

Product Name: Ceramic Bulk SMT Cellular Antenna

Part Number: CBA918-A-L01

Doc ID: WI-RD-D-139 V1.0

Feature:

- Direct SMT Process Compatible
- 2G/3G/4G Supporting (698-960MHz, 1710-2690MHz)
- Multi-band & Ultra High Performance Performed
- Compact Dimensions for Easy Integration

Application:

- IoT Device Application
- Smart Community Application
- Automotive T-Box Cellular Application

Ceramic Bulk SMT Antenna Series

35*5*4mm Cellular 2G/3G/4G Antenna

MODEL: CBA918-A-L01

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I. Specifications:

Category	Specifications				
Frequency (MHz)	698 ~ 798	824 ~ 960	1710 ~ 2170	2300 ~ 2400	2490 ~ 2690
Average Gain (dBi) (typical)	-4.11	-3.53	-2.65	-2.18	-2.20
Radiation Efficiency (%) (typical)	40.76	44.92	55.24	60.56	60.46
Peak Gain (dBi) (typical)	1.02	0.98	3.78	3.81	4.27
Return loss	< -5				
Test Condition	118.5 x 37 mm ² (Evaluation Board) 107.1 x 37 mm ² (Ground Plane Dimension)				
Impedance	50 Ω				
Dimension	35.0 x 5.0 x 4.0 mm				
Polarization	Linear				
Operation Temperature	-40~85 °C				
Storage Temperature	-40~85 °C				

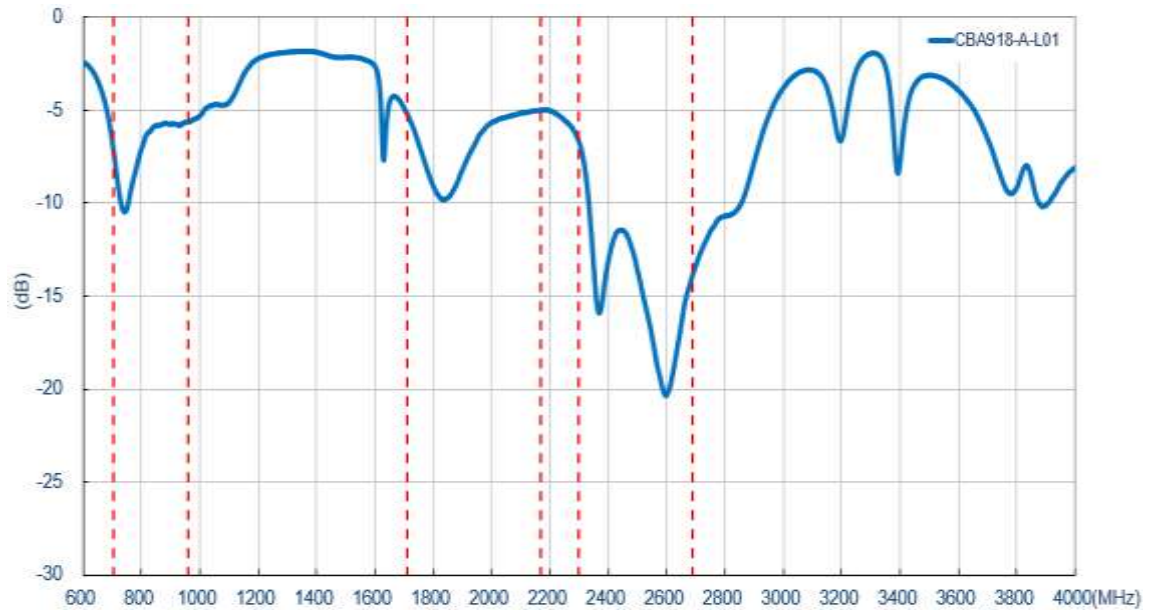
II. Antenna Technical Parameters:

- Antenna setup environment



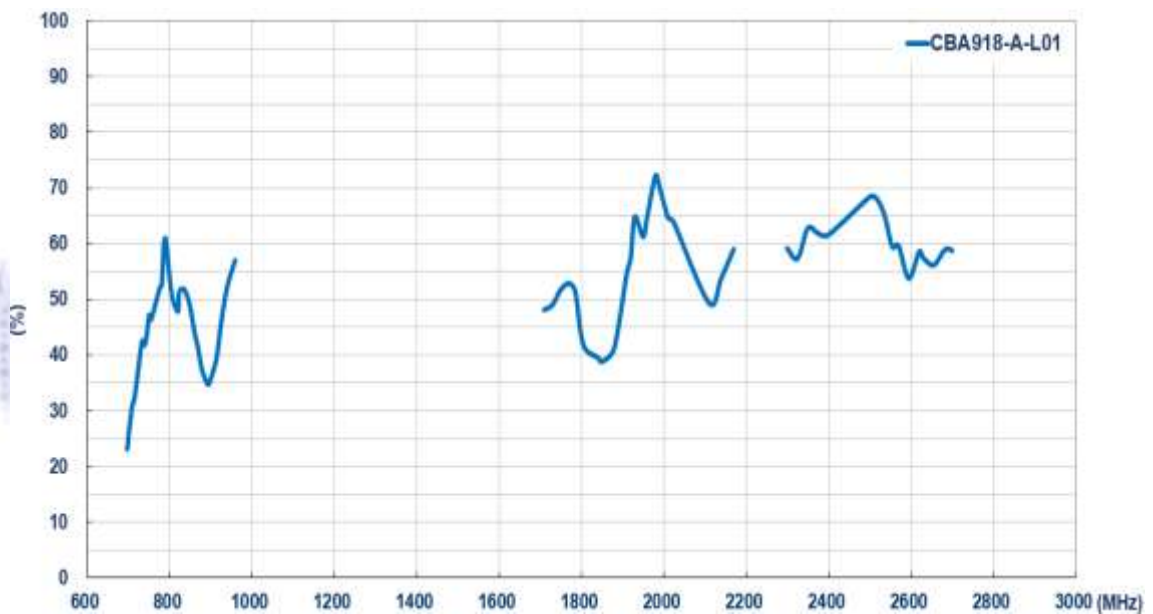
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- S- parameter (dB)

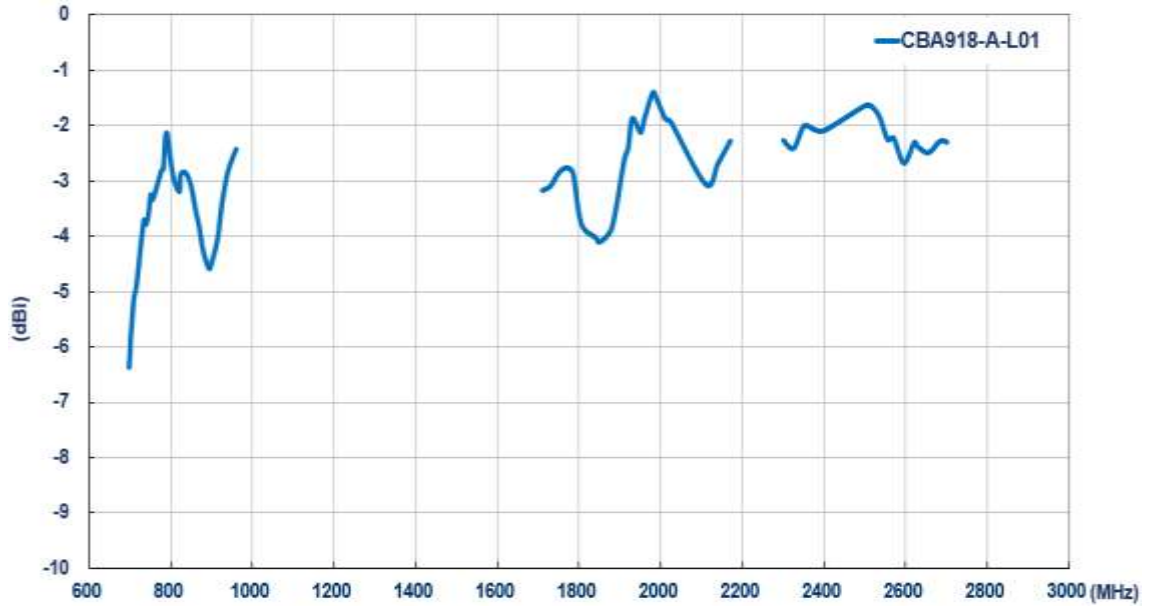


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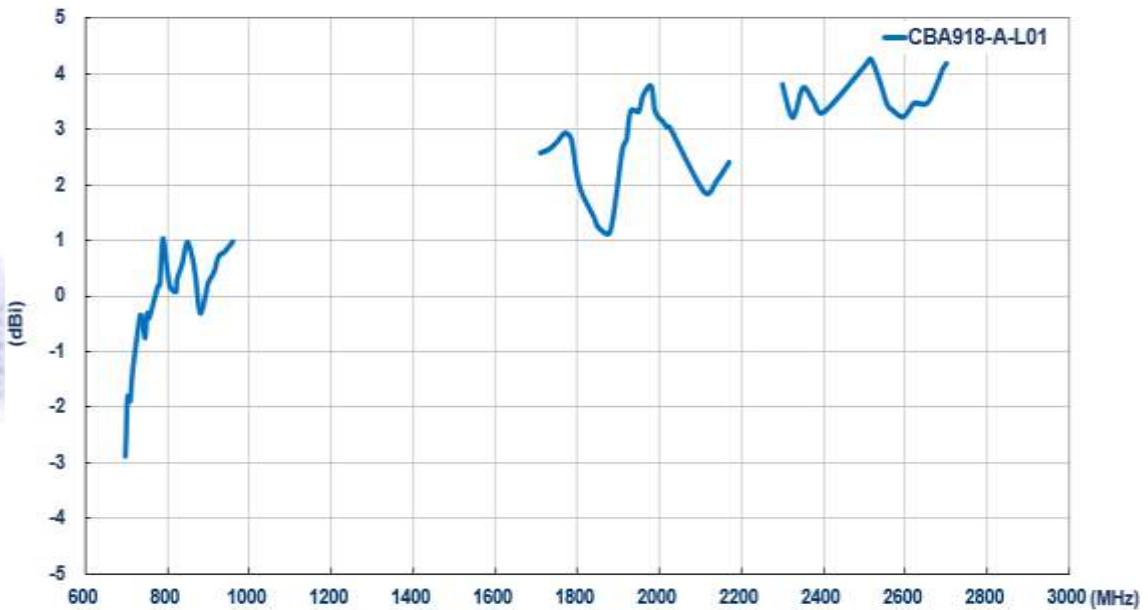
- Efficiency (%)



- Average Gain (dBi)

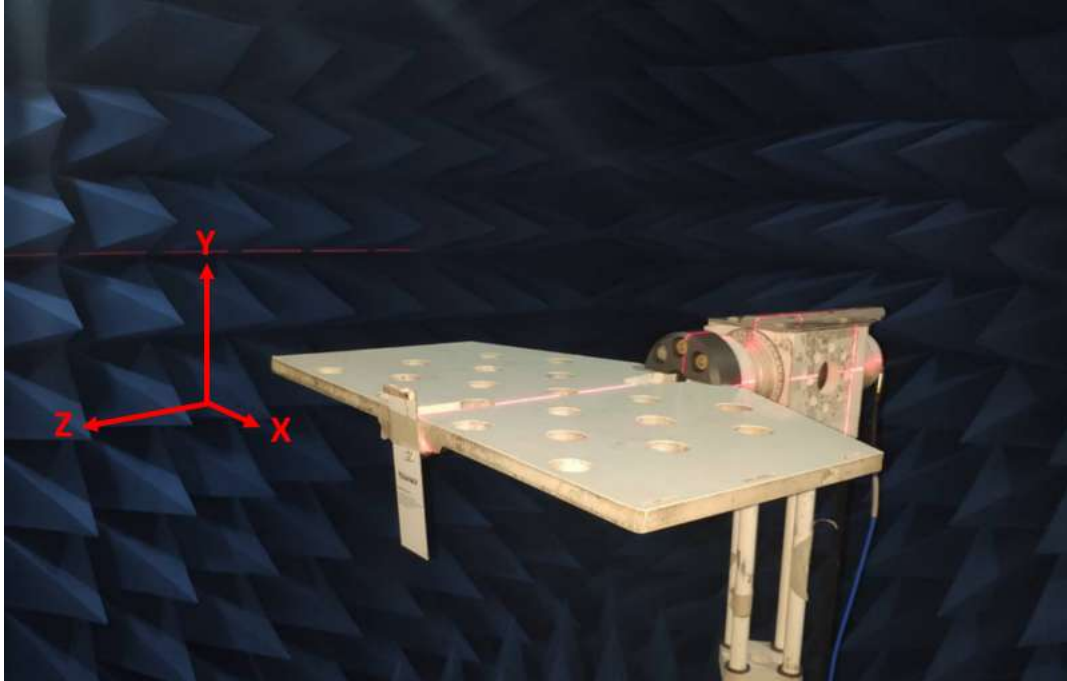


- Peak Gain (dBi)



III. Radiation Pattern:

The antenna radiation patterns were measured in certified Anechoic Chamber.
The measurement setup as below,

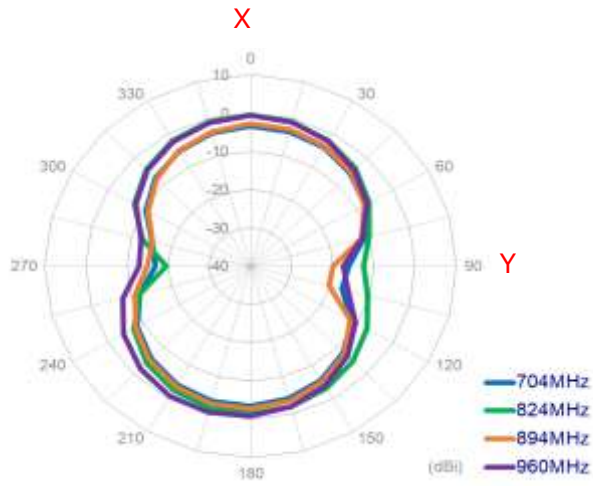


Free Space

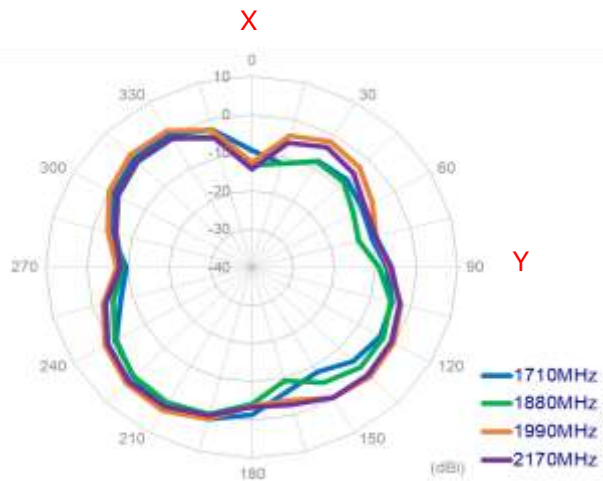
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● 2D Radiation Pattern

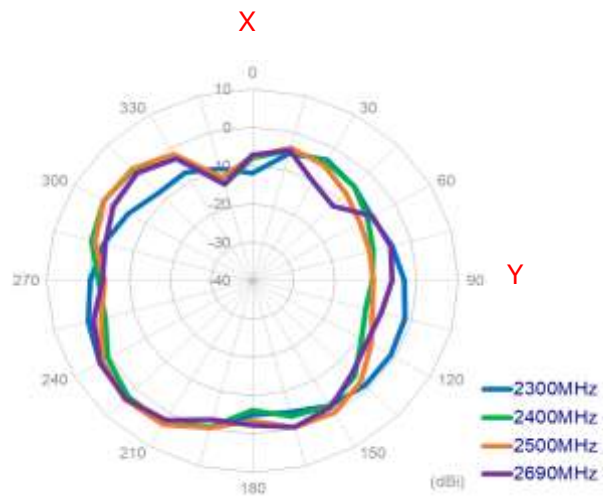
X-Y plane



X-Y plane

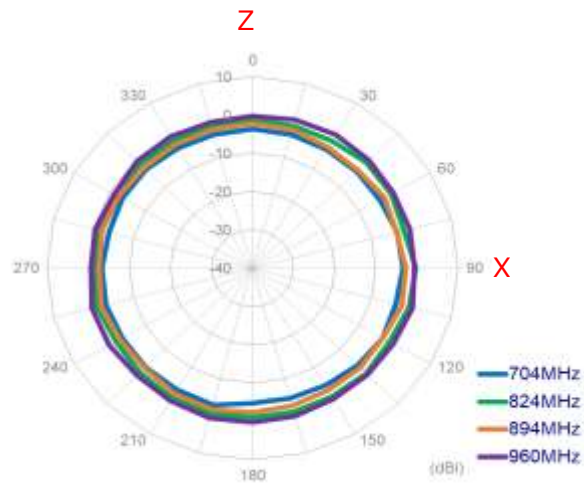


X-Y plane

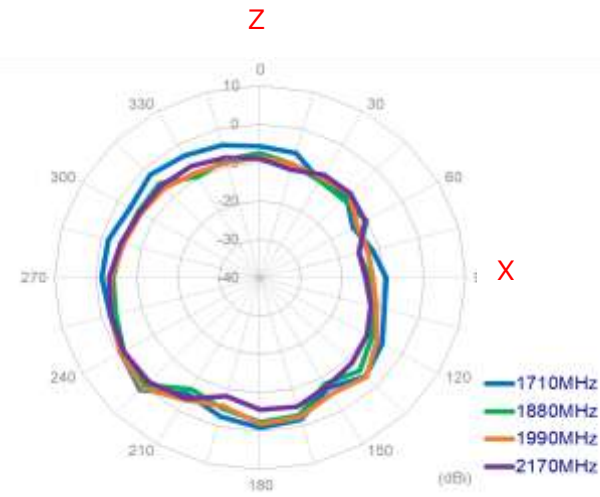


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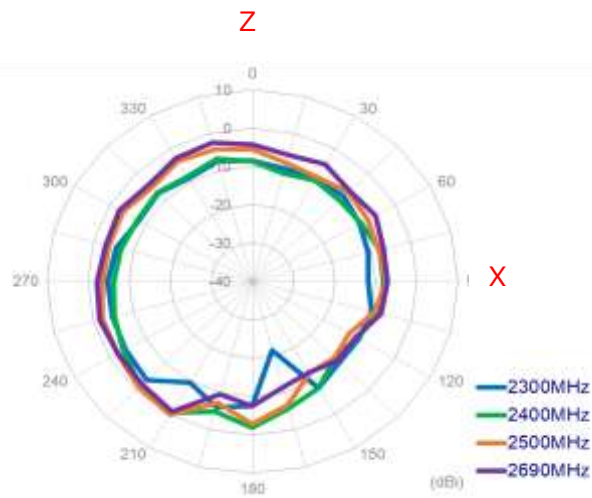
X-Z plane



X-Z plane



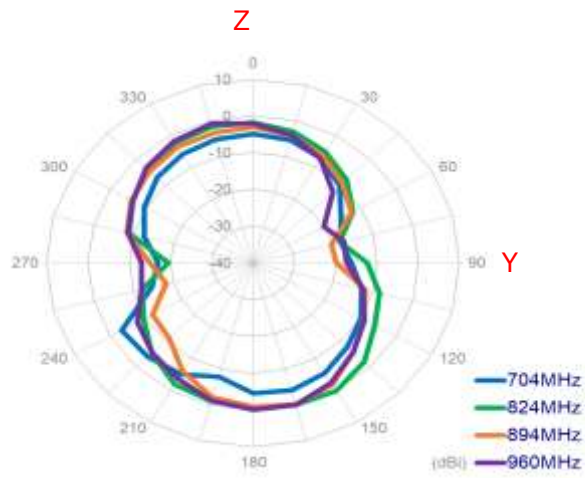
X-Z plane



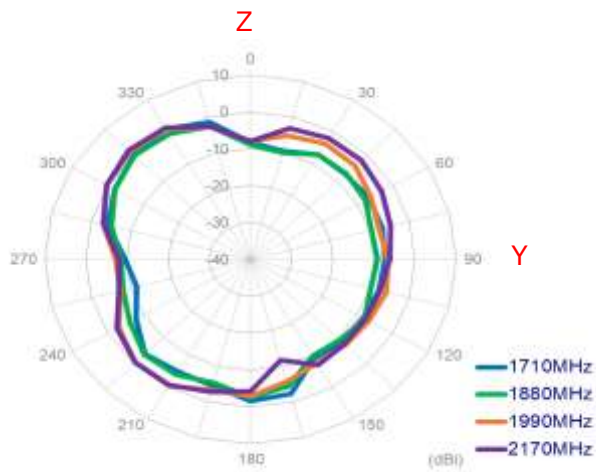
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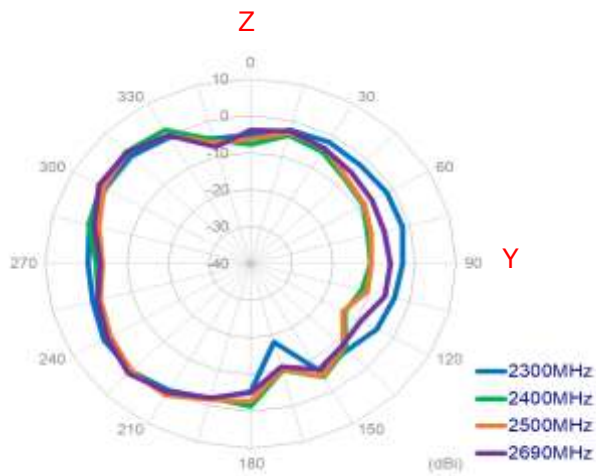
Y-Z plane



Y-Z plane

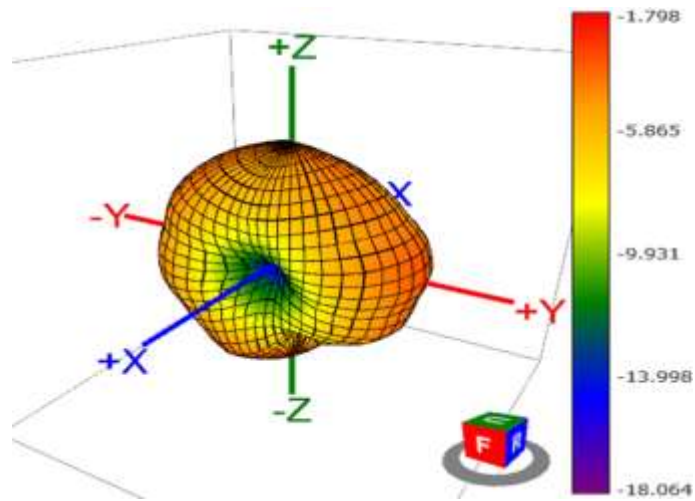


Y-Z plane

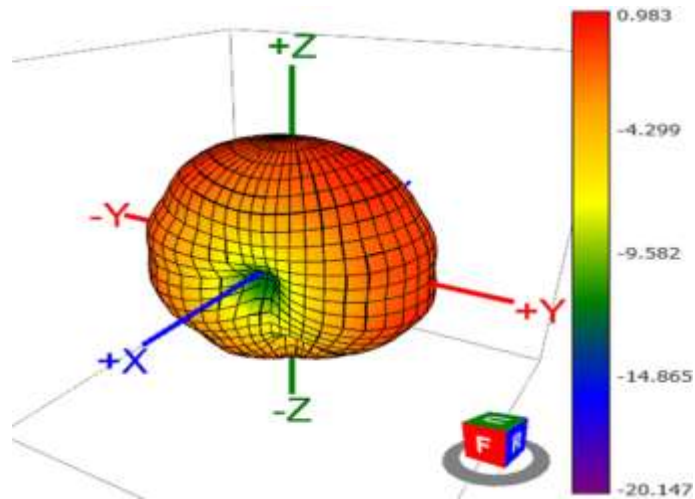


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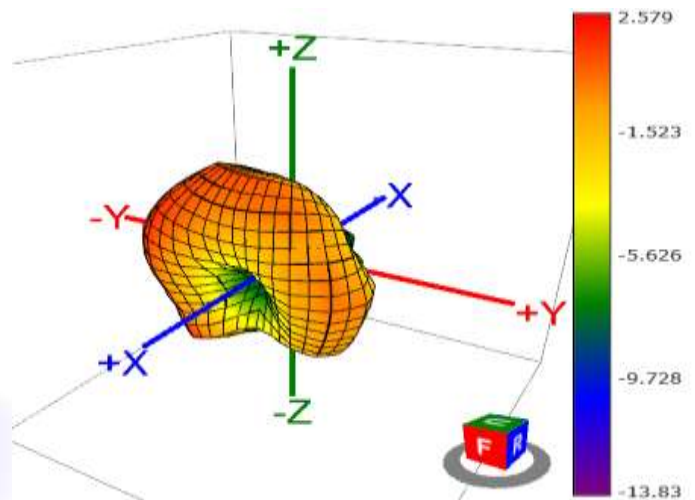
- 3D Radiation Pattern
704MHz



960MHz

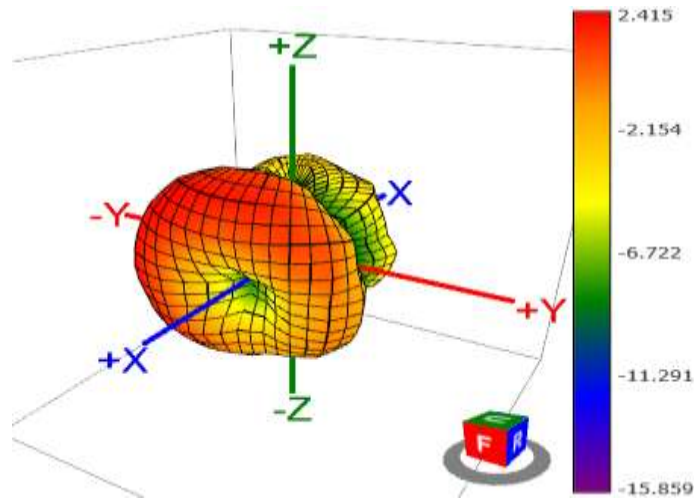


1710MHz

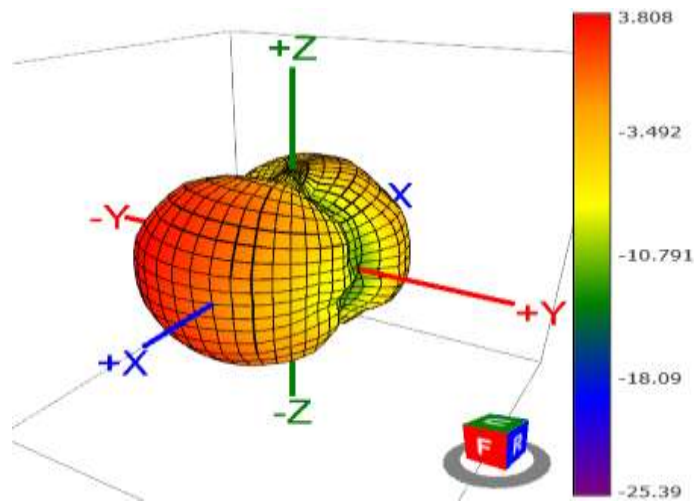


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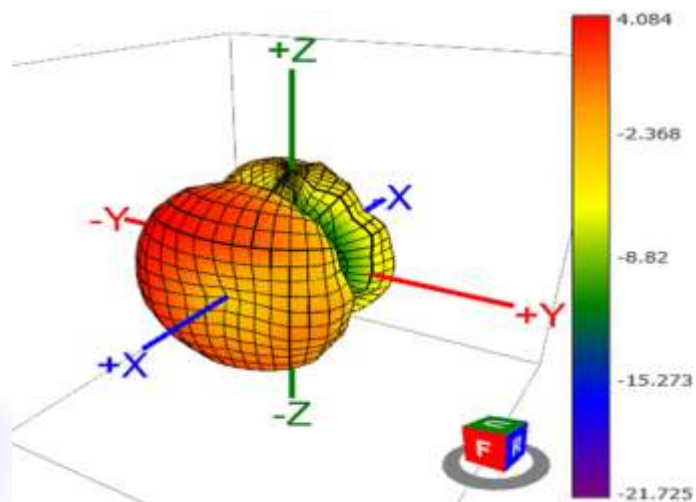
2170MHz



2300MHz

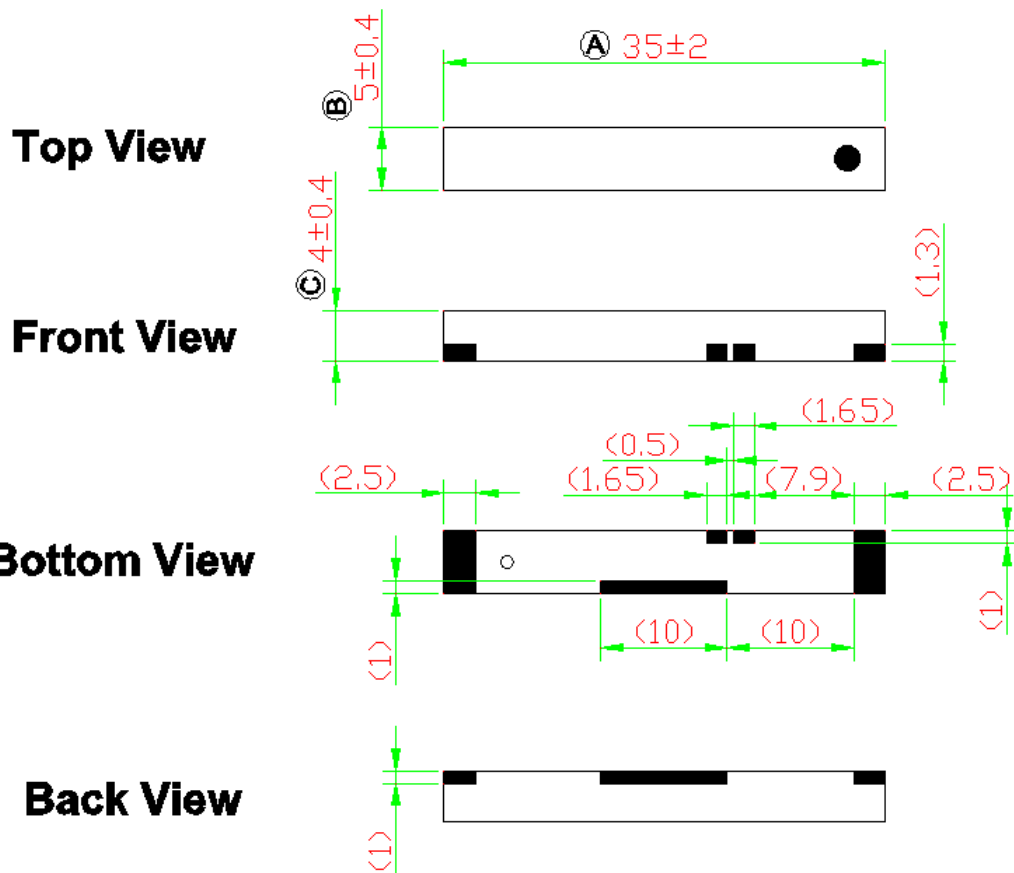
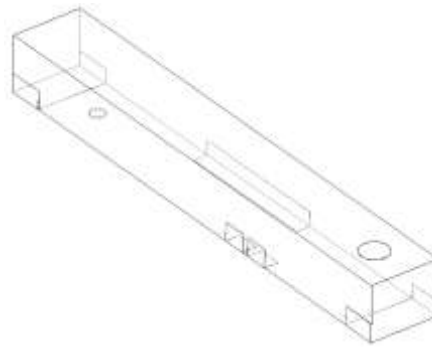


2690MHz



IV. Mechanical Drawing (Unit:mm):

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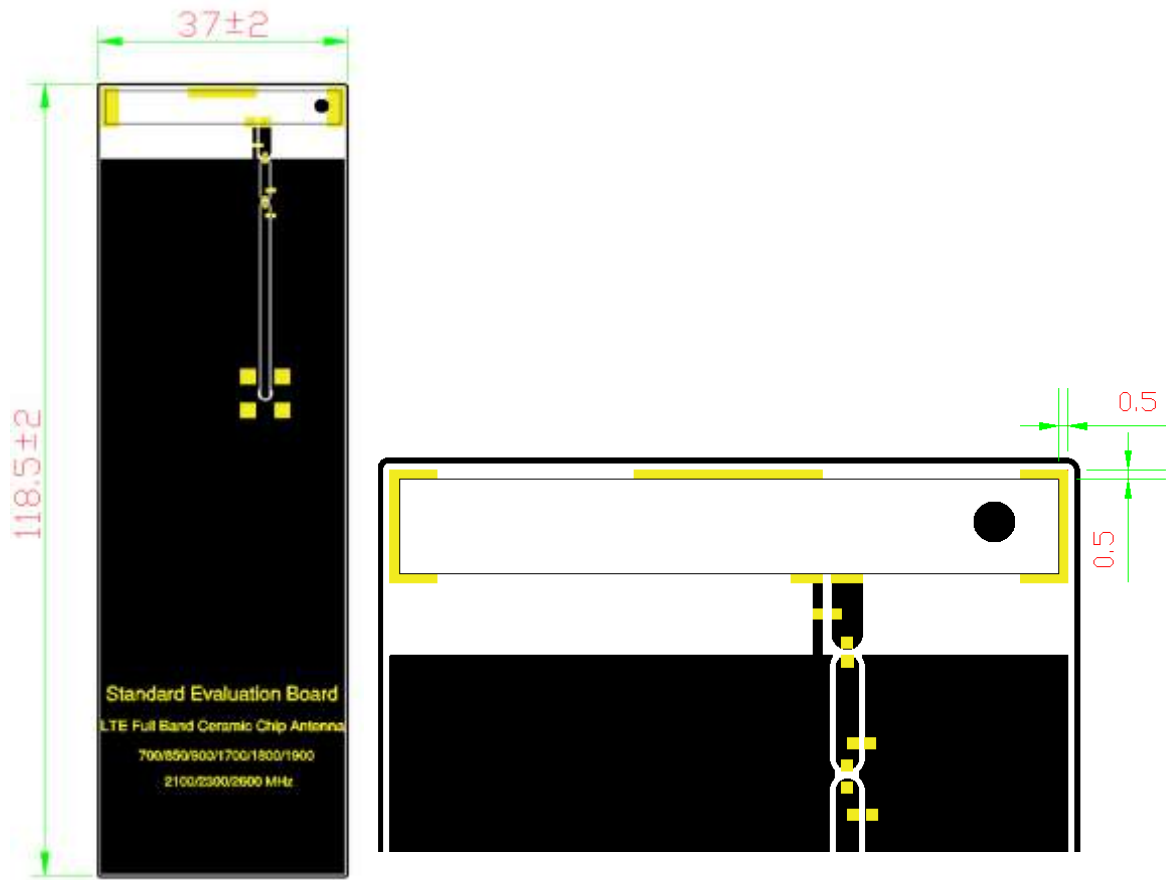


Pin Define



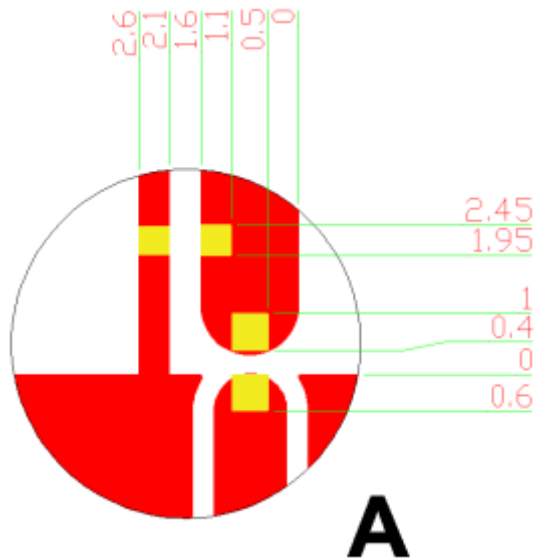
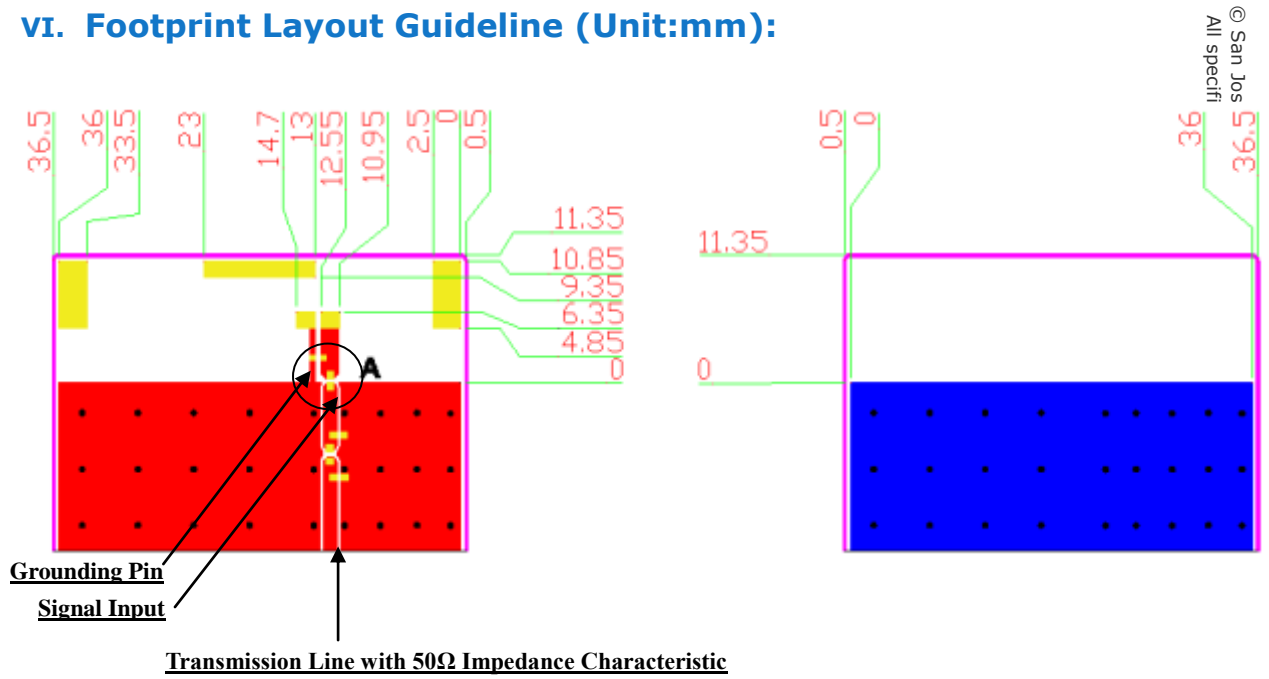
PIN	1	2	3~5
Soldering Pad	Tuning/Ground	Signal	Solder Pad

V. Antenna Evaluation Board (Unit:mm):

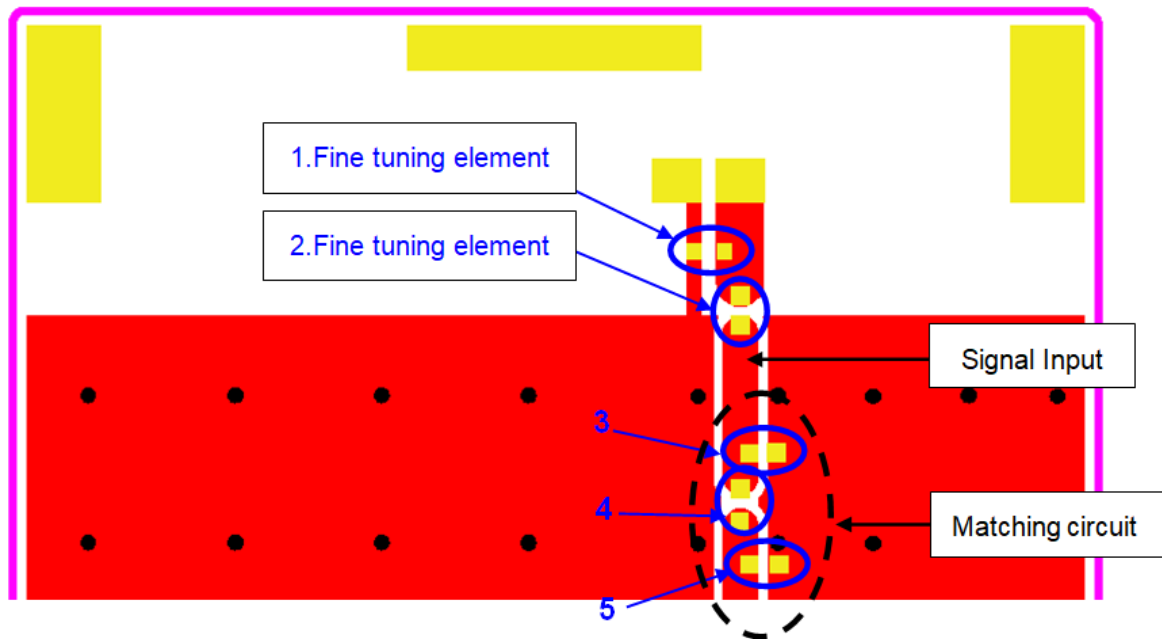


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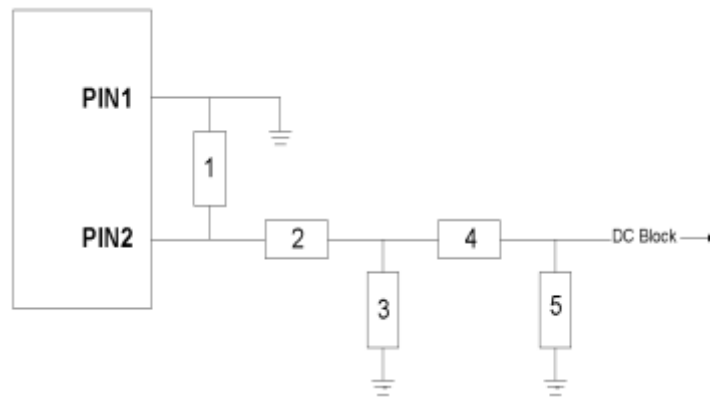
VI. Footprint Layout Guideline (Unit:mm):



VII. Matching Circuit:

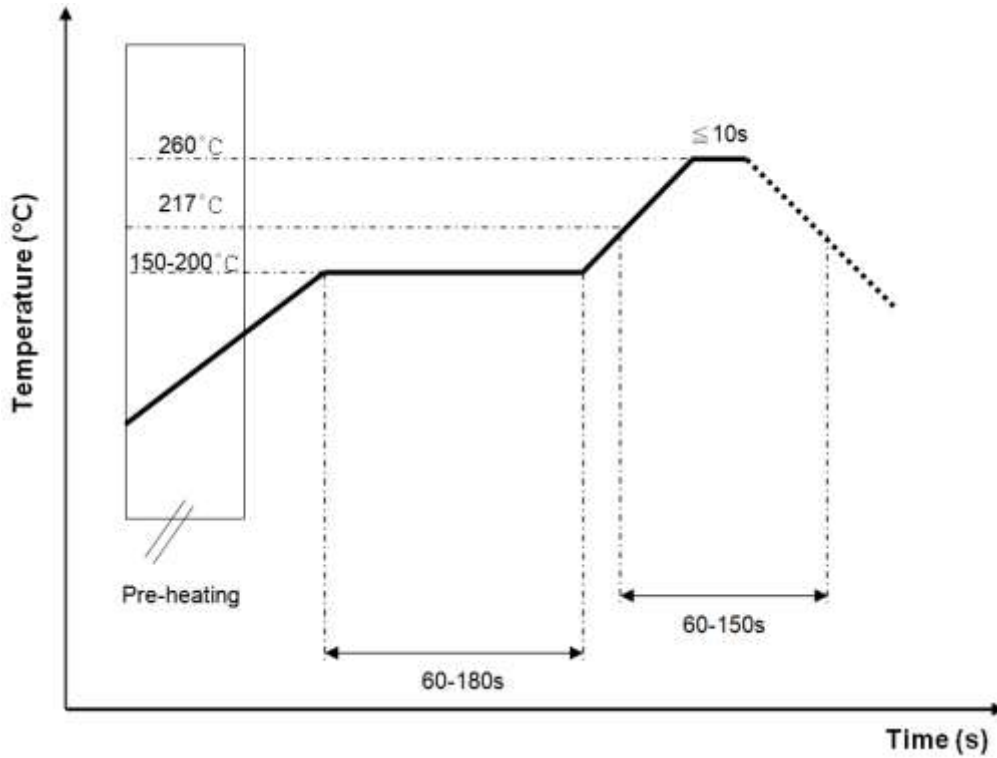


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	Component Location	Value
Tuning Element	1	6.8nH
	2	2.7pF
π Matching Circuit	3	8.2nH
	4	4.7pF
	5	8.2nH

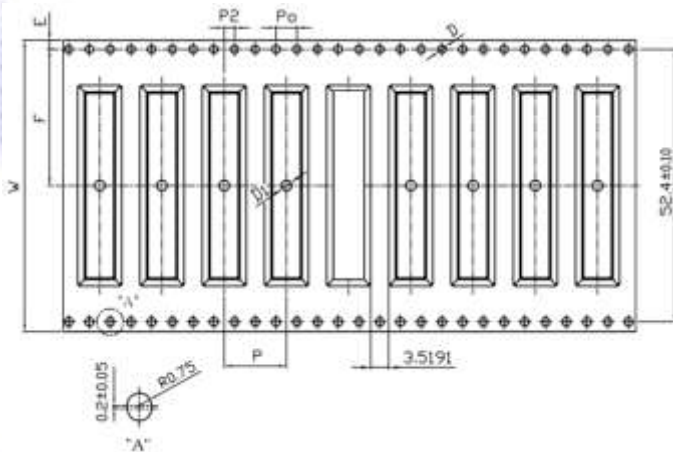
VIII. Reflow Profile:



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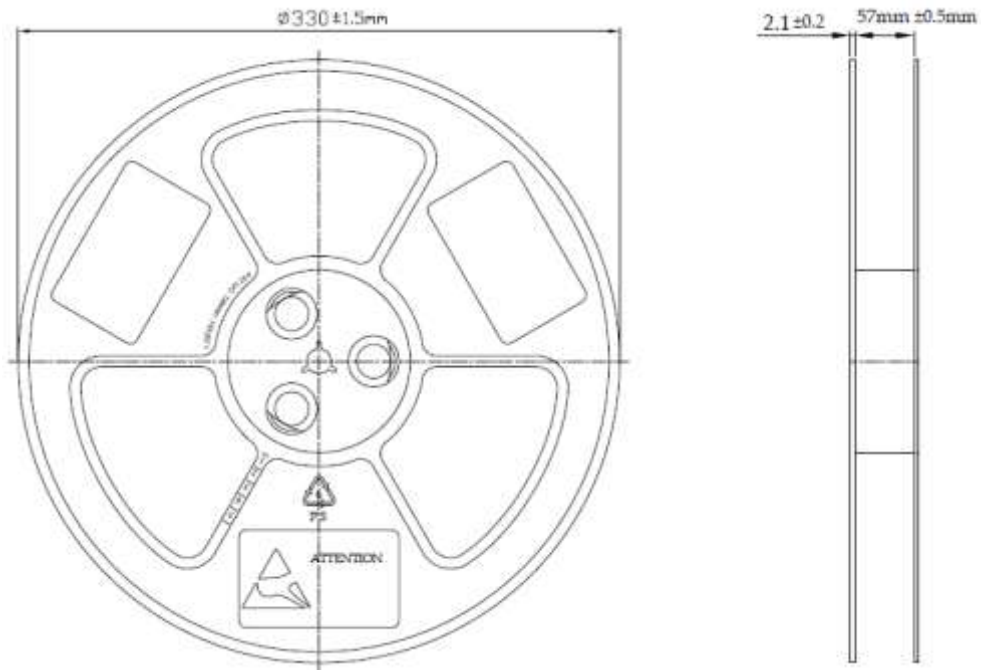
IX. Packaging Information:

- a) Quantity per Reel: 1000 pieces/Reel
- b) Tape & Reel
Tape Drawing



Feature	Specifications	Tolerances
W	56.00	±0.30
P	12.00	±0.10
E	1.75	±0.10
F	26.20	±0.15
P2	2.00	±0.15
D	1.50	+0.10 -0.00
D1	2.00	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20

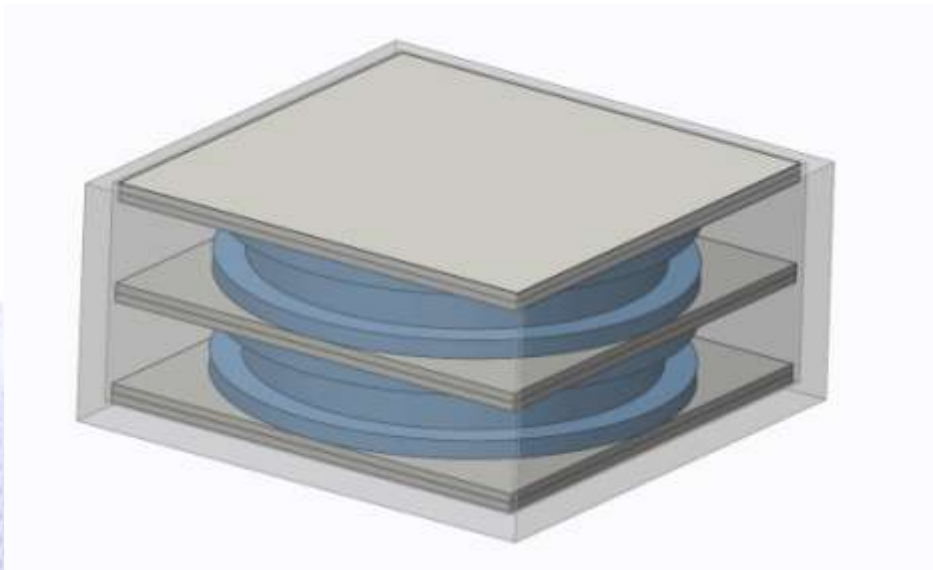
Reel Drawing



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1 Reel Weight, 3 kg typical.

c) Carton



Carton Size: 340*350*200mm

2 Reel per Carton, weight: 6.6 kg typical.