

# ANTENNA SPECIFICATIONS FOR APPROVAL

## 1 GENERAL DESCRIPTION

1.1 Type No. : DRW50-S

1.2 Customer P/N :

## 2 DESCRIPTION & APPLICATION

This antenna assembly is designed for use in **704-960/ 1710-2170/ 2500-2700MHz**

## 3 ELECTRICAL CHARACTERISTICS

3.1 Frequency Rang:	704-960/1710-2170/2500-2690MHz LTE (Band 1+2+3+5+7+8+17+20) Band 17 (704-746MHz), Band 20 (791-862MHz) Band 5 (824-894MHz), Band 8 (880-960MHz) Band 3 (1710-1880MHz), Band 2 (1850-1990MHz) Band 1 (1920-2170MHz), Band 7 (2500-2690MHz)
3.2 V.S.W.R:	< 2.5
3.3 Impedance:	50 OHM
3.4 Type of Radiation:	Omni-directional
3.5 Electrical Wave:	1/4
3.6 Gain:	704-960 ==> 1dBi 1710-2170==> 2-2.5dBi 2500-2690MHz==> 2.5dBi
3.7 Connector:	SMA Male (Swivel) Brass Whip Material: ABS
3.8 Size:	135.6x20.1mm
3.9 Color:	Black

## 4 ENVIRONMENTAL CHARACTERISTICS

4.1 Operating temperature range -20°C to + 65°C

## 5 QUALIFICATION TESTING

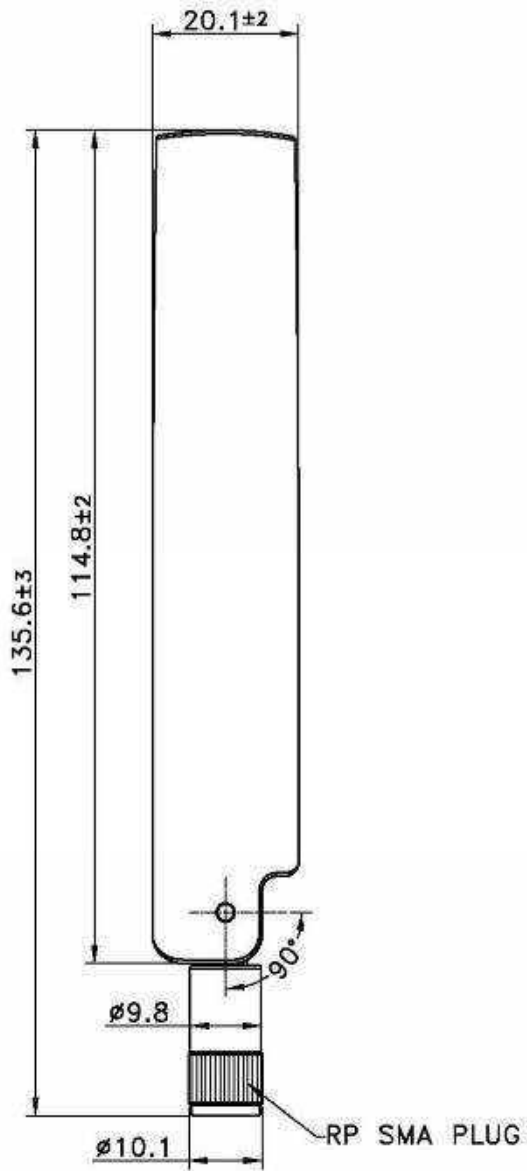
5.1 All products shall be able to withstand the following testing.

5.2 Physical dimensions identified within this specification.

## 6 PACKING STYLE Polybag/each

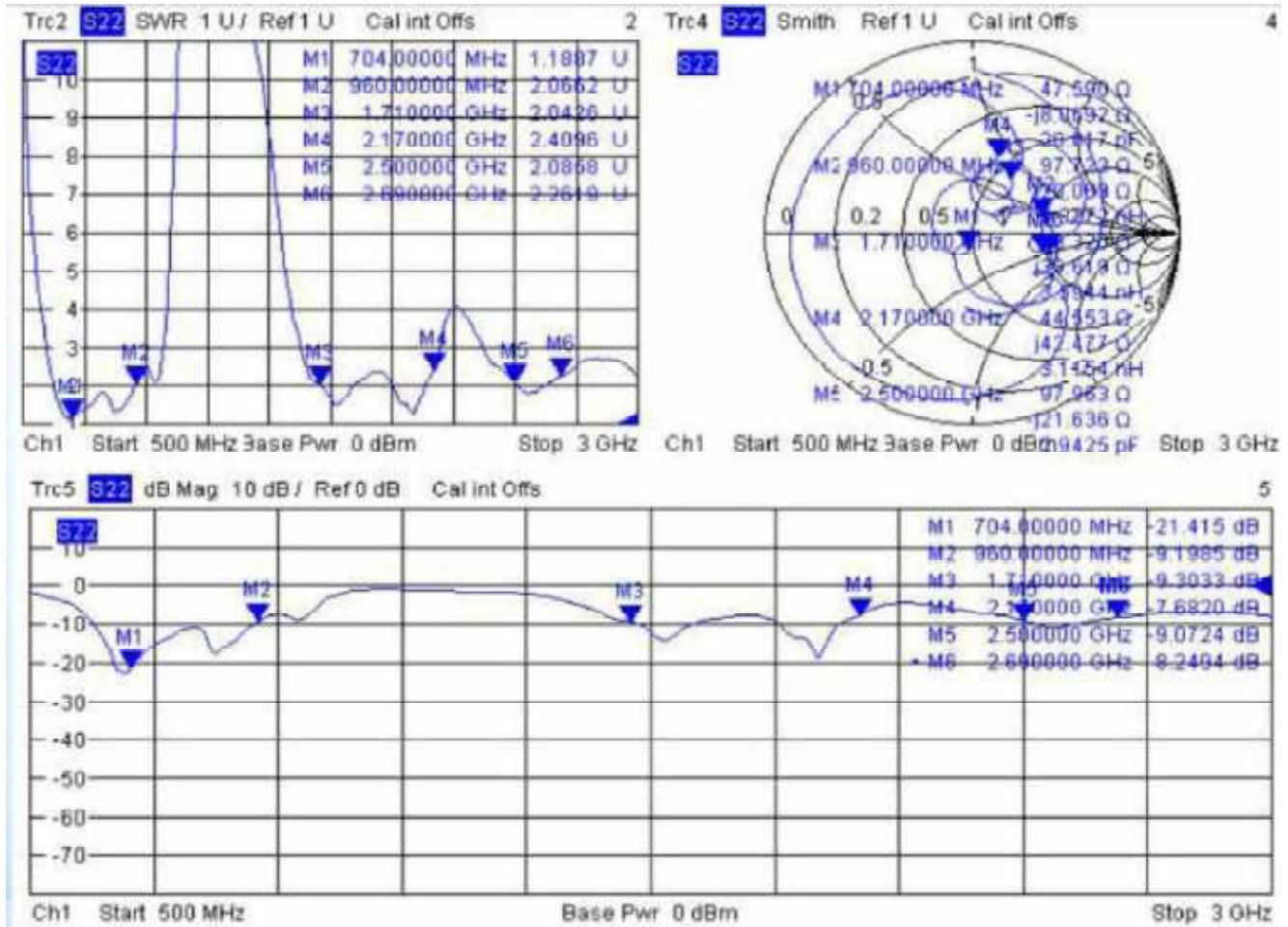
# ANTENNA SPECIFICATIONS FOR APPROVAL

## 7 DRAWING (MM)



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## 8 TEST- VSWR & RETURN LOSS



# ANTENNA SPECIFICATIONS FOR APPROVAL

## 9 Antenna Efficiency

	Band 17 (704-746MHz)				Band 20 (791-862MHz)				Band 5 (824-894MHz)			
Frequency(MHz)	704	716	734	746	791	821	832	862	824	849	869	894
Directivity (dBi)	0.29	2.51	2.68	3.39	2.62	2.77	2.53	3.22	2.7	3.32	3.47	3.34
Efficiency (dB)	-1.96	-1.81	-2.35	-2.74	-2.41	-3.06	-3.34	-3.58	-2.93	-2.94	-3.39	-3.03
Efficiency (%)	63.68	65.9	58.15	53.15	57.41	49.43	58.34	43.82	50.93	50.82	45.81	49.77
Peak Gain (dBi)	0.33	0.7	0.32	0.65	0.2	-0.29	-0.81	-0.36	-0.23	-0.62	0.06	0.31

	Band 8 (880-960MHz)				Band 3 (1710-1880MHz)				Band 2 (1850-1990MHz)			
Frequency(MHz)	880	915	925	960	1710	1785	1805	1880	1850	1910	1930	1990
Directivity (dBi)	3.97	3.3	3.72	3.3	4.93	5.19	5.34	4.16	4.73	4.08	3.91	3.57
Efficiency (dB)	-3.48	-3.34	-3.77	-3.87	-2.15	-2.17	-2.45	-2.35	-2.39	-2.35	-2.54	-3.44
Efficiency (%)	44.87	46.34	41.98	41.02	60.95	60.65	56.84	58.24	57.64	58.16	55.76	45.28
Peak Gain (dBi)	0.49	-0.04	-0.05	-0.57	2.78	3.02	2.88	1.82	2.34	1.72	1.38	0.13

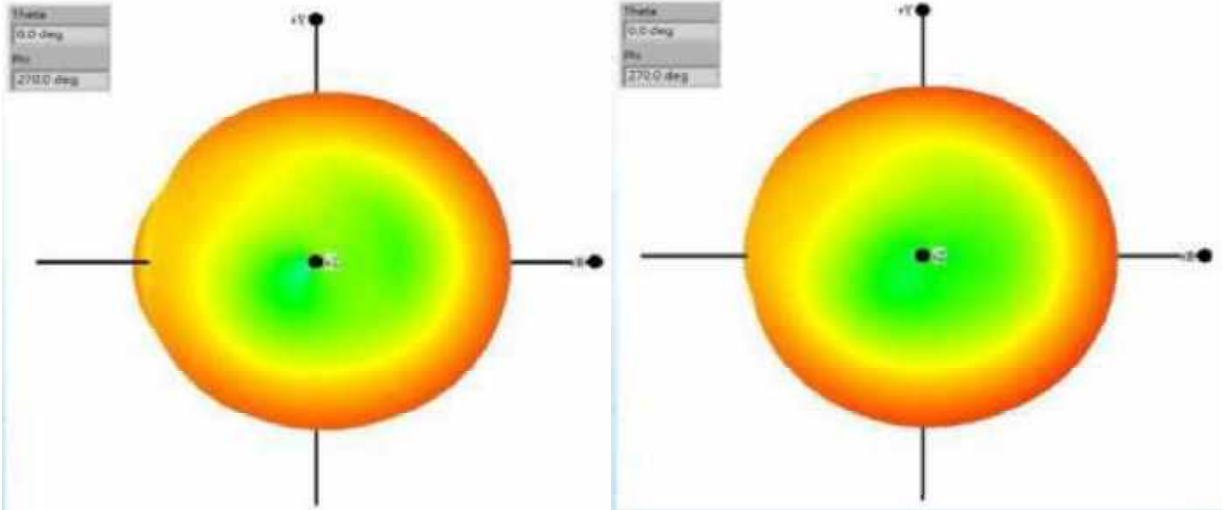
	Band 1 (1920-2170MHz)				Band 7 (2500-2690MHz)							
Frequency(MHz)	1920	1980	2110	2170	2500	2570	2620	2690				
Directivity (dBi)	3.99	3.66	5.95	5.73	4.4	3.65	4.64	4.68				
Efficiency (dB)	-2.34	-3.35	-3.93	-2.98	-2.48	-2.63	-2.87	-3.23				
Efficiency (%)	57.34	46.26	40.43	50.35	56.44	54.55	51.68	47.59				
Peak Gain (dBi)	1.64	0.32	2.01	2.75	1.91	1.01	1.77	1.45				

# ANTENNA SPECIFICATIONS FOR APPROVAL

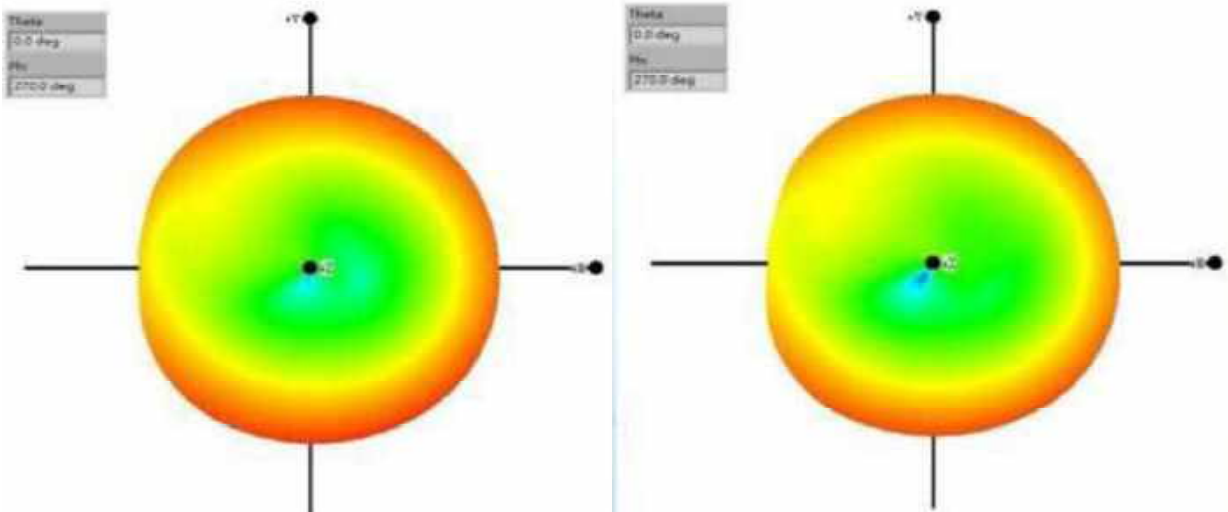
## 10 Antenna Pattern

Band 17 (704-746MHz)			
704	716	734	746

**3D Radiation Pattern@704MHz** **3D Radiation Pattern@716MHz**



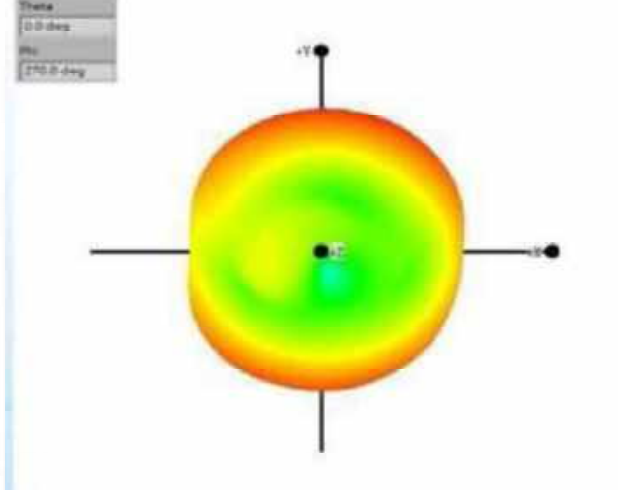
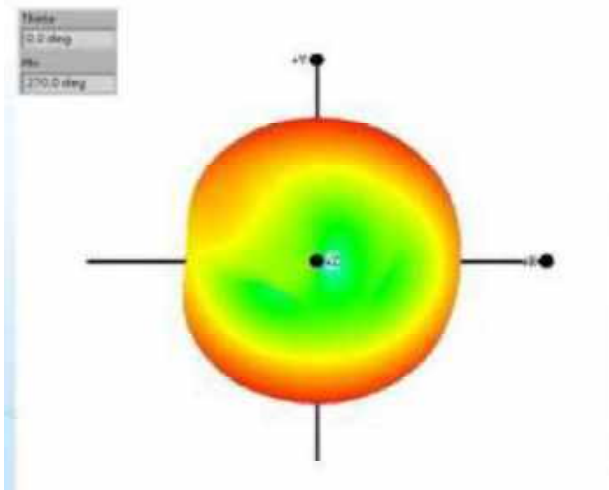
**3D Radiation Pattern@734MHz** **3D Radiation Pattern@746MHz**



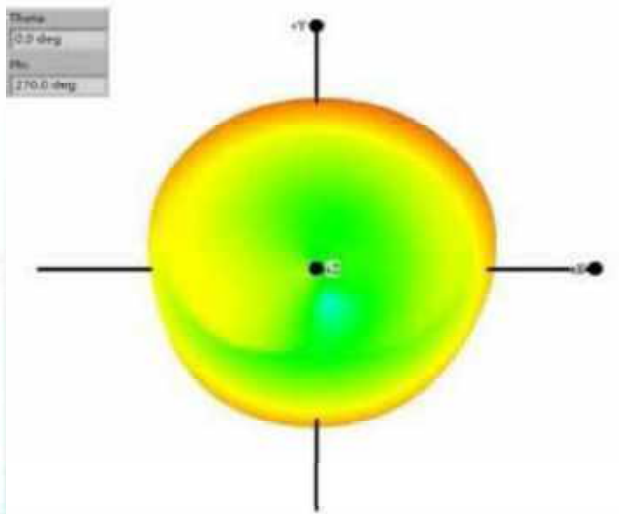
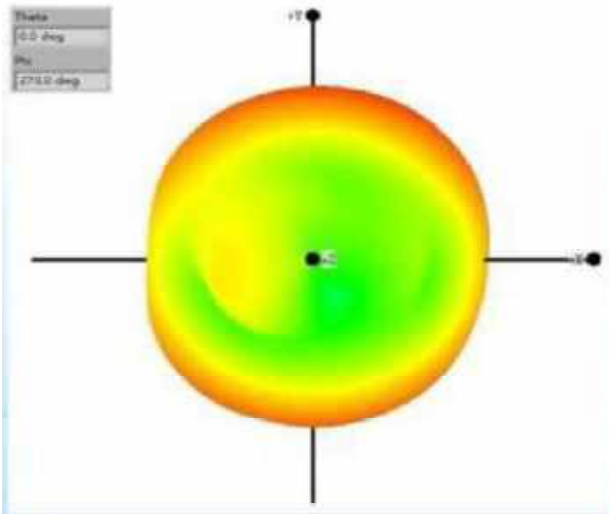
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 20 (791-862MHz)			
791	821	832	862

**3D Radiation Pattern@791MHz**      **3D Radiation Pattern@821MHz**



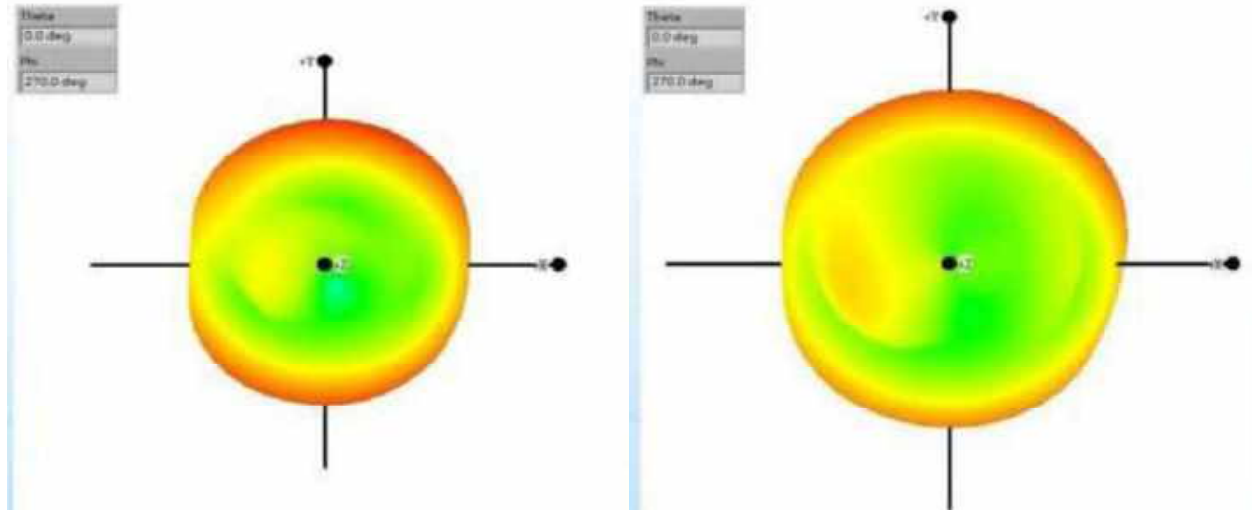
**3D Radiation Pattern@832MHz**      **3D Radiation Pattern@862MHz**



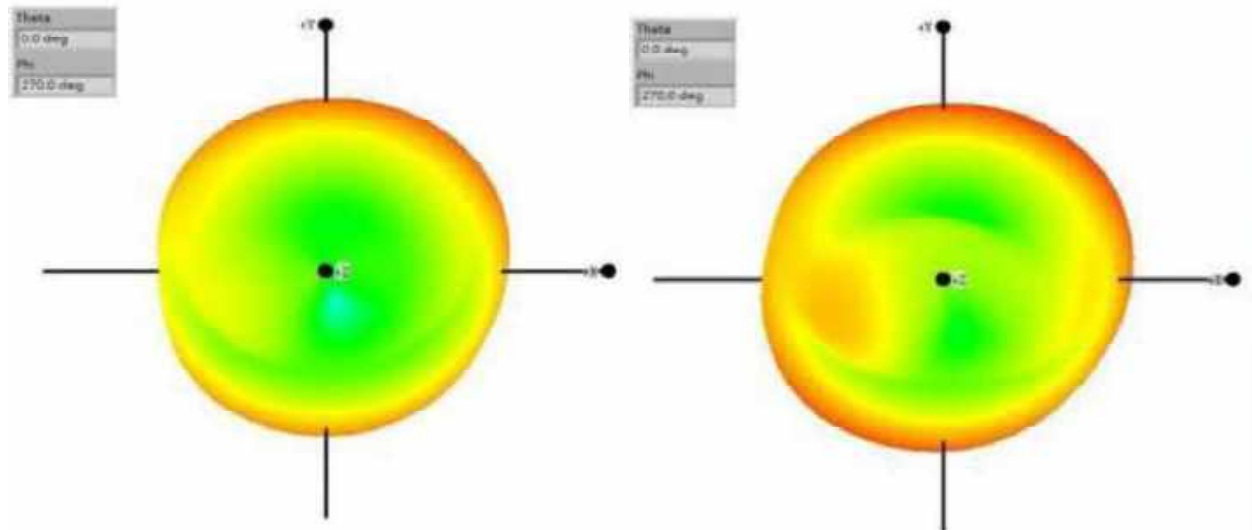
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 5 (824-894MHz)			
824	849	869	894

**3D Radiation Pattern @824MHz**    **3D Radiation Pattern @849MHz**



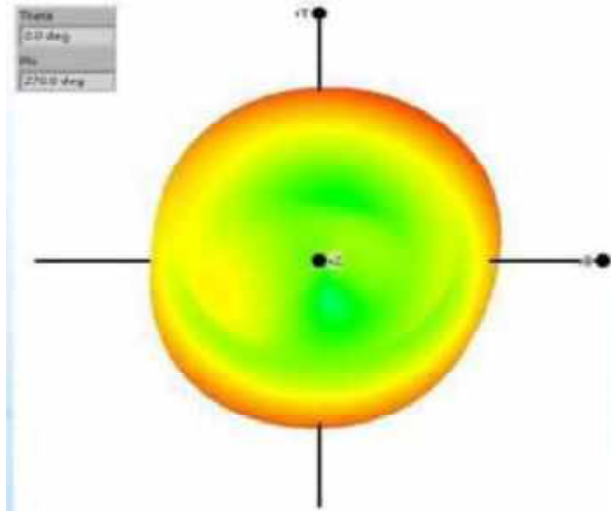
**3D Radiation Pattern @869MHz**    **3D Radiation Pattern @894MHz**



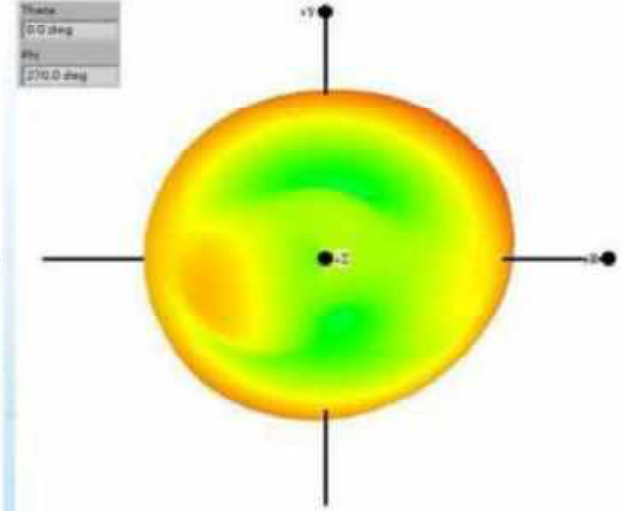
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 8 (880-960MHz)			
880	915	925	960

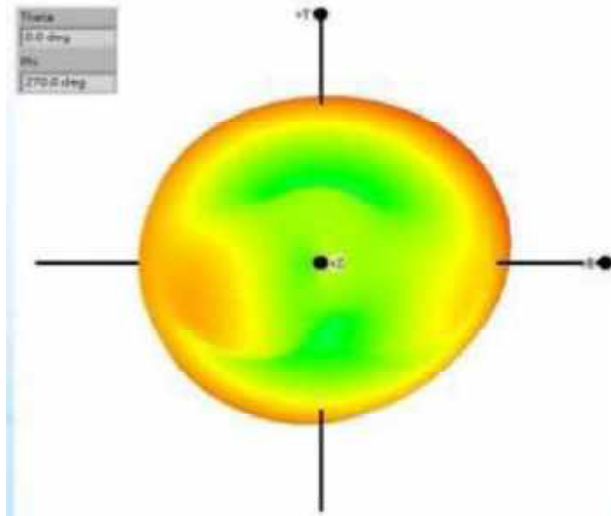
**3D Radiation Pattern@880MHz**



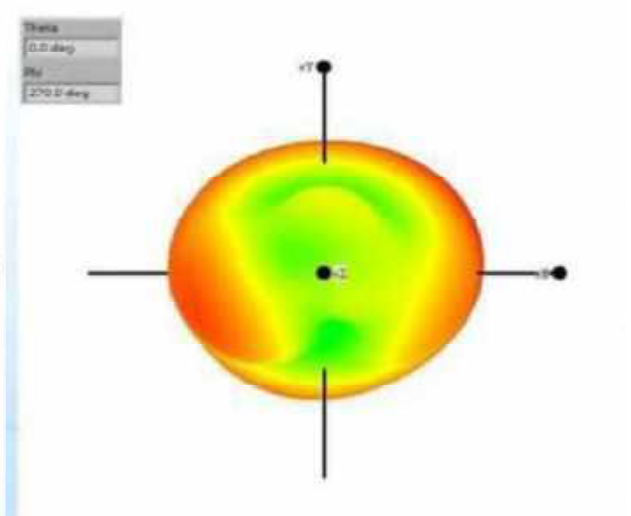
**3D Radiation Pattern@915MHz**



**3D Radiation Pattern@925MHz**



**3D Radiation Pattern@960MHz**

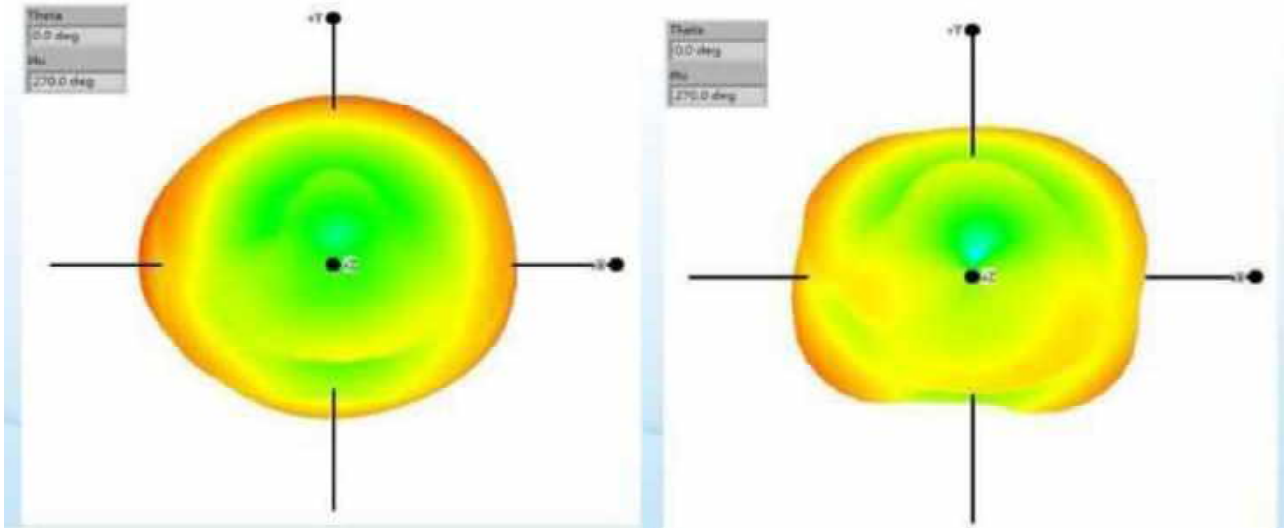




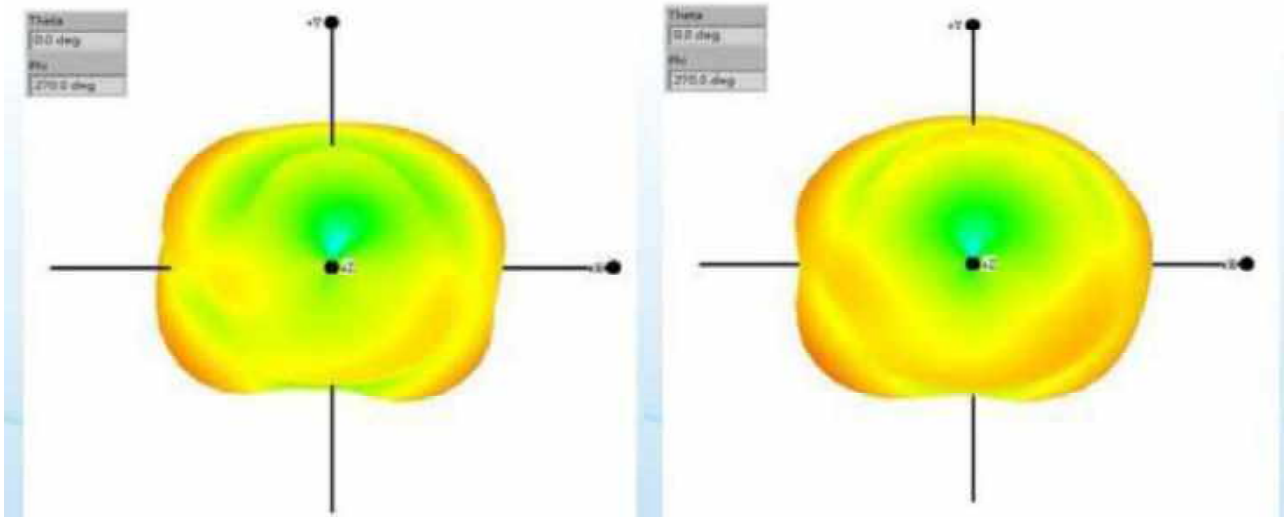
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 3 (1710-1880MHz)			
1710	1785	1805	1880

**3D Radiation Pattern @1710MHz**      **3D Radiation Pattern @1785MHz**



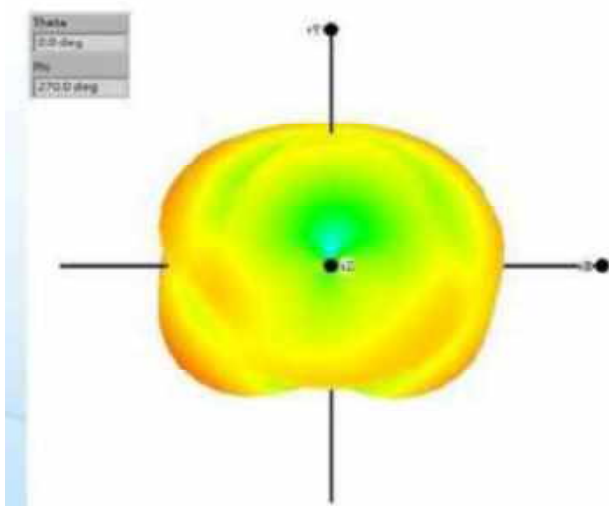
**3D Radiation Pattern @1805MHz**      **3D Radiation Pattern @1880MHz**



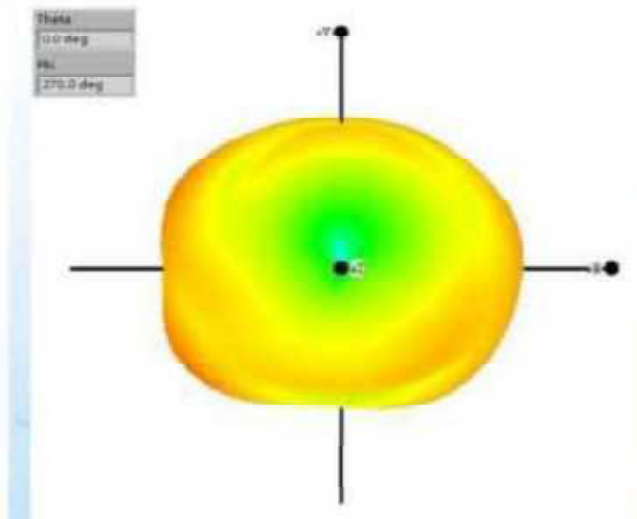
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 2 (1850-1990MHz)			
1850	1910	1930	1990

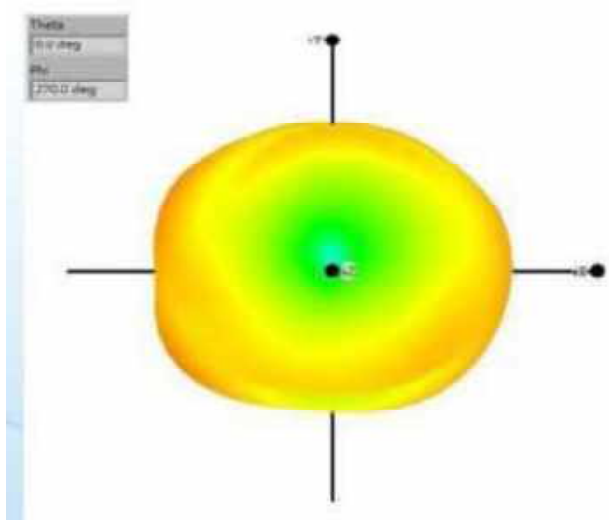
**3D Radiation Pattern @1850MHz**



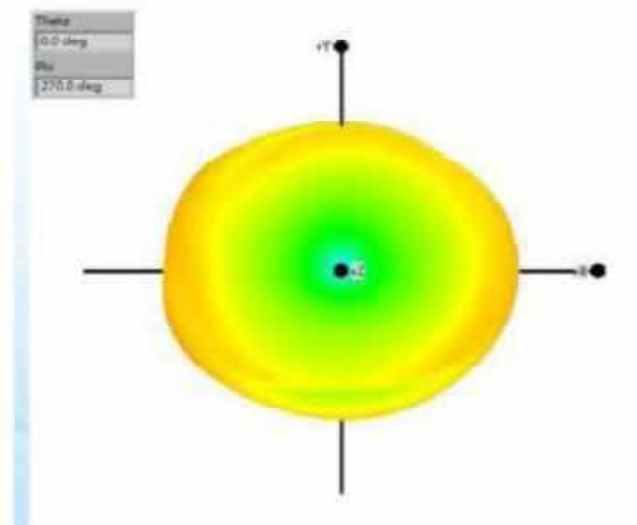
**3D Radiation Pattern @1910MHz**



**3D Radiation Pattern @1930MHz**



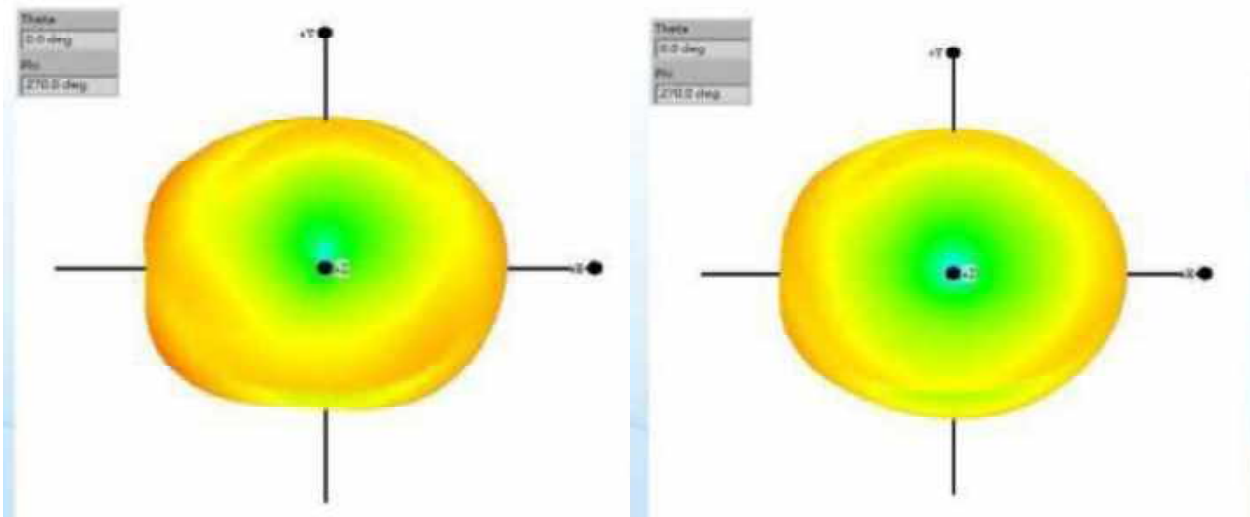
**3D Radiation Pattern @1990MHz**



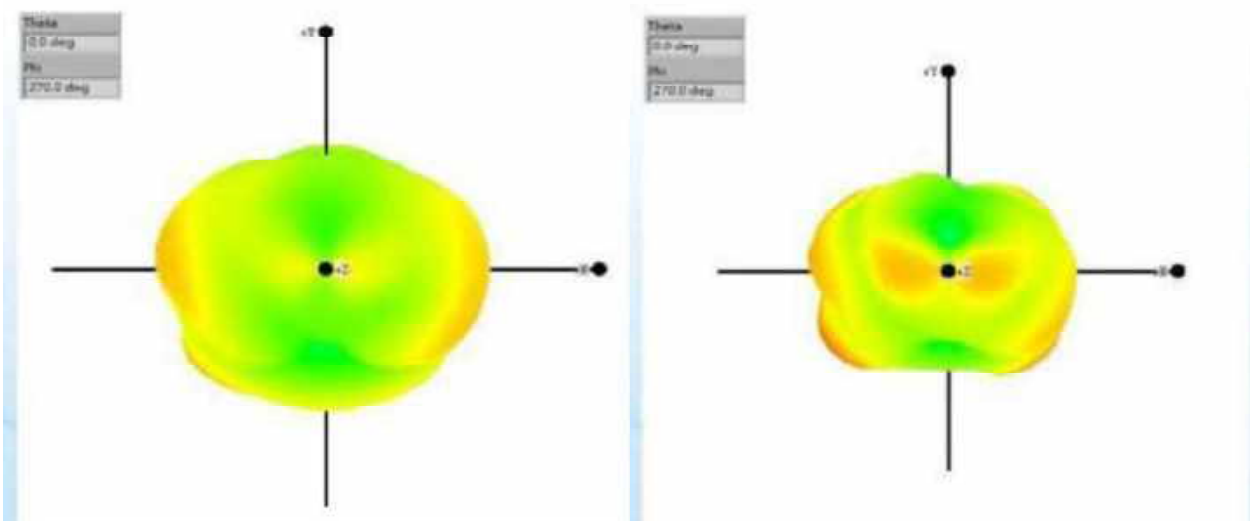
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Band 1 (1920-2170MHz)			
1920	1980	2110	2170

**3D Radiation Pattern @1920MHz    3D Radiation Pattern @1980MHz**



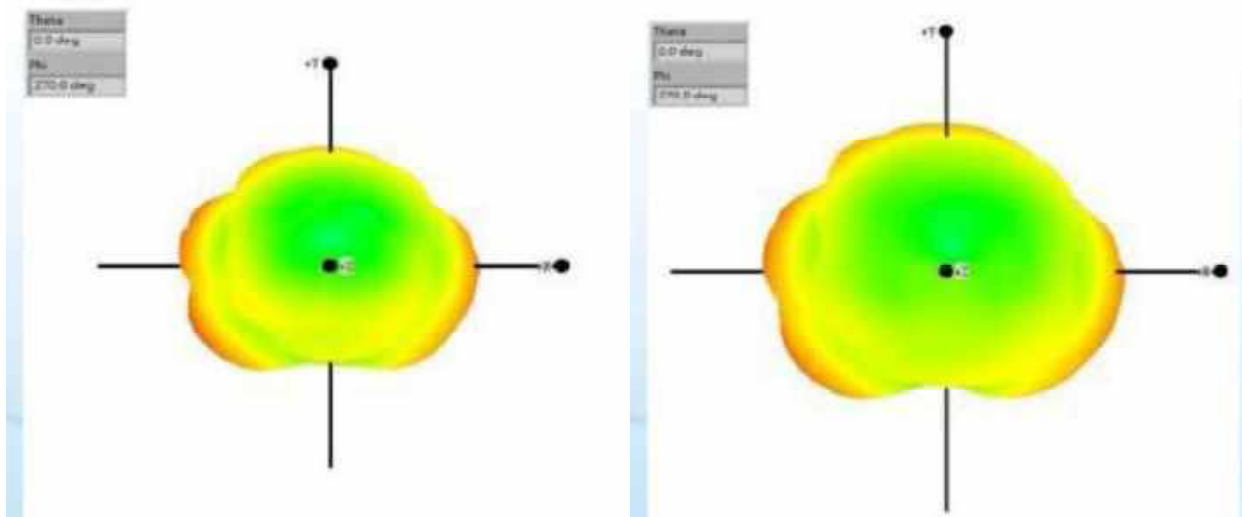
**3D Radiation Pattern @2110MHz    3D Radiation Pattern @2170MHz**



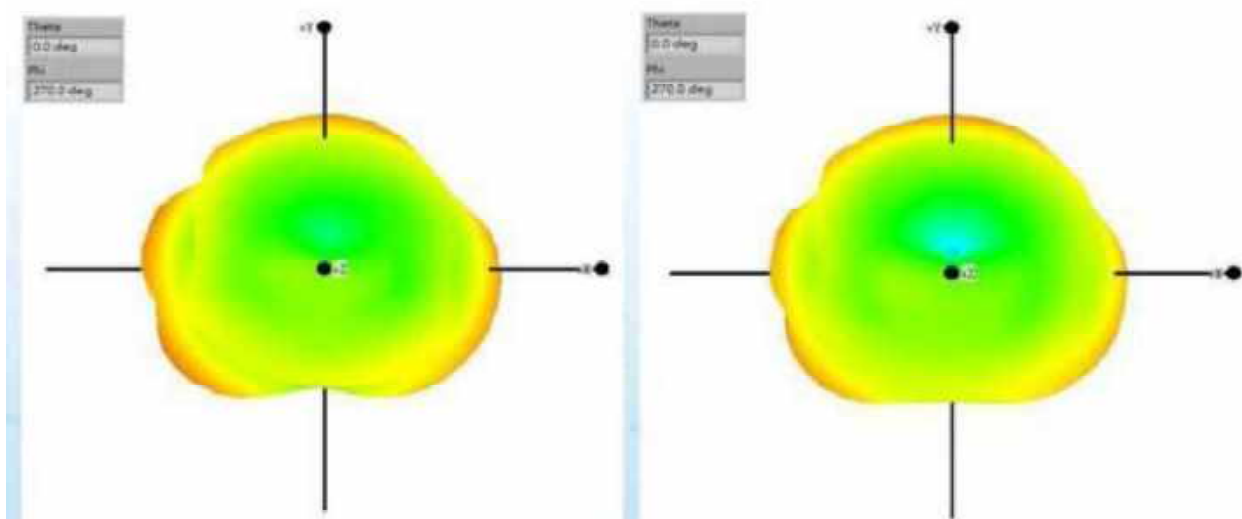
# ANTENNA SPECIFICATIONS FOR APPROVAL

Band 7 (2500-2690MHz)			
2500	2570	2620	2690

**3D Radiation Pattern @2500MHz**      **3D Radiation Pattern @2570MHz**



**3D Radiation Pattern @2620MHz**      **3D Radiation Pattern @2690MHz**



# ANTENNA SPECIFICATIONS FOR APPROVAL

## 11 Impedance matching

