



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

Part Numbers: 2108784-1, 2108784-2

## FEATURES & BENEFITS

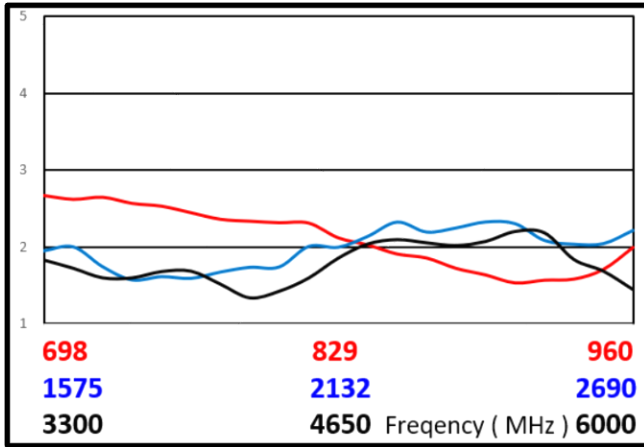
- Omnidirectional coverage
- On board SMD PCB antenna
- Wide Band coverage for 3G, 4G and 5G with GNSS
- Bandwidth and performance dependent on ground plane size/ design suggested minimum ground plane length from antenna feed is 120mm
- Available in Tape & Reel packaging for automatic mounting

## SPECIFICATIONS

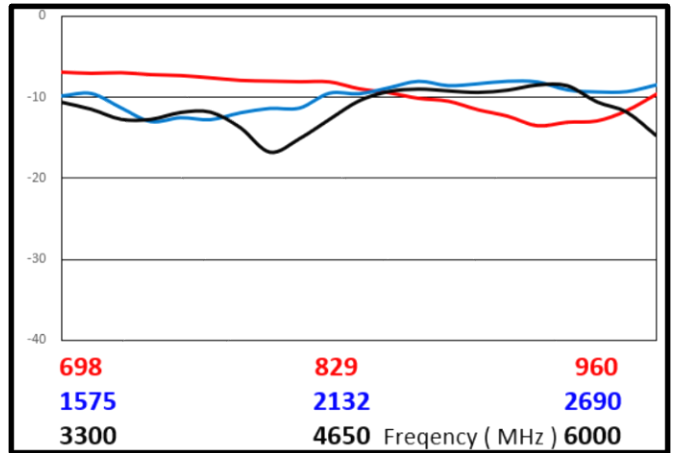
Frequency Range (MHz)	698-960	1575-1608	1710-2690	3300-4000	4000-5000	5000-6000
VSWR	< 2.8:1	< 2.0:1	< 2.5:1	< 1.8:1	< 2.1:1	< 2.3:1
Average Efficiency	57.1%	53.9%	53.4%	59.1%	47.7%	46.6%
Peak Gain	0.4dBi	2.3dBi	3.1dBi	4.0dBi	3.6dBi	1.9dBi
Average Gain	-2.4dBi	-2.6dBi	-2.7dBi	-2.3dBi	-3.2dBi	-3.3dBi
Power Handling	5 Watt cw					
Feed Point Impedance	50 ohms unbalanced					
Polarization	Linear					
Size	38.0 mm x 7.5 mm x 3.2 mm					
Weight	< 1.5 g					
Mounting	Surface mount					
Operating Temperature	-40 to +85°C					
Storage Temperature	-40 to +85°C					
Packaging Specification	Bag & Box / Tape & Reel					
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 120 mm length and 45.0 mm width, application data might vary						

## RF DATA

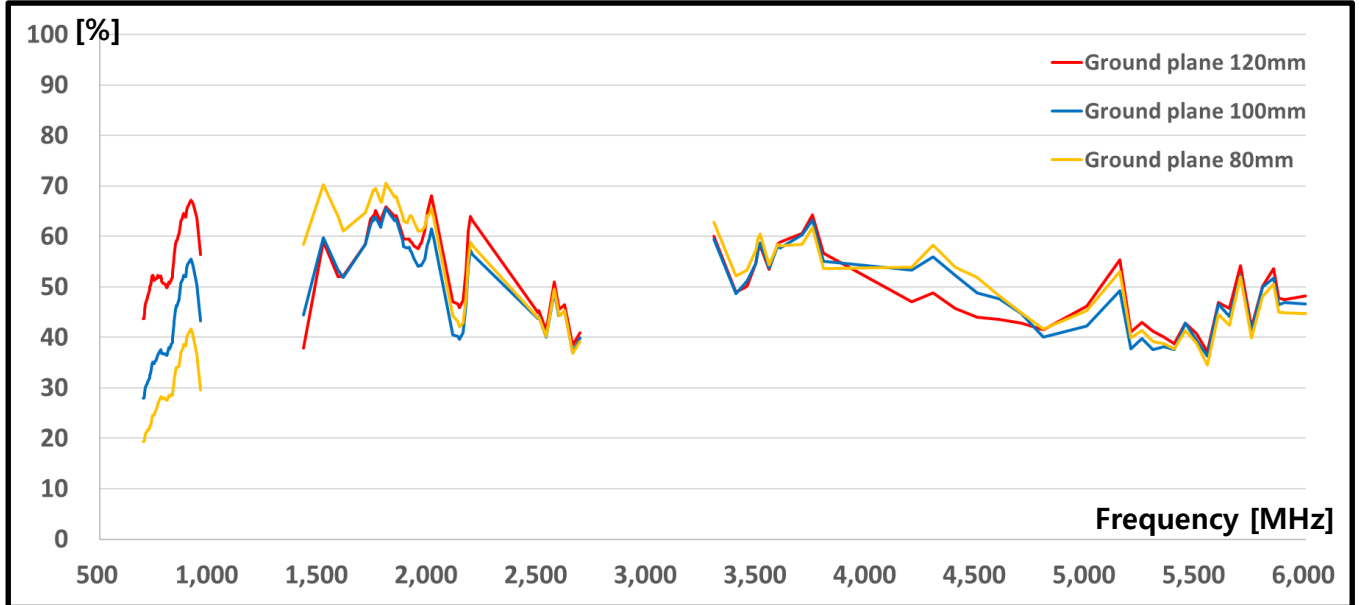
VSWR



Return Loss



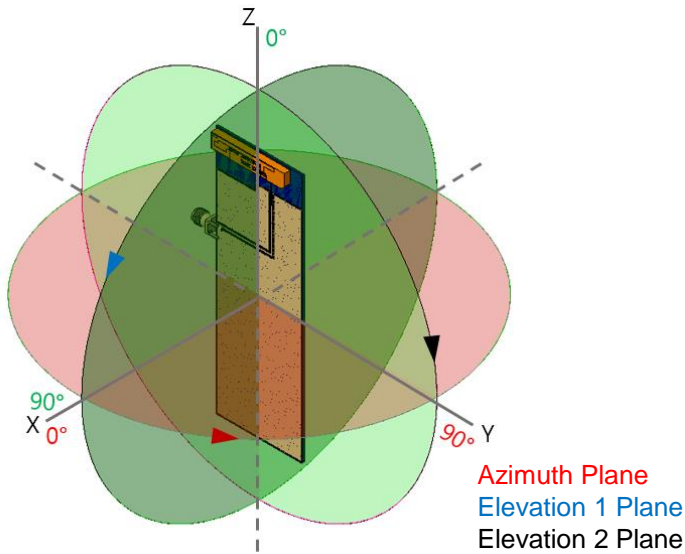
Efficiency vs. Ground plane size



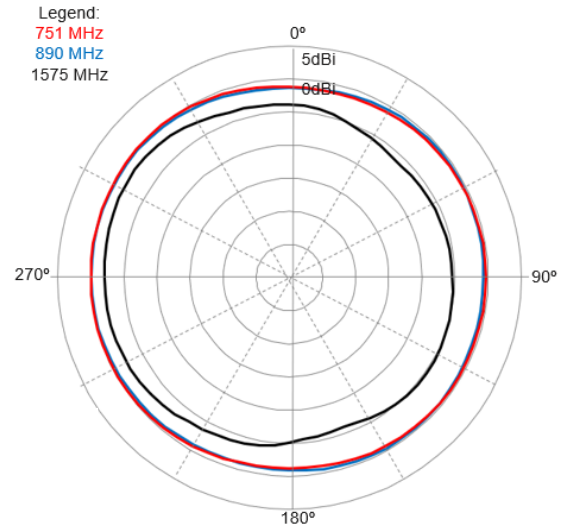
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

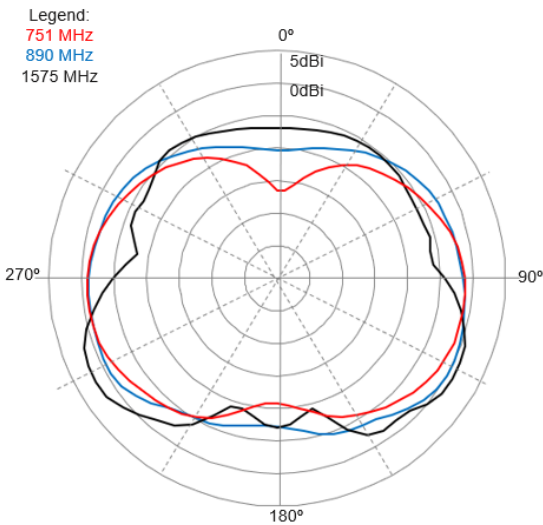
### Test setup



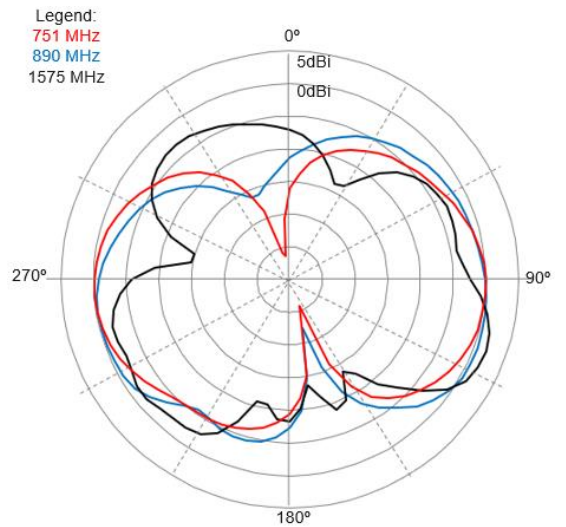
### Azimuth



### Elevation 1



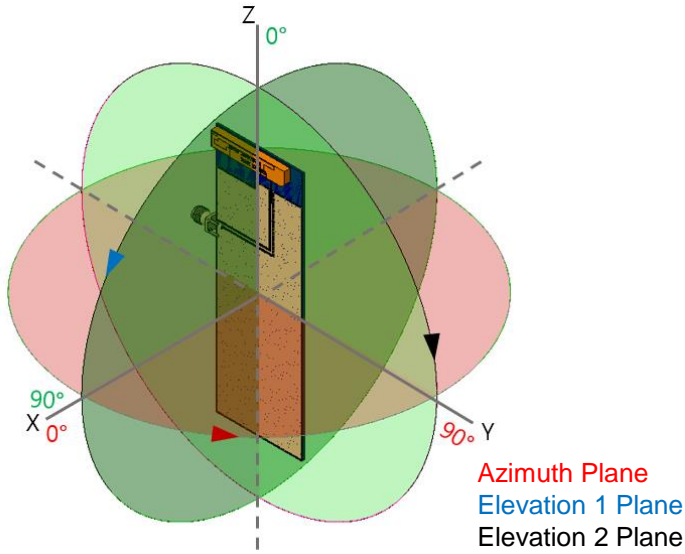
### Elevation 2



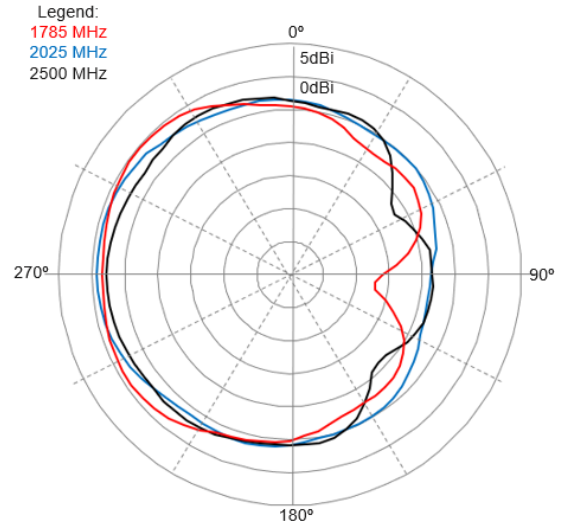
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

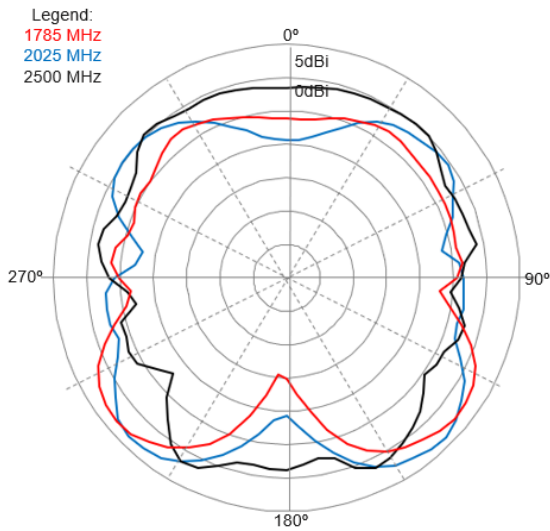
### Test setup



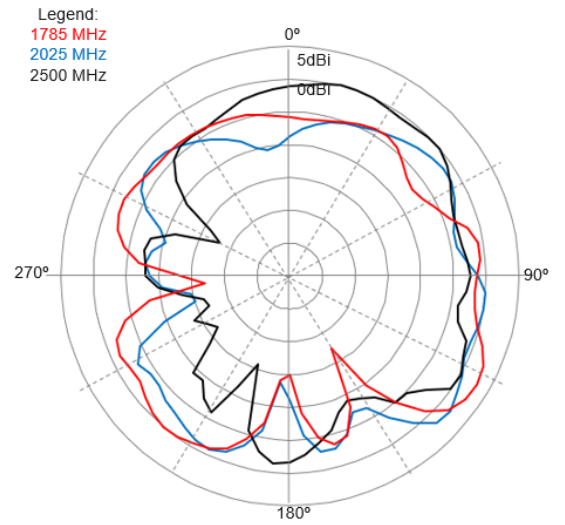
### Azimuth



### Elevation 1



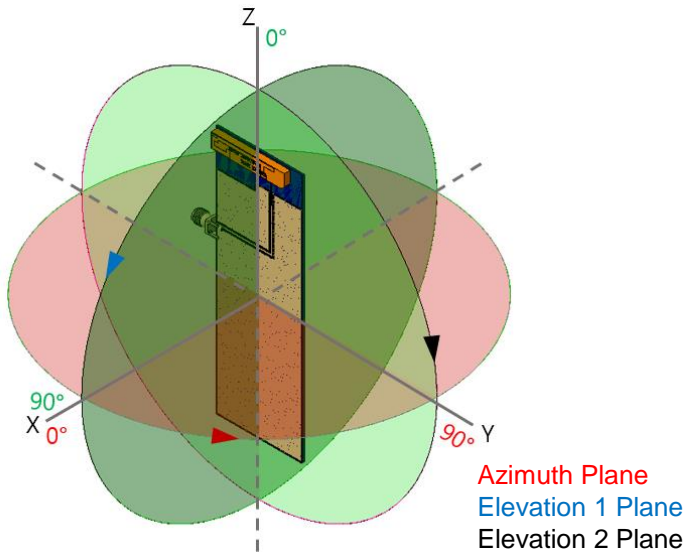
### Elevation 2



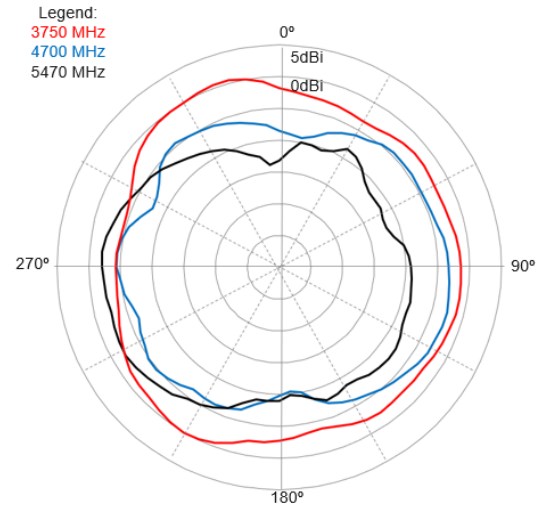
Data measured in free space and on reference ground plane of 120mm length and 45mm width, application data might vary

## RADIATION PATTERN

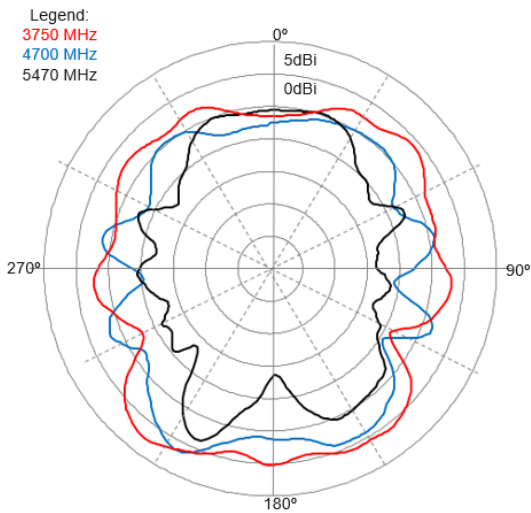
### Test setup



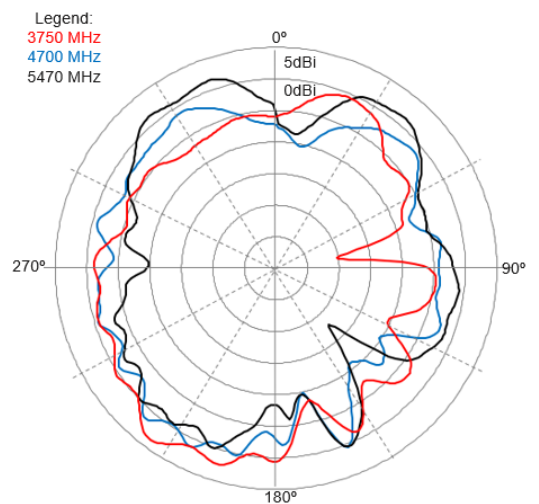
### Azimuth



### Elevation 1



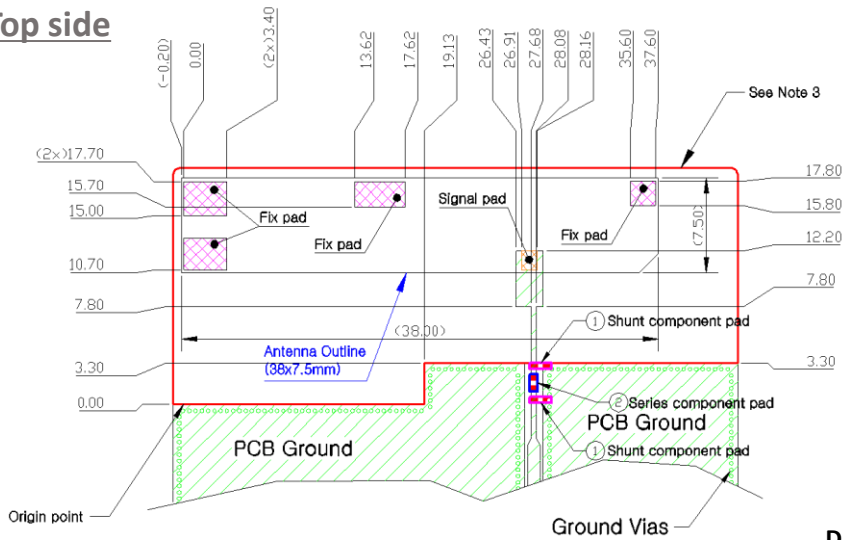
### Elevation 2



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

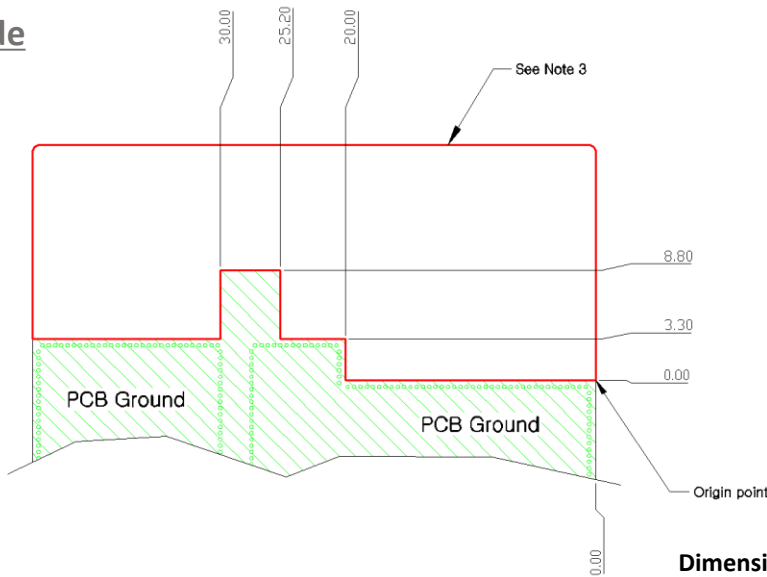
## MOUNTING GUIDE

### Top side



Dimension: mm  
Diagrams is not to scale

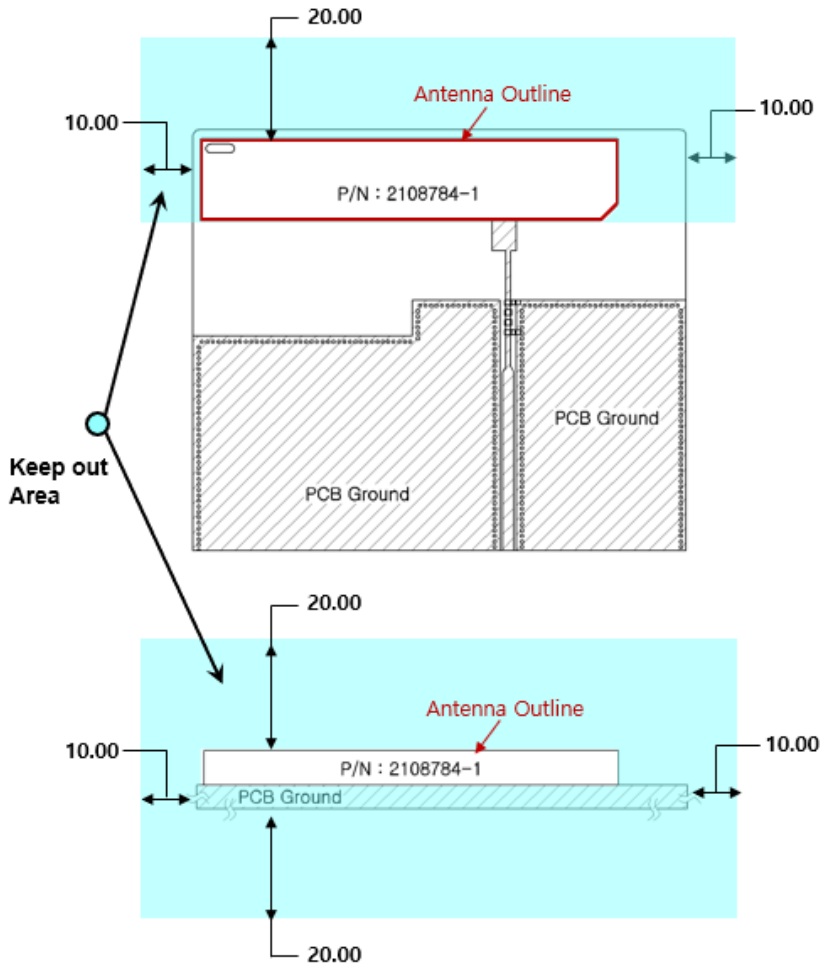
### Bottom side



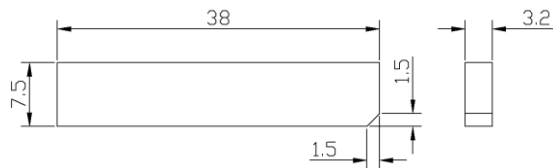
Dimension: mm  
Diagrams is not to scale

- 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 12nH, ② 4.7pF
  6. Reference PCB Dimension(mm) - 45.0 x 130.0 x 1.0

## KEEP OUT AREA



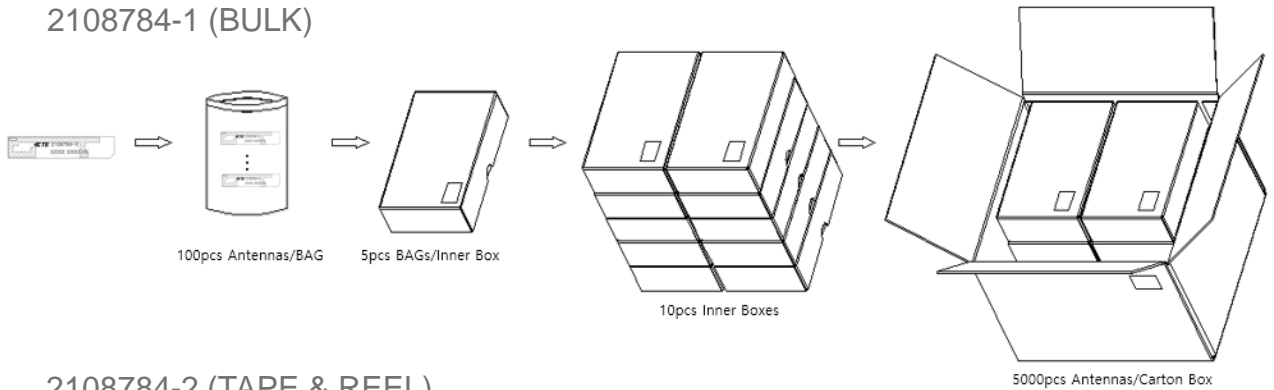
## DIMENSIONS



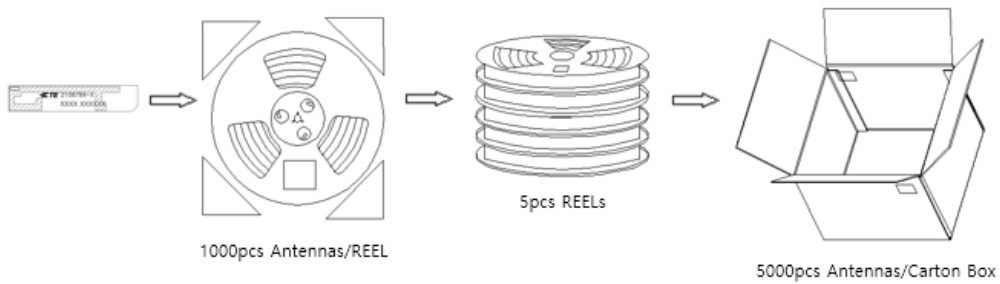
Dimension: mm  
Diagrams is not to scale

### PACKAGING

#### 2108784-1 (BULK)



#### 2108784-2 (TAPE & REEL)



#### TE TECHNICAL SUPPORT CENTER

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UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
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