



Product Name: SMT PCB Antenna + Demo Board

Part Number: SPCB-L02-01

Features:

- Support LTE 698-960MHz, 1710-2690MHz, 3300-3800MHz
- Multi-band & Ultra High Performance Performed
- Compact Dimensions for Easy Integration
- Direct SMT Process Compatible

Applications:

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

SMT PCB Antenna + Demo Board

MODEL: SPCB-L02-01

WI-RD-D-194 V1.2

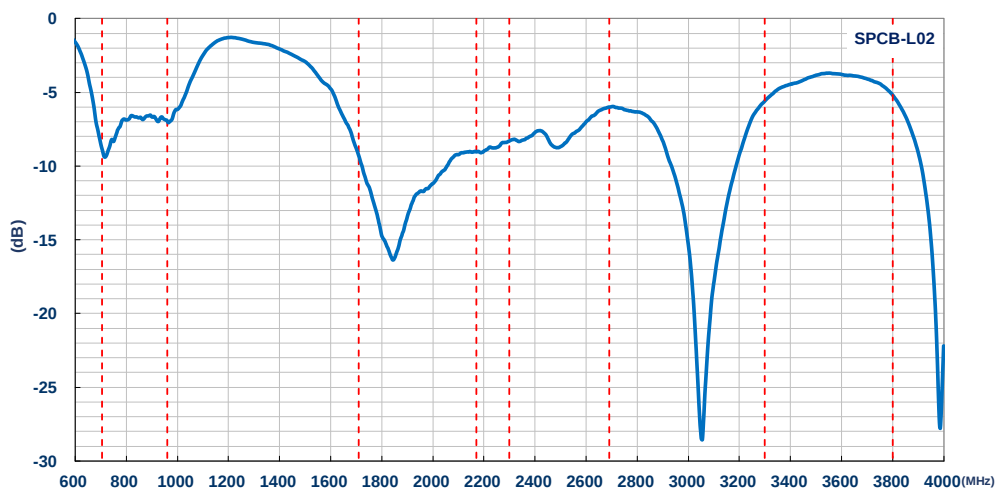
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I. Specifications:

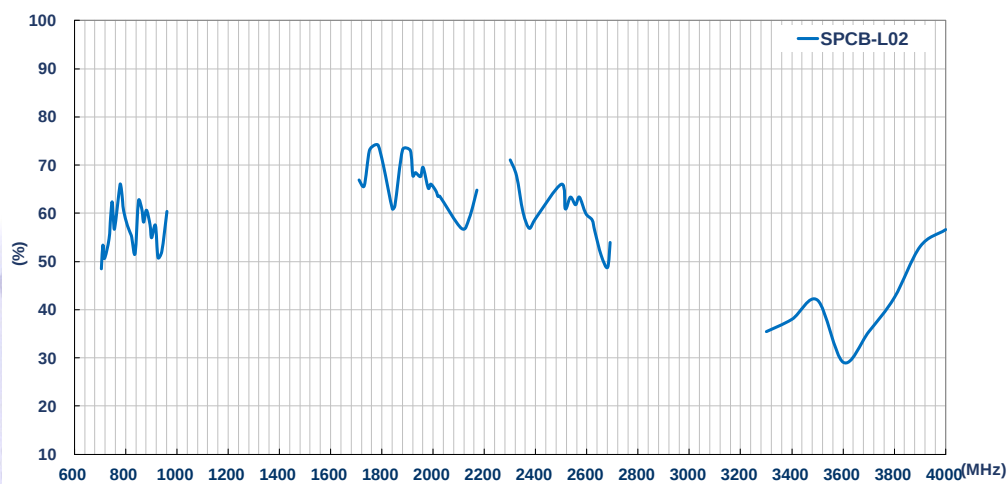
Items	Specifications						
LTE Electrical Characteristics							
Application Bands	LTE 700	GSM 850/900	DCS	PCS	UMTS1	LTE2600	5G NR Band
Frequencies (MHz)	698 ~ 824	824 ~ 960	1710 ~ 1880	1850 ~ 1990	1920 ~ 2170	2300 ~ 2690	3300 ~ 3800
Efficiency (%)	55.31	56.71	68.69	67.99	64.66	59.70	36.76
Average Gain (dBi)	-2.57	-2.46	-1.63	-1.68	-1.89	-2.24	-4.35
Peak Gain (dBi)	0.88	2.06	4.54	4.64	4.62	3.96	5.26
V.S.W.R	< 3.2		< 2.5			< 3.5	< 5
Return Loss (dB)	< -3						
Impedance (Ω)	50						
Polarization	Linear						
Physical Condition							
Dimensions (mm)	42(L) x 10(W) x 3.2(T)						
Evaluation Board (mm)	123(L) x 45(W) x 0.8(T)						
Environmental Conditions							
Operation Temperature	-40 ~ +85 °C						
Storage Temperature	-40 ~ +85 °C						
Relative Humidity	95% non-condensing						

II. Antenna Electrical Properties:

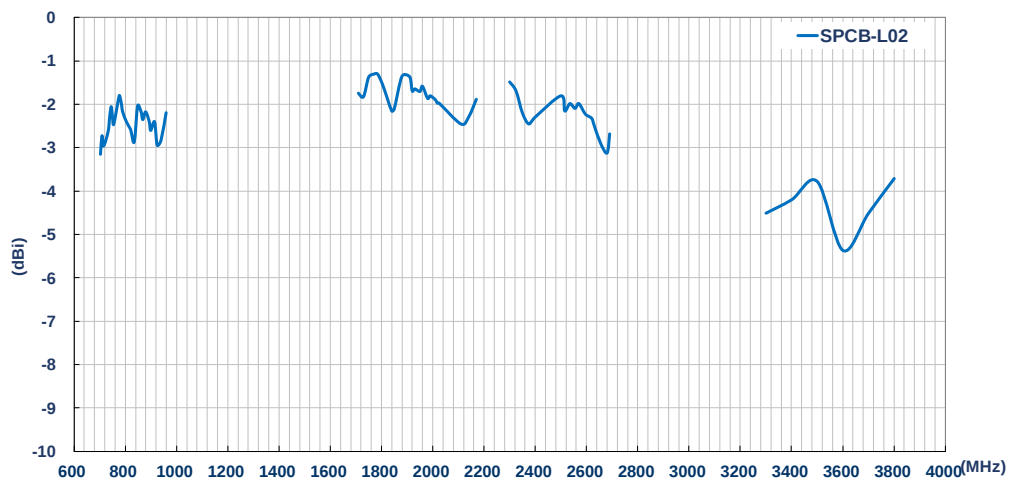
S11-parameters (dB)



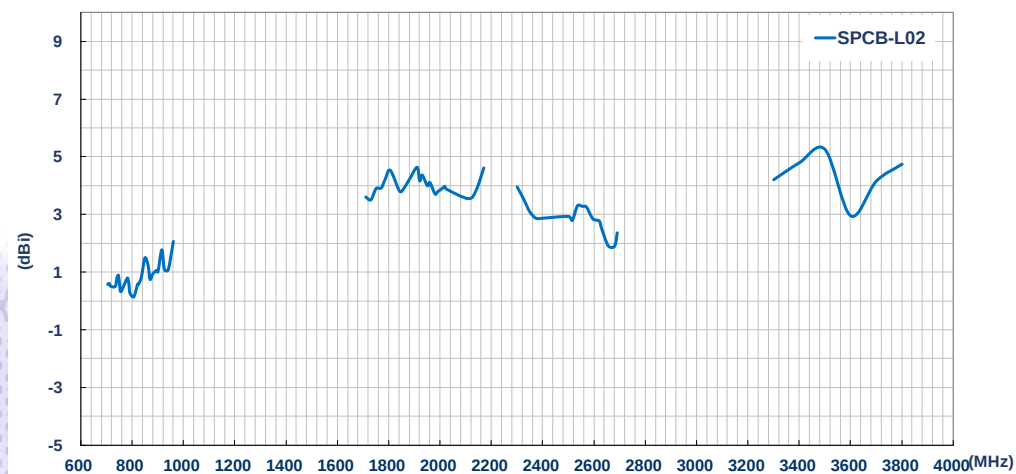
Efficiency (%)



Average Gain (dBi)

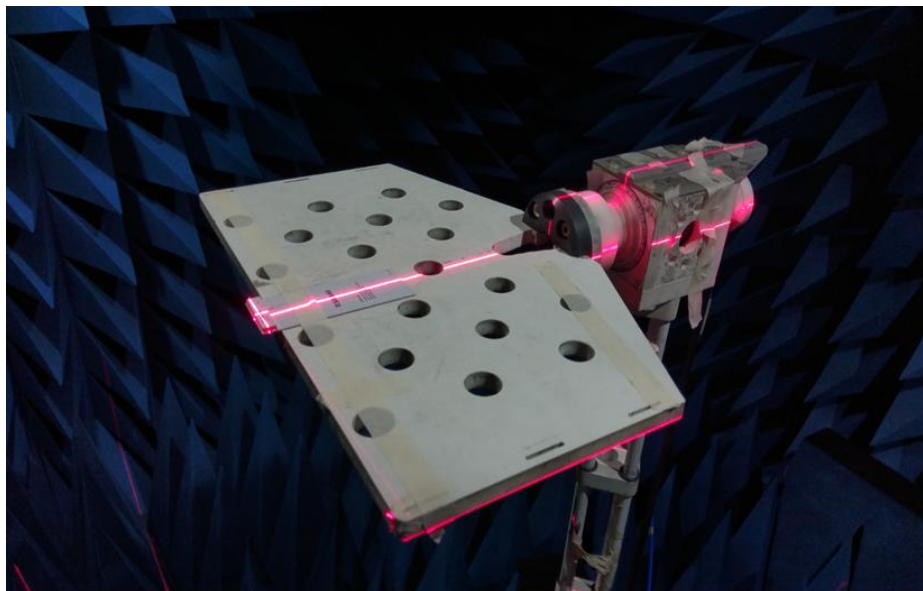


Peak Gain (dBi)



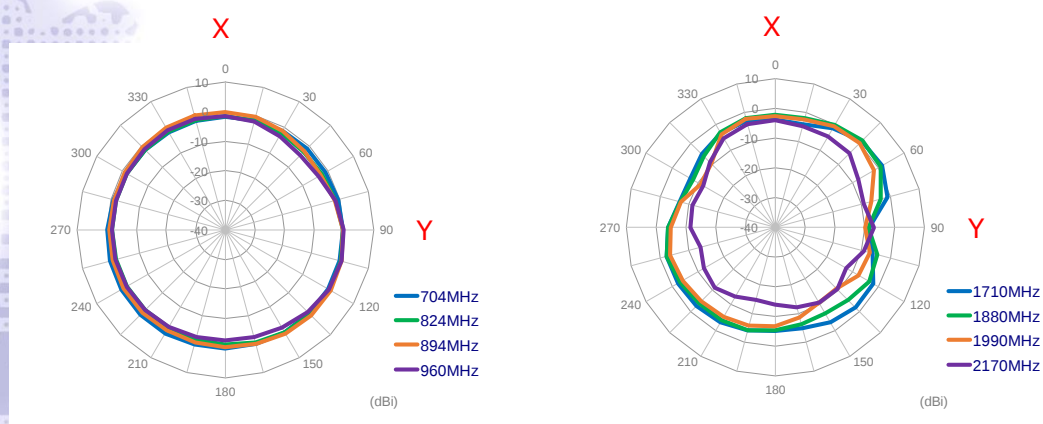
III. Antenna Radiation Pattern Measurement:

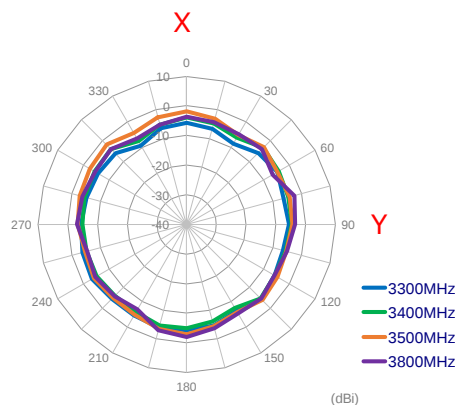
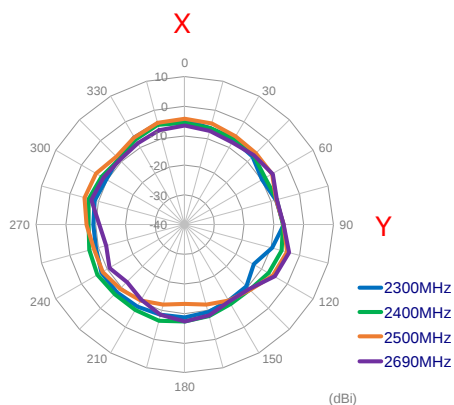
The antenna radiation patterns are measured in 3D Anechoic Chamber.
The measurement setup is as show below,



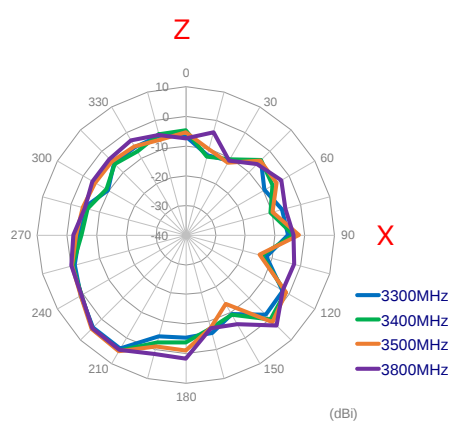
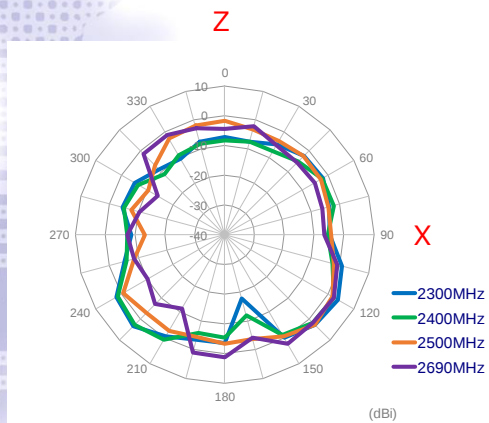
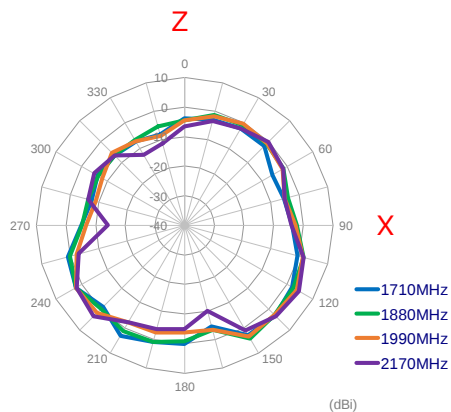
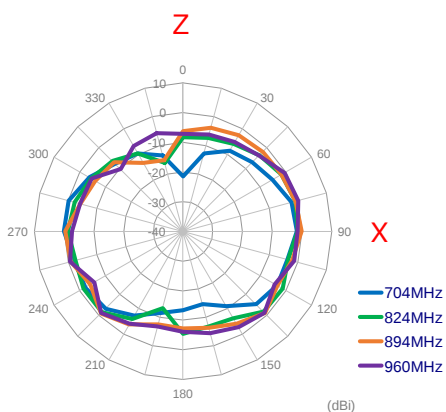
IV. 2D Radiation Pattern:

X-Y plane

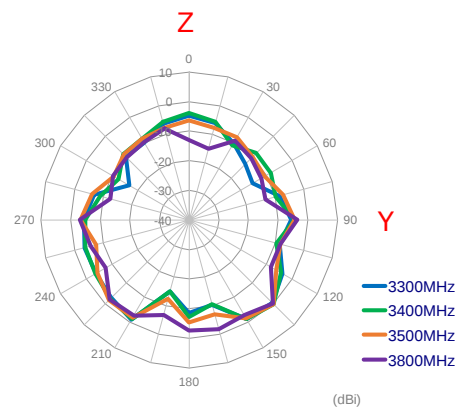
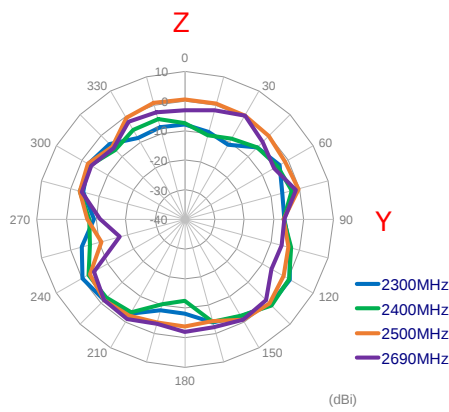
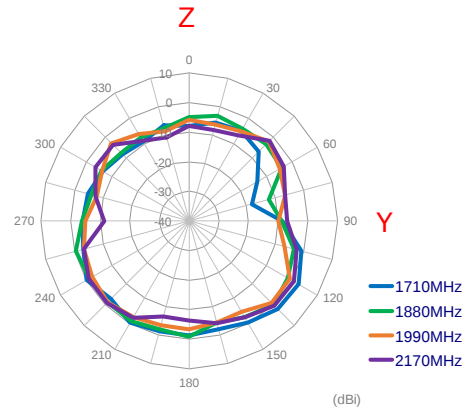
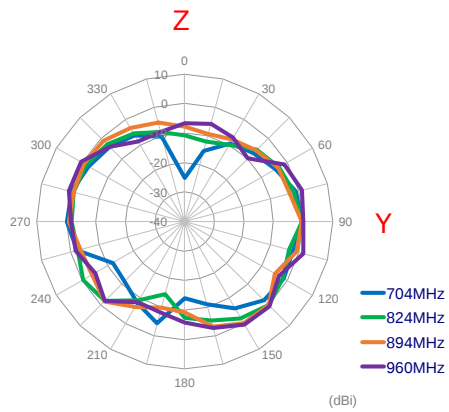




X-Z plane

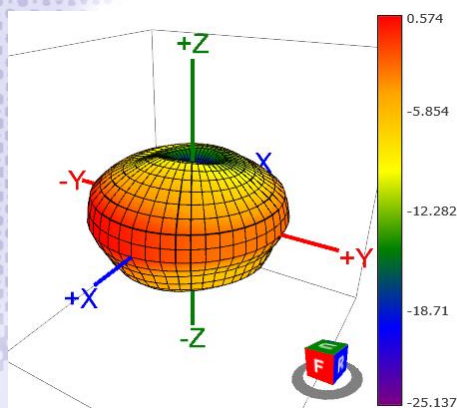


Y-Z plane

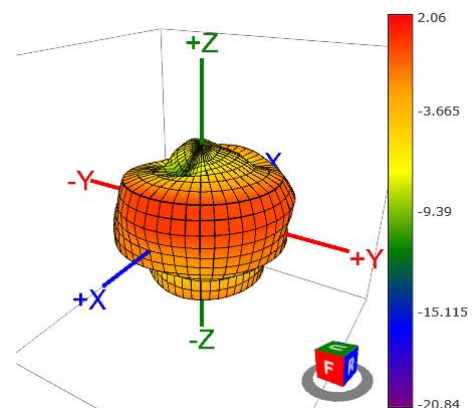


V. 3D Radiation Pattern:

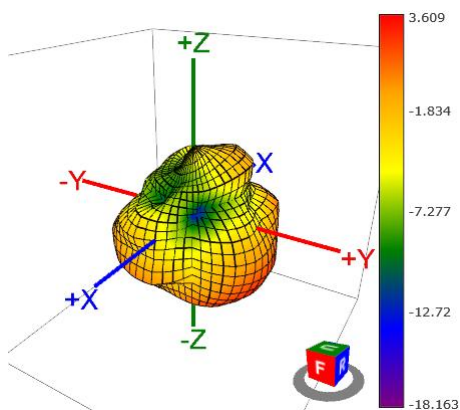
704MHz



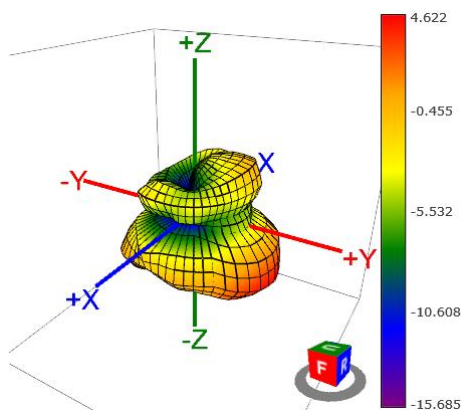
960MHz



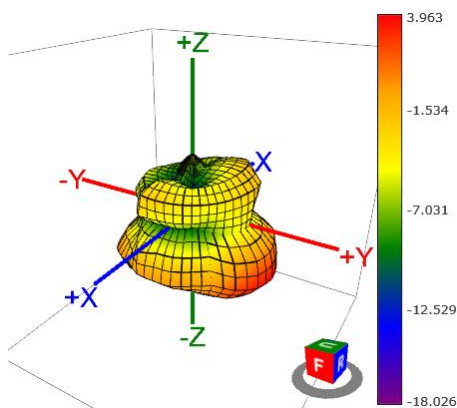
1710MHz



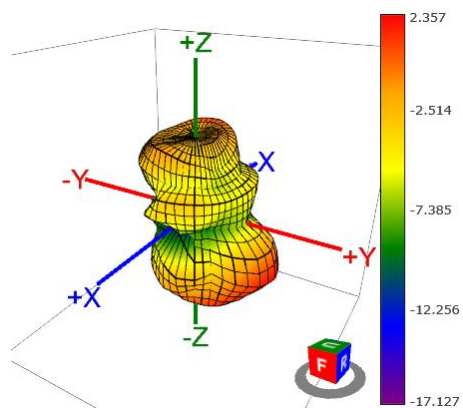
2170MHz



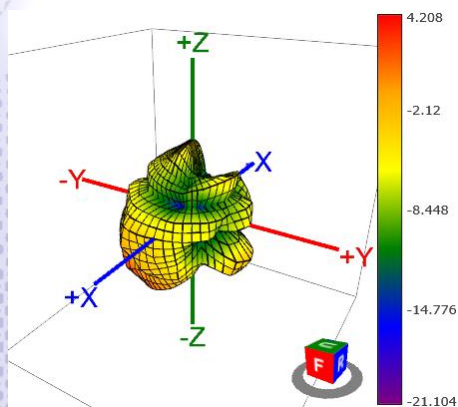
2300MHz



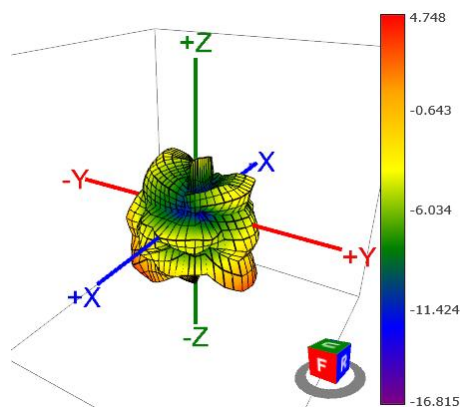
2690MHz



3300MHz



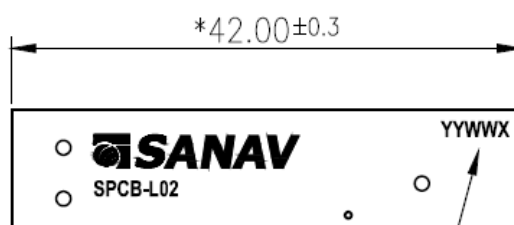
3800MHz



VI. Mechanical Drawing (Unit:mm):

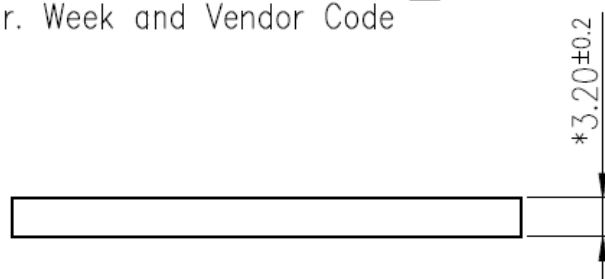
Antenna

Top View

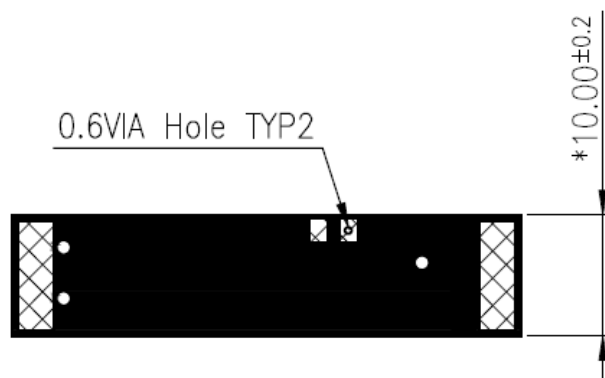


YYWWX—Date Code
Production Year. Week and Vendor Code

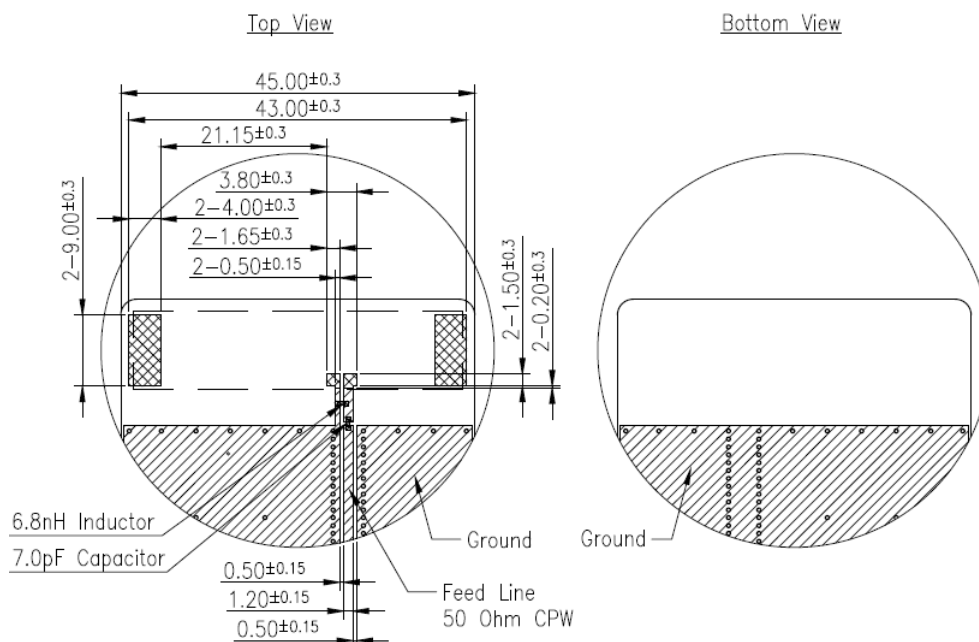
Side View



Bottom View



PCB Footprint

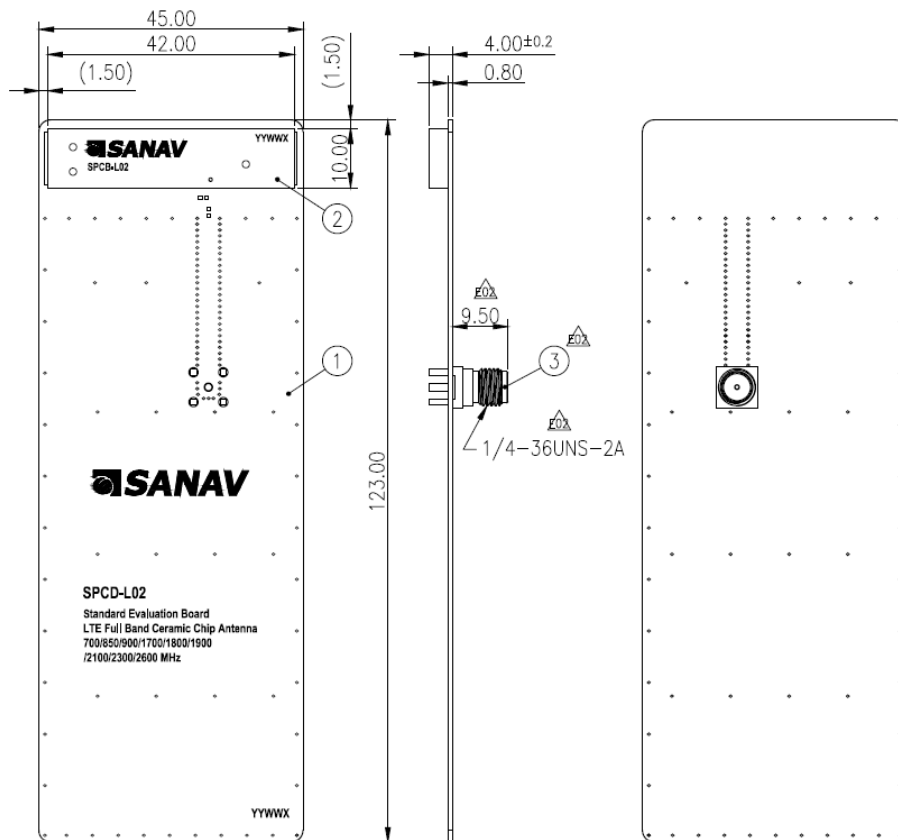


Notes:

1. Copper Area 
2. Au Plated 
3. Soldermask 
4. Ground Clearance Area 
5. SPCB-L02 Board 
6. Logo & Text Ink Printing: Black.
7. Matching – Value Changes According To Ground and Layout.
8. "*" Critical Dimensions.

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Antenna Assembly



3	SMA(Jack) Connector	Brass	Au Plated	1
2	SPCB-L02 Board	FR-4 3.2t	White	1
1	SPCB-L02 Demo EVB Board	FR-4 0.8t	White	1
No	NAME	MATERIAL	FINISH	Q'TY

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