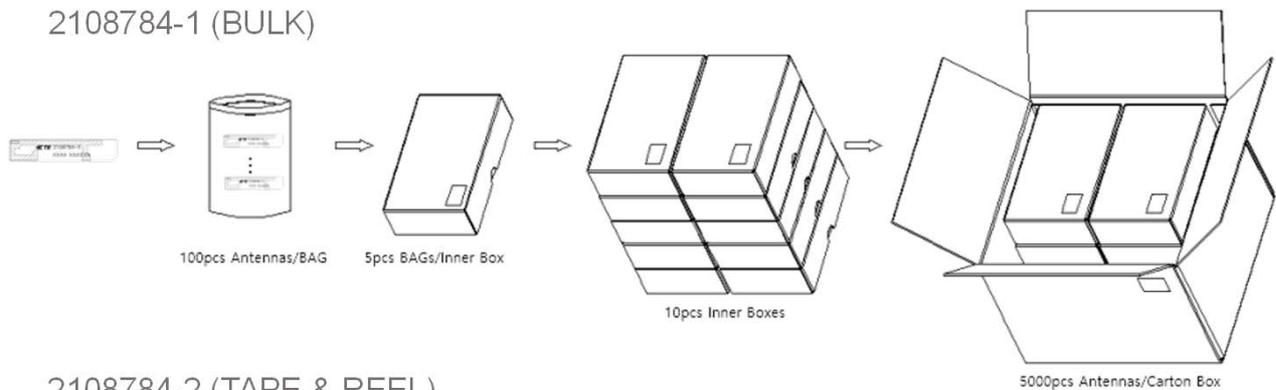
Dimension: mm  
Diagrams is not to scale

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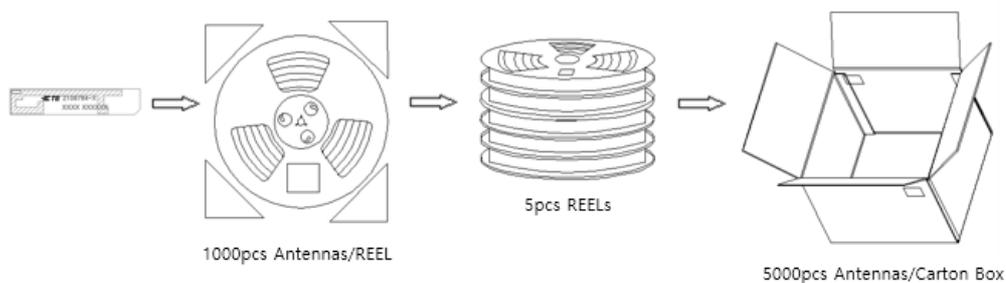
Standard Antenna Solutions

## PACKAGING

### 2108784-1 (BULK)



### 2108784-2 (TAPE & REEL)



### TE TECHNICAL SUPPORT CENTER

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