



# 5G FR1, LTE GLOBAL WORLD BAND COMBINATION ANTENNA

Part Numbers:  
L000657-01  
L000657-80

## FEATURES & BENEFITS

- Omnidirectional coverage
- High efficiency, low profile, on board SMD PCB antenna
- Wideband coverage for 3G, 4G and 5G FR1
- Evaluation board available for testing (L000682-80)
- Bandwidth and performance dependent on ground plane size / design
- Suggested minimum ground plane length from antenna feed is 150mm
- Available in tape & reel packaging for automatic mounting
- RoHS 2.0 compliant, Road vehicle compliant, REACH compliant

The L000682-01 is a wideband 5G antenna with performance fine-tuned for European 5G bands and on a smaller footprint as compared to the L000657-01 antenna in the same series.

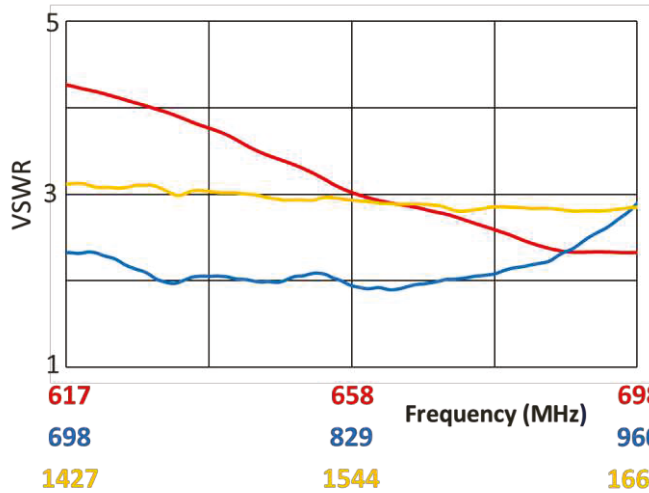
## SPECIFICATIONS

<b>Frequency Range (MHz)</b>	617-698	698-960	1427-1661	1695-2400	2484-2690	3300-4200	4400-5000
<b>VSWR</b>	< 4.3:1	< 2.9:1	< 3.2:1	< 3.2:1	< 1.8:1	< 2.7:1	< 2.9:1
<b>Average Efficiency</b>	53.50%	56.00%	61.00%	65.10%	83.50%	73.60%	68.80%
<b>Peak Gain</b>	1.0dBi	2.4dBi	2.6dBi	4.0dBi	5.9dBi	5.3dBi	4.5dBi
<b>Average Gain</b>	-2.77dBi	-2.56dBi	-2.15dBi	-1.87dBi	-0.76dBi	-1.33dBi	-1.64dBi
<b>Power Handling</b>	5 Watt cw						
<b>Feed Point Impedance</b>	50 ohms unbalanced						
<b>Polarization</b>	Linear						
<b>Size</b>	50.0 mm x 10.0 mm x 1.61 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.						

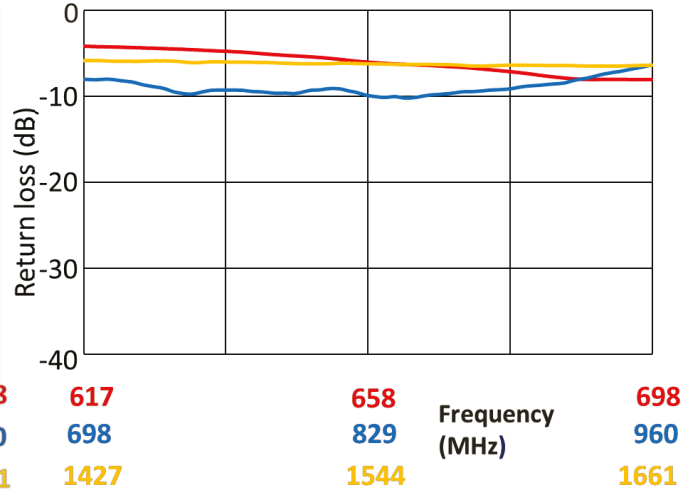
Data measured in free space and on reference ground plane of 150mm ground length and 55mm width, application data might vary.

**RF DATA (SHOWN AS L000657-1 : OTHERS CAN VARY WITH DIFFERENT GROUND LENGTHS.)**

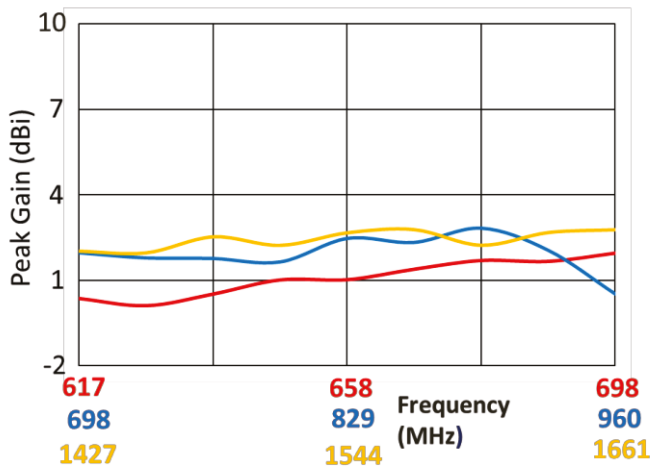
**VSWR**



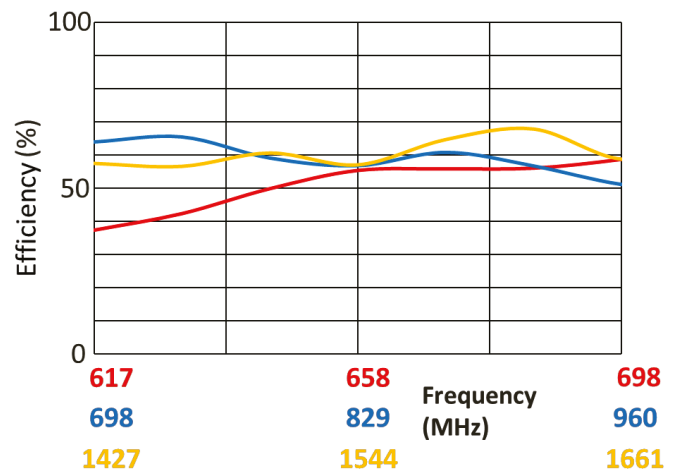
**Return Loss**



**Peak Gain**

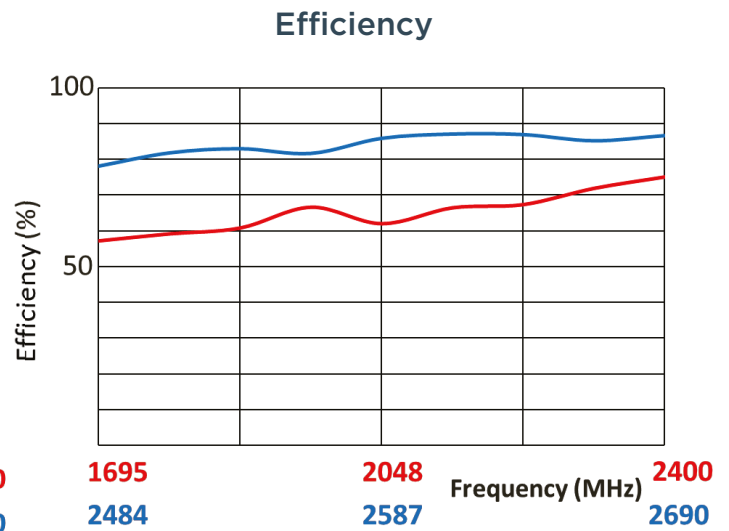
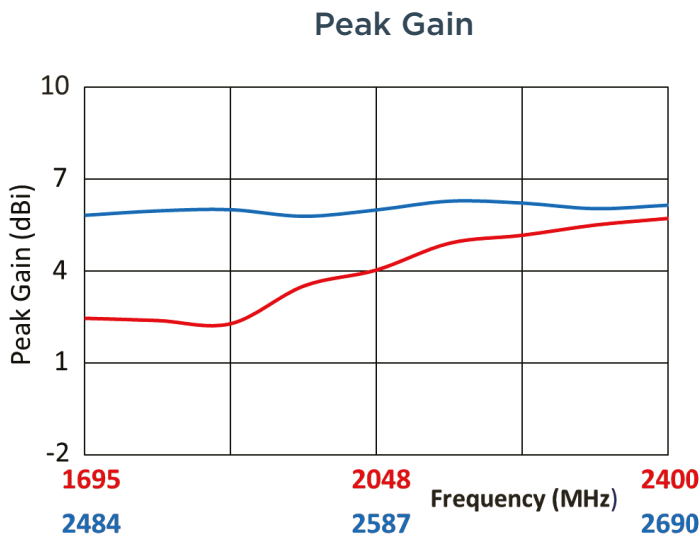
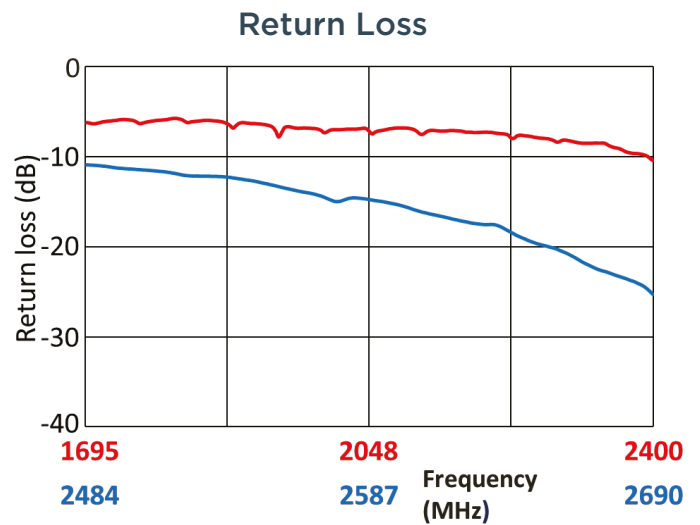
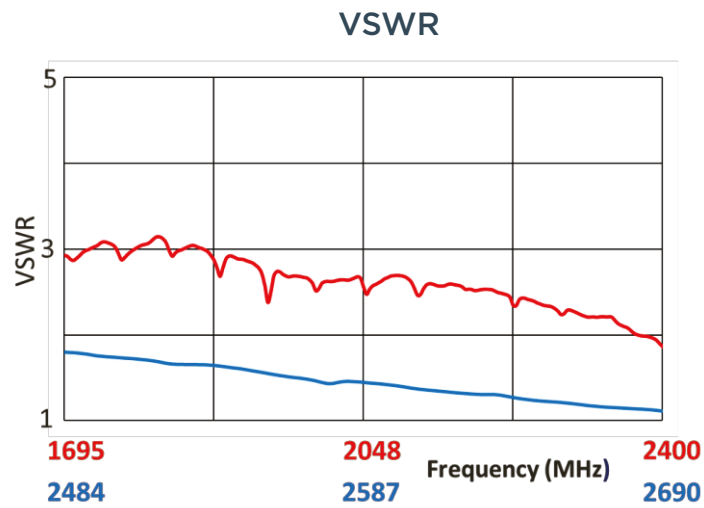


**Efficiency**



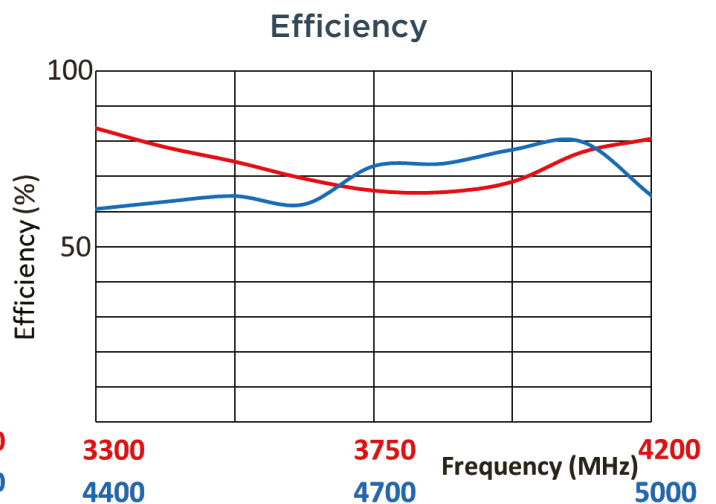
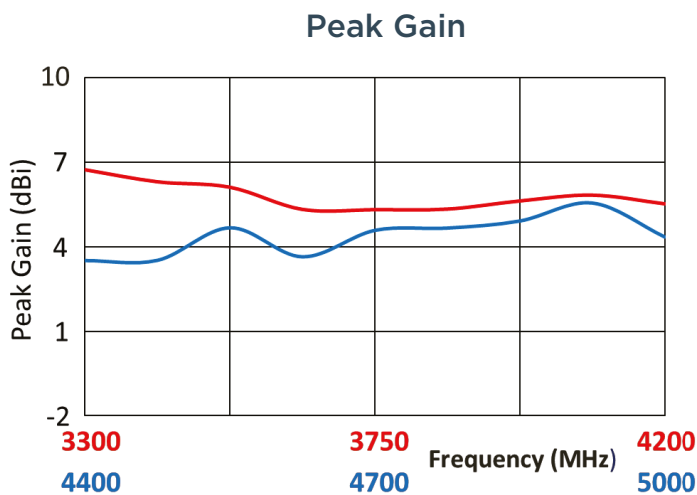
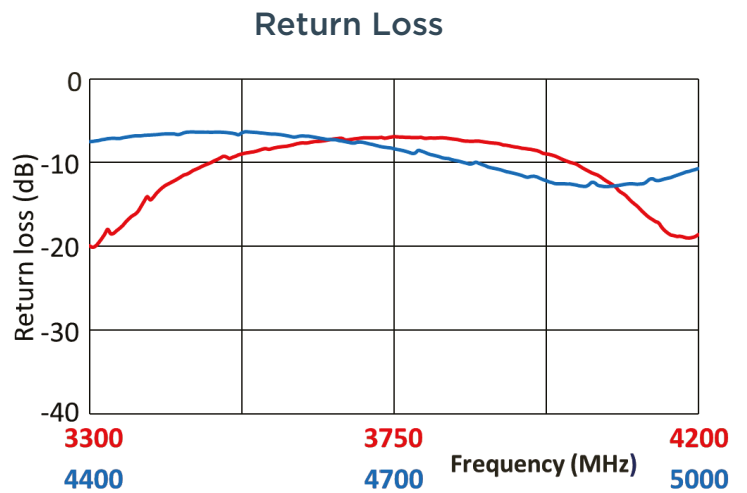
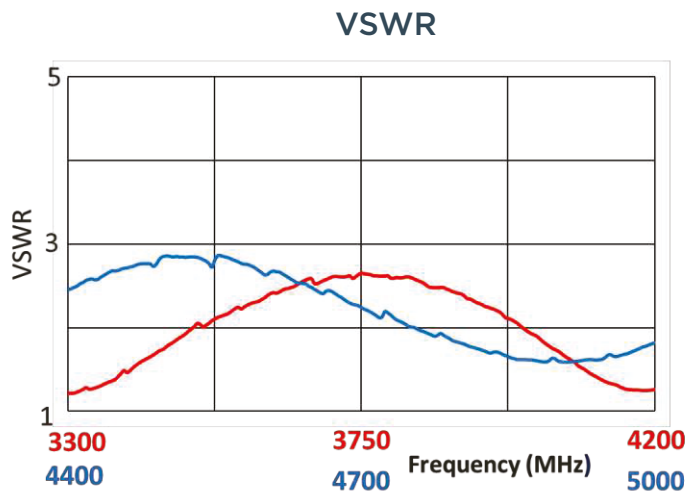
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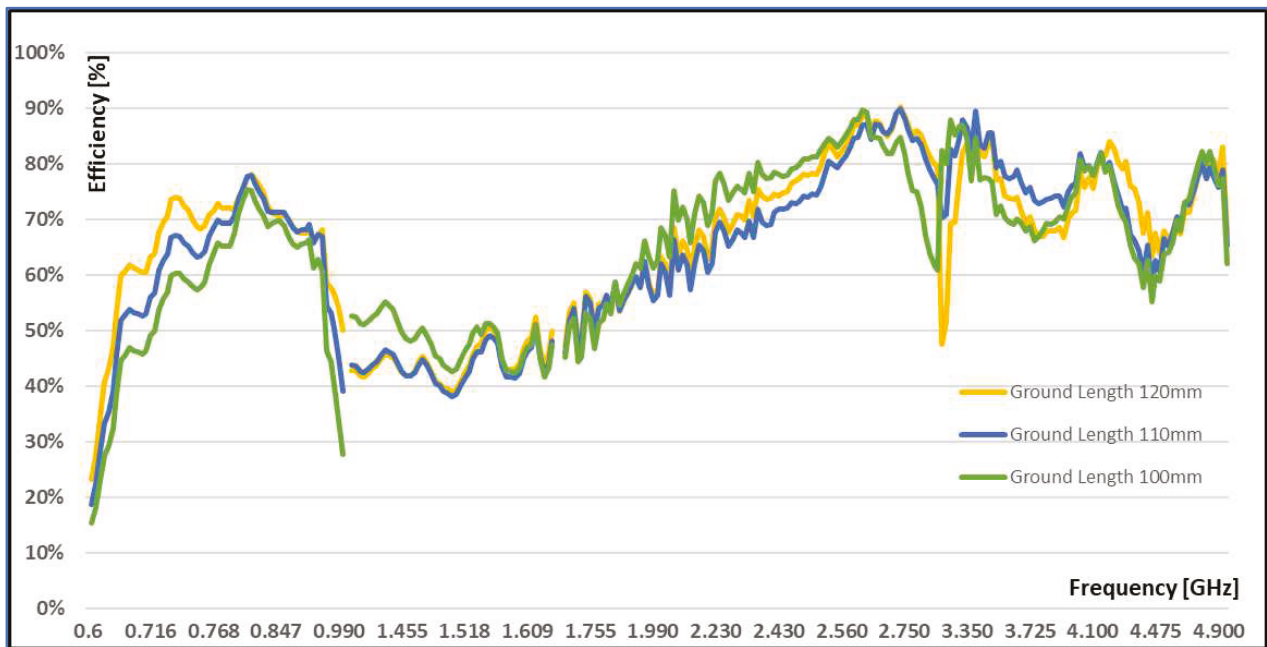
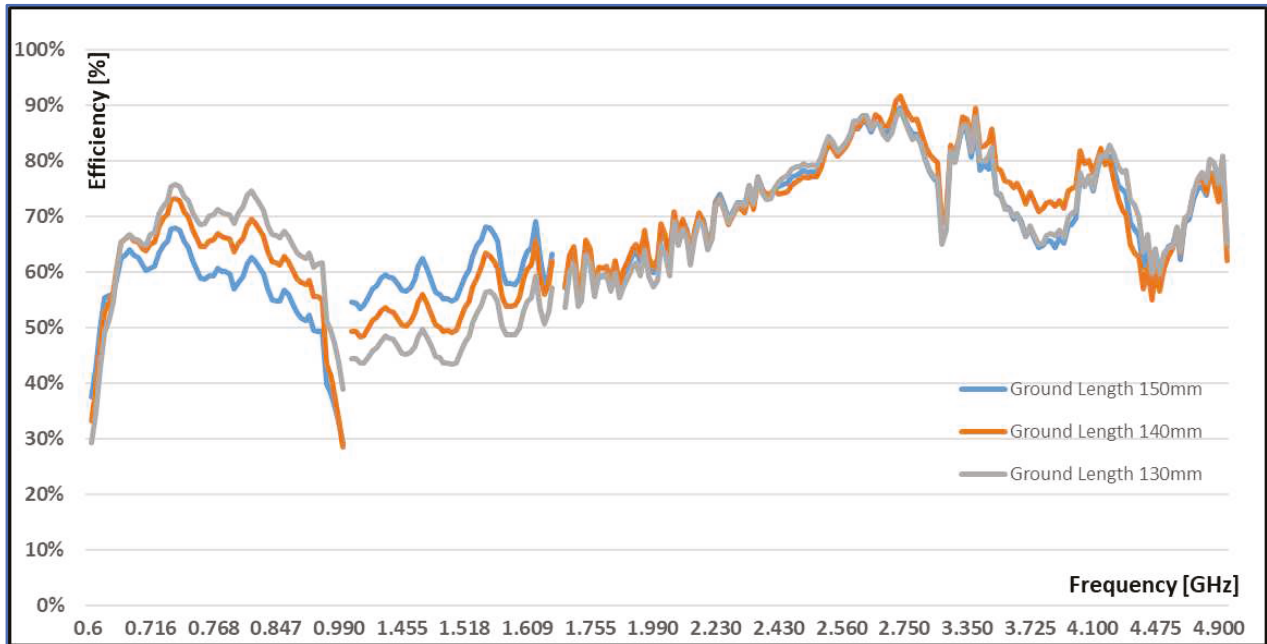
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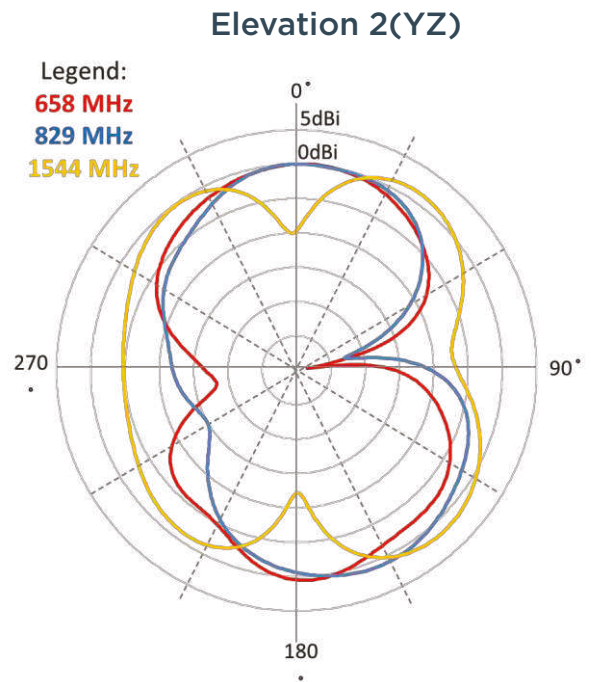
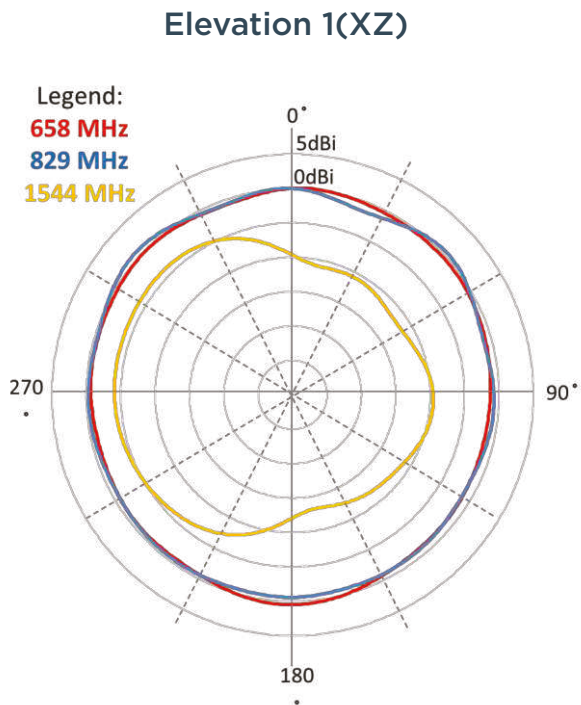
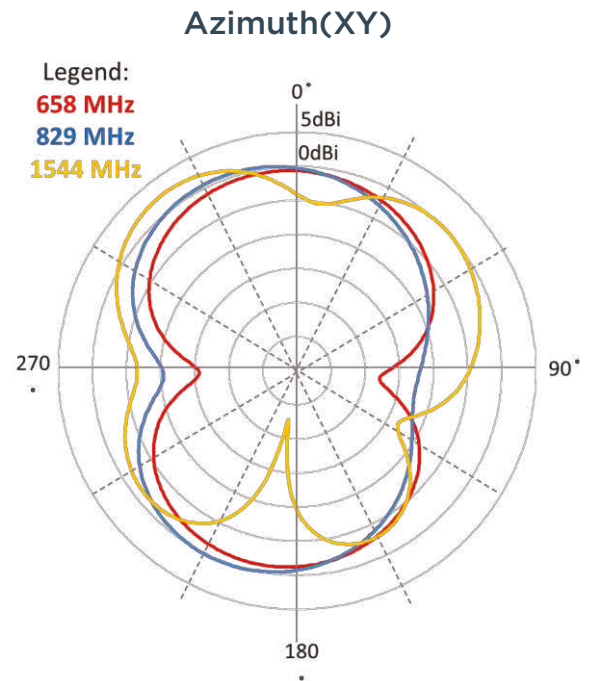
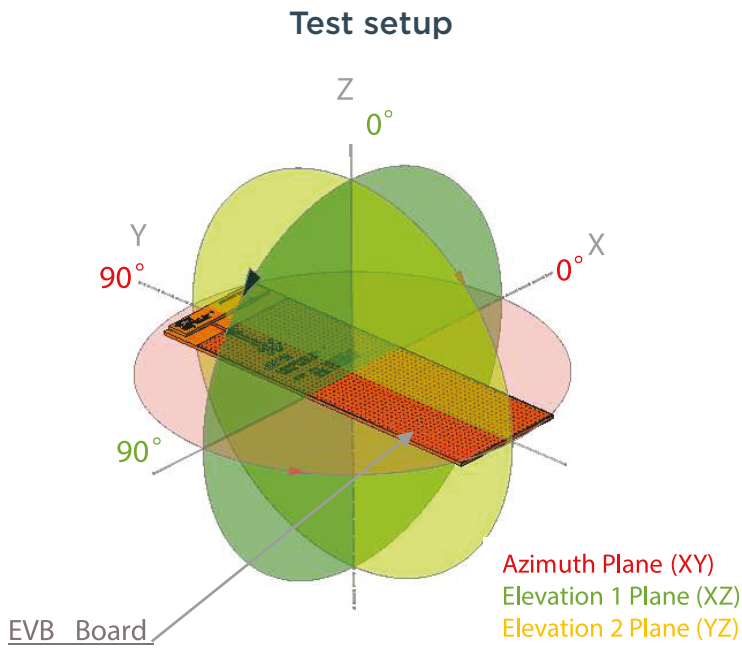
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Efficiency vs. Ground Length size



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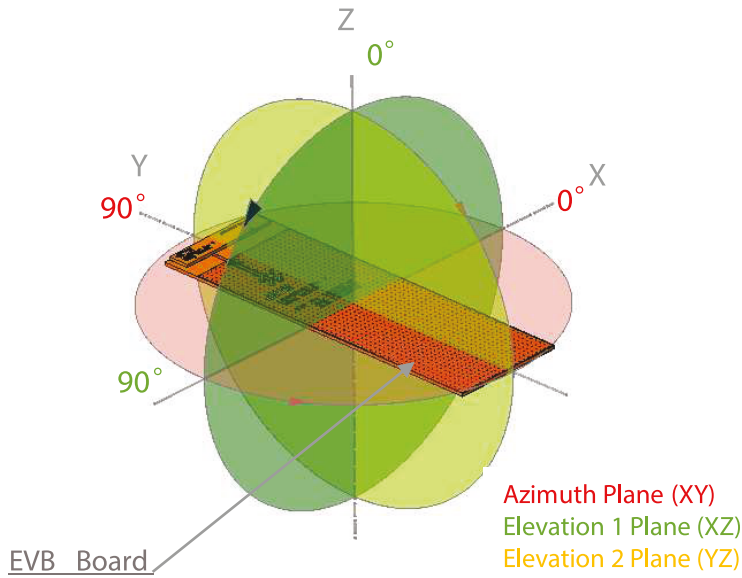
**RADIATION PATTERN**



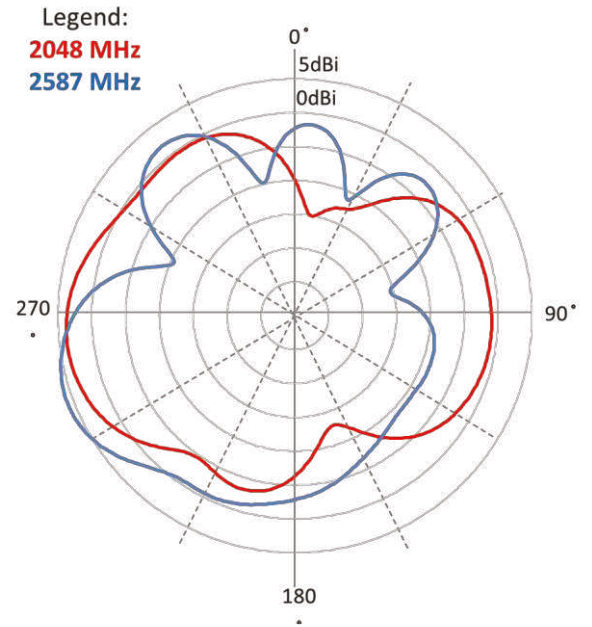
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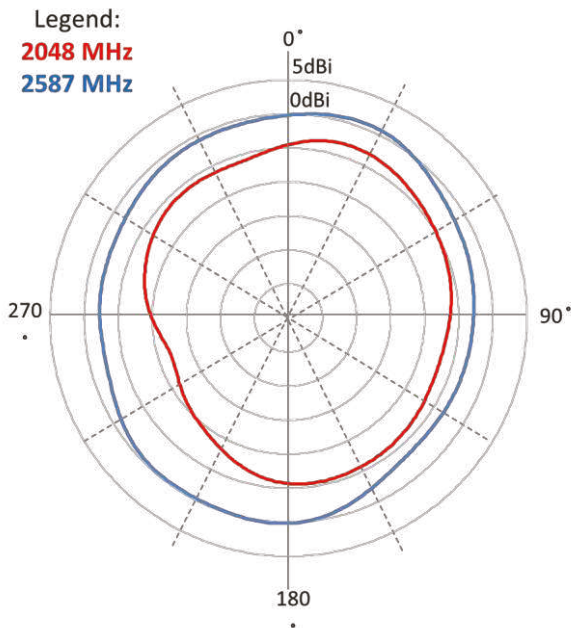
Test setup



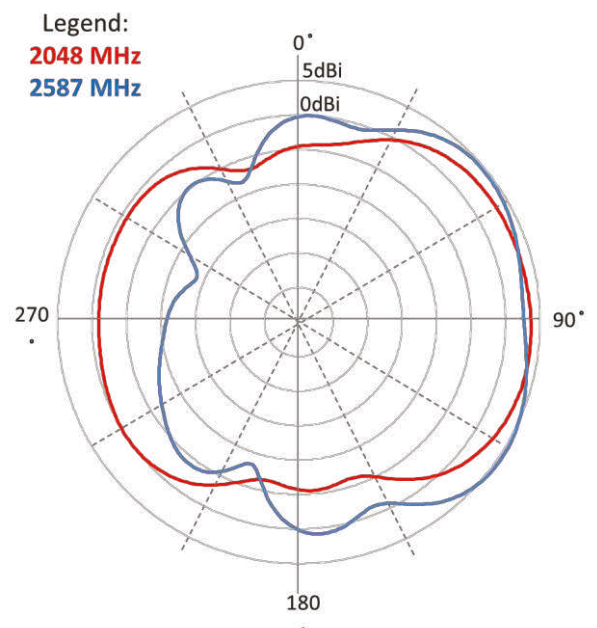
Azimuth(XY)



Elevation 1(XZ)

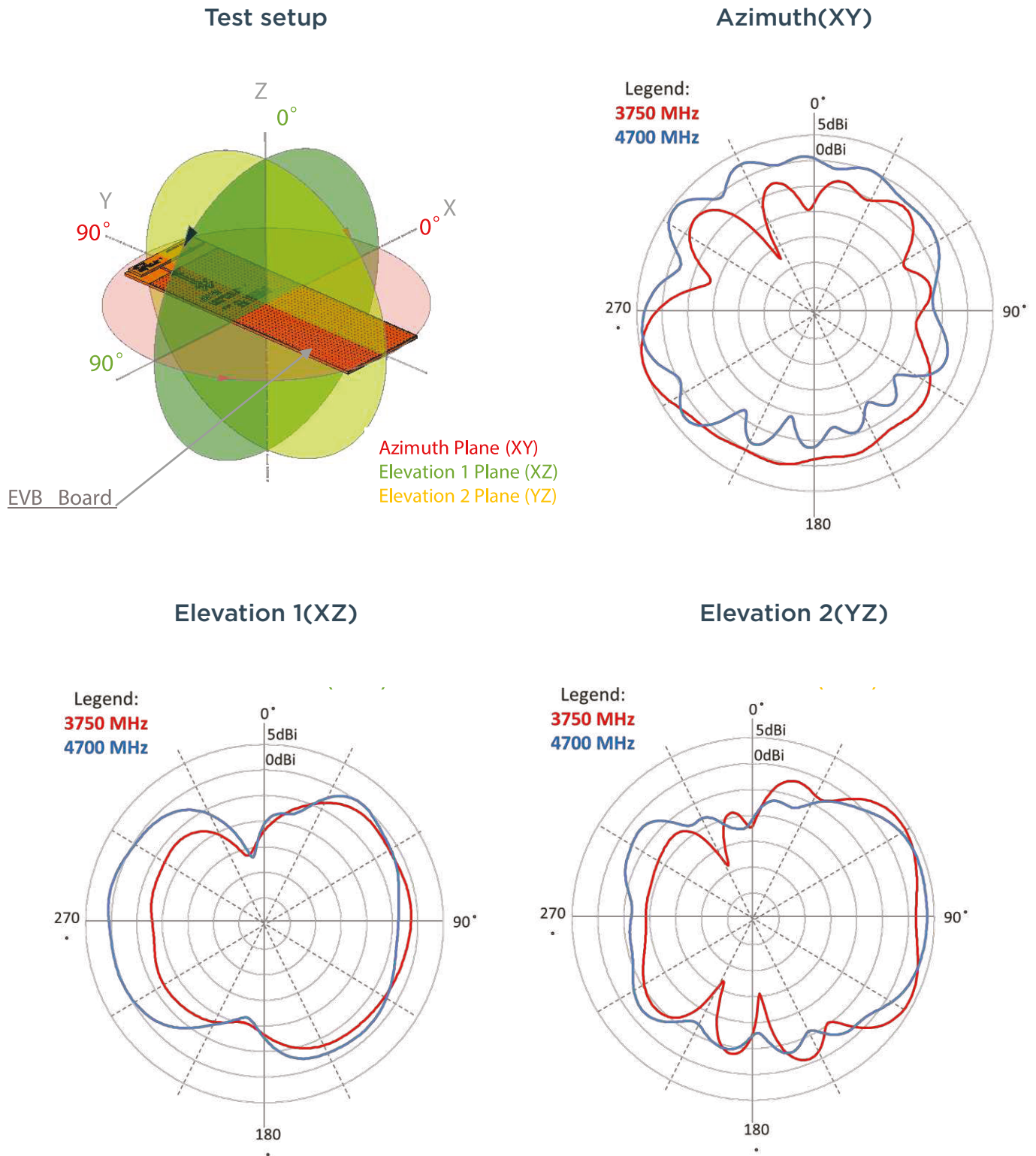


Elevation 2(YZ)



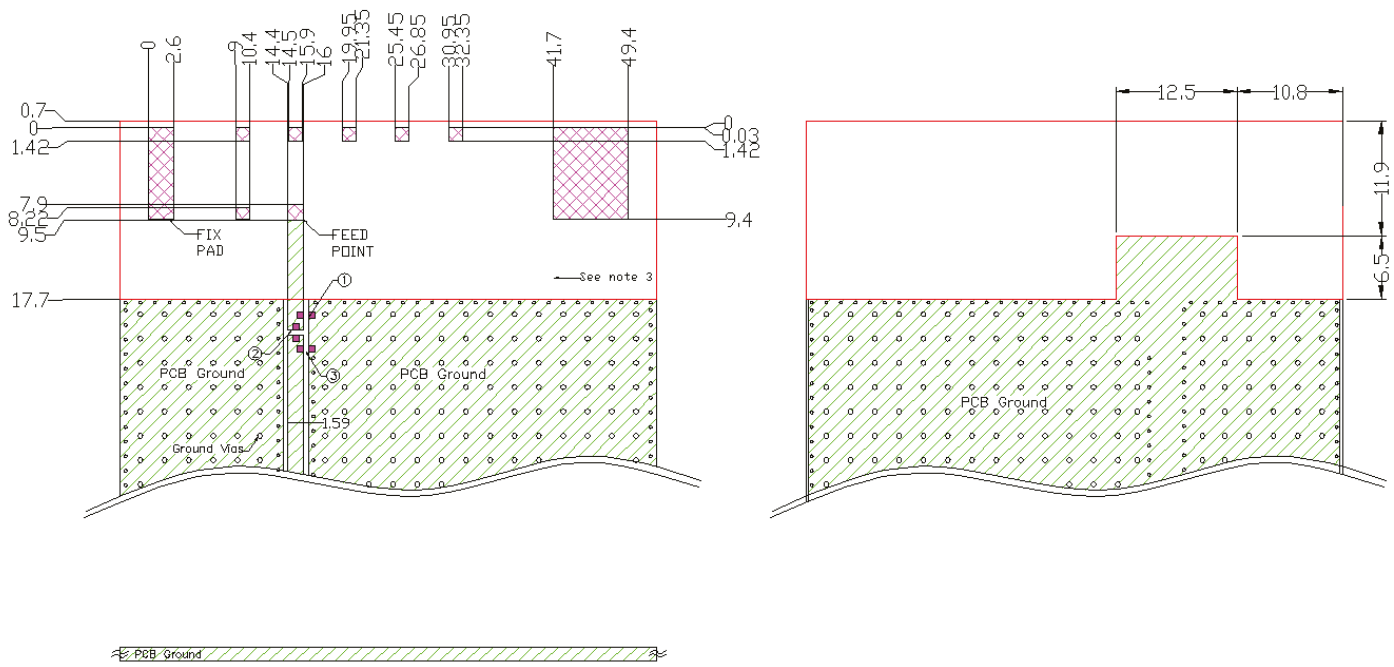
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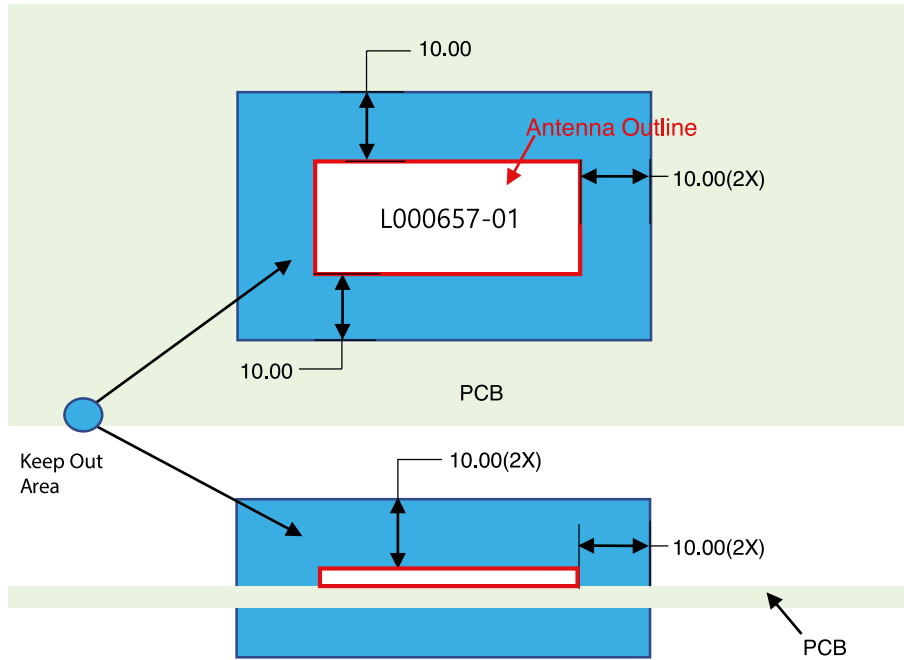
**MOUNTING GUIDE**



- 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 , ②0 ohm, ③15nH
  - 6. Reference PCB Dimension(mm) - 55.2 x 168.6 x 1.6

Dimensions: mm  
Diagram is not to scale

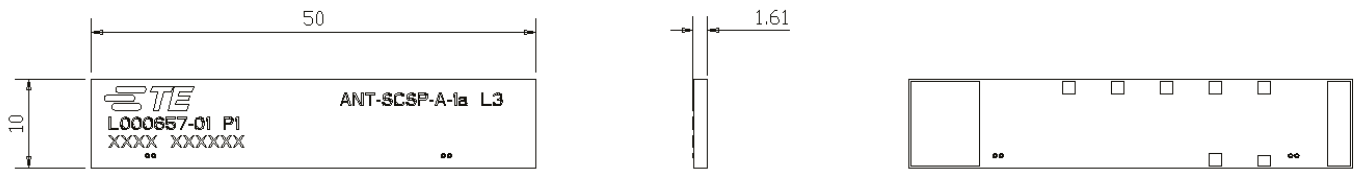
**KEEP OUT AREA**



- NOTES:**
1. Antenna designed to be mounted on PCB.
  2. Area in blue above indicates Keep Out Area.
  3. For more information please call TE.

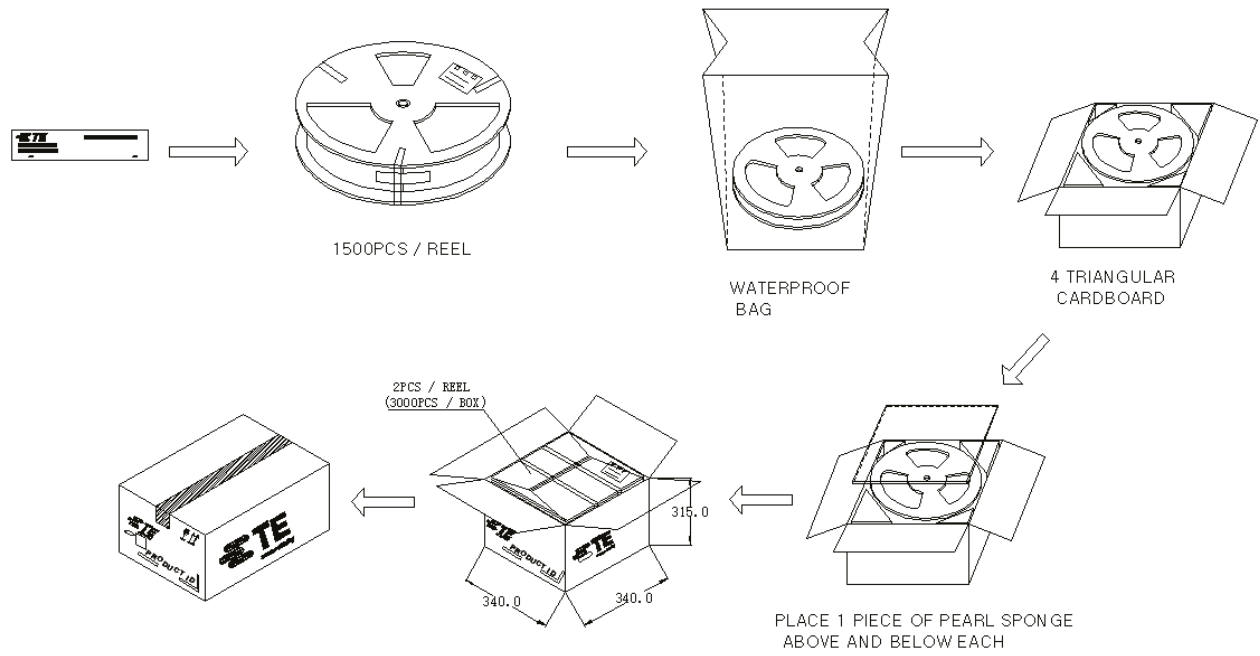
Dimensions: mm  
Diagram is not to scale

**DIMENSIONS**

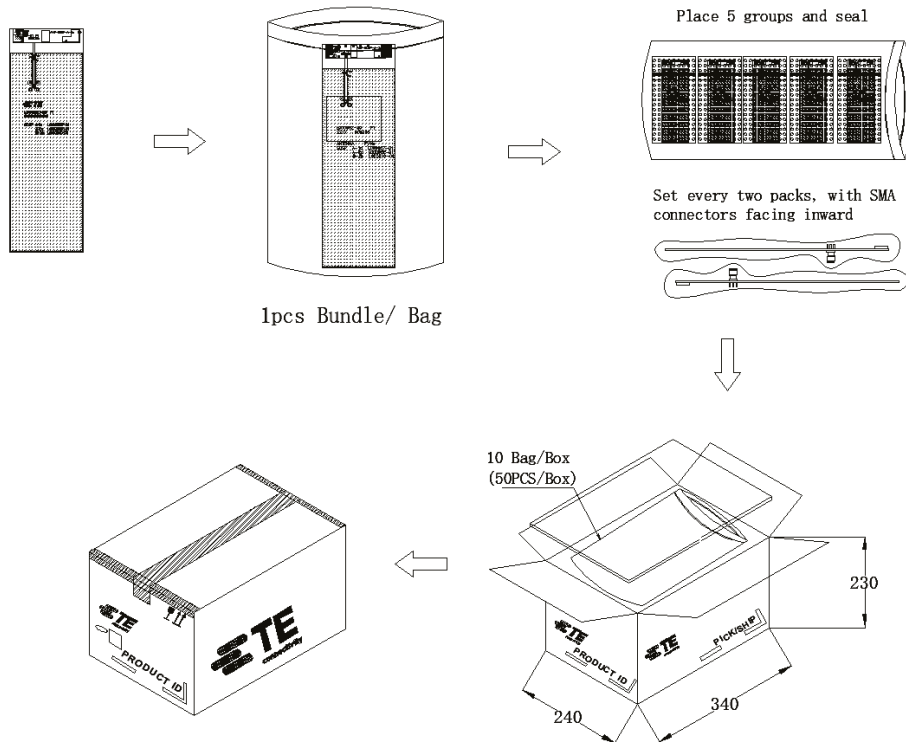


**PACKAGING**

**L000657-01 (TAPE & REEL)**



**L000657-80 (BULK)**



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Standard Antenna Solutions

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