

# Wideband Cellular Embedded Antenna

TFD-7-60[-X]



## TFD-7-60[-X]

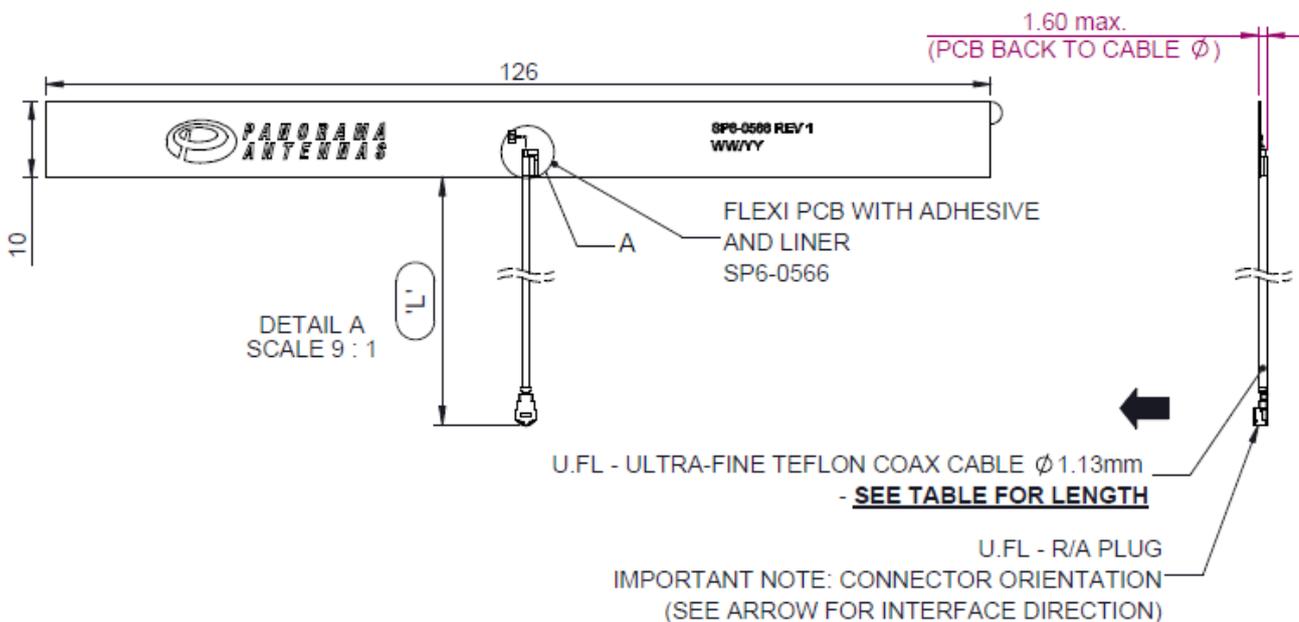
- Wideband cellular 4G/5G FPCB dipole antenna
- Supports 698-960/1710-6000MHz
- Ultra-flexible adhesive mount antenna
- Fitted 1.13 coax cable with UFL plug

The TFD-7-60[-X] antenna is a ground plane independent flexible PCB (FPCB) dipole antenna covering global cellular frequencies (698-960/1710-6000MHz) developed for embedded applications.

Designed for mounting on non-conductive surfaces the TFD-7-60[-X] range is installed via a high performance adhesive backing layer and is supplied with integrated C113 cable fitted with a right angle UFL plug.

### Technical Drawing

TFD-7-60-VARUFL Shown



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Product Data

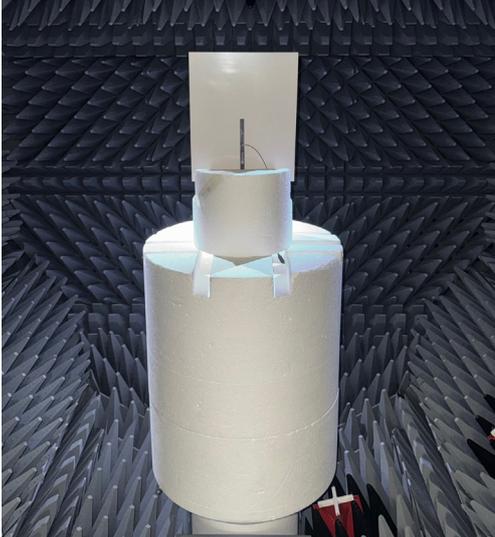
Part No.		TFD-7-60-005UFL	TFD-7-60-01UFL	TFD-7-60-02UFL
<b>Electrical Data</b>				
Frequency Range (MHz)		698-960/1710-6000		
Typical VSWR		<3:1		
Typical Peak Gain*	698-960MHz	2dBi		
	1710-2700MHz	3.6dBi		
	3300-4900MHz	6.5dBi		
	5150-6000MHz	8.5dBi		
Typical Efficiency*	617-960MHz	63%		
	1710-2700MHz	66%		
	3300-4900MHz	69%		
		5150-6000MHz		
Polarisation		Linear		
Pattern		Omni-directional		
Impedance		50Ω		
Max Input Power (W)		5		
<b>Mechanical Data</b>				
Dimensions (mm)	Length	126 (4.96")		
	Width	10 (0.39")		
	Thickness	1.6 (0.06")		
Material		Flexible PCB substrate with adhesive backing		
Operating Temp (°C)		-40° / 176°F (-40° / +80°C )		
Colour		Black		
<b>Cable Data</b>				
Type		C113		
Diameter (mm)		1.13 (0.04")		
Length (mm)		50 (2")	100 (4")	200 (8")
Termination		R/A UFL Plug		

\*VSWR, peak gain and efficiency measured on 2.5mm (0.1") ABS sheet with 100mm (4") cable. Efficiency is average across stated bands. VSWR stated across 90% of relevant frequency bands.

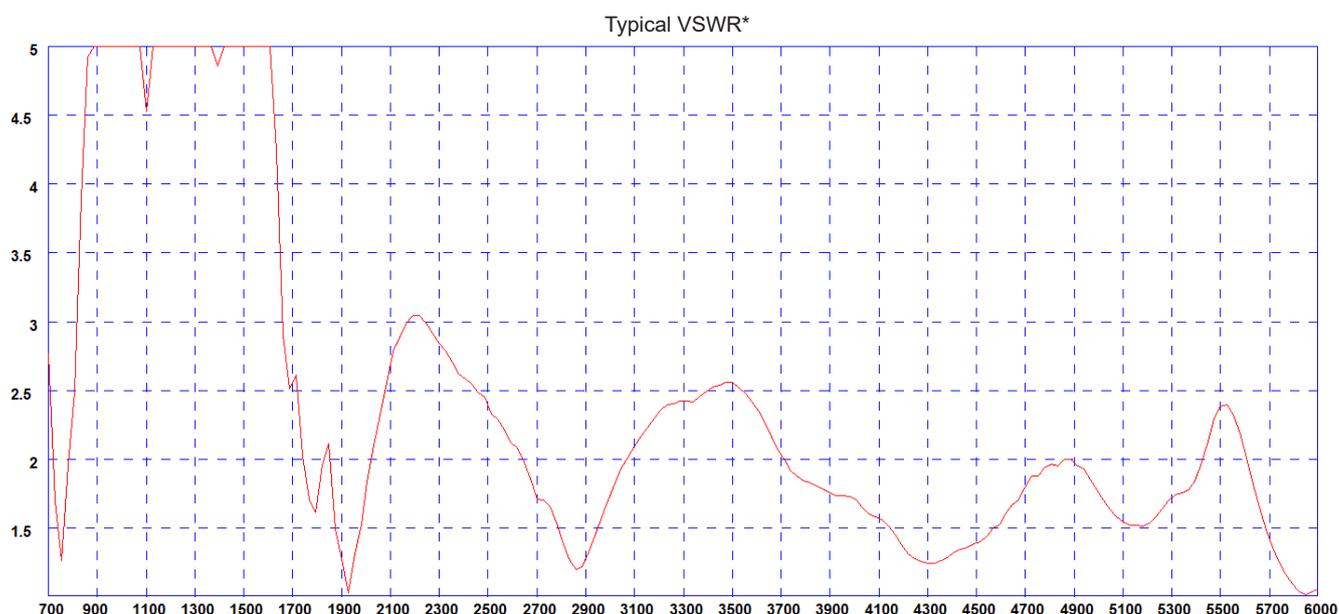
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Electrical Data in Free Space - Cell

Measurement Conditions	4G/5G Antennas				
Measured in 3D anechoic chamber on a 2.5mm (0.1") ABS sheet	Frequency Range (MHz)	LTE/NR Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	617-698	71, 105	Cell	0.3	44
	699-798	12,13, 14 17,28	Cell	2.0	78
	807- 862	5,19,20,26,27	Cell	1.7	72
	880-960	8	Cell	0.5	39
	1427-1518	11, 21, 74,75,76	Cell	-2.9	12
	1710-1920	2,3,4,9,25,35,39,66	Cell	1.4	58
	1920-2170	1,23	Cell	2.1	73
	2300-2400	30,40	Cell	2.2	62
	2496-2690	7,38,41	Cell	3.6	69
	3300-4200	22,42,43,48,77,78	Cell	4.9	68
	4400-5000	79	Cell	6.5	69
	5000-6000	96, 102, 104	Cell	8.5	64

Electrical Data in Free Space - Cell



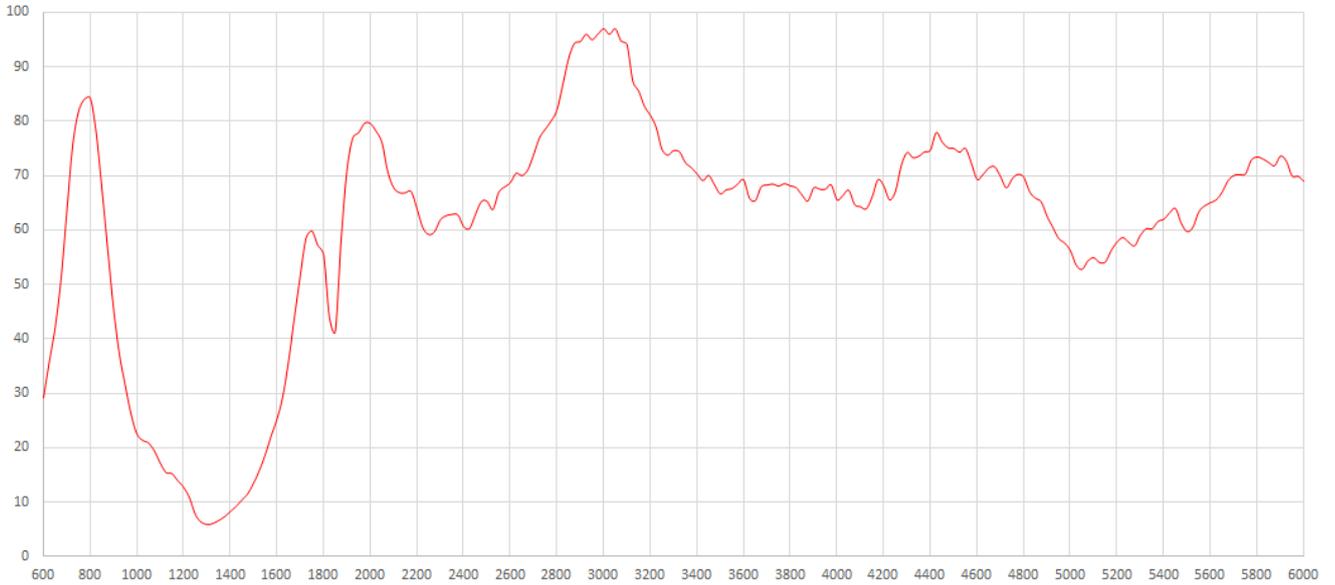
\*VSWR measured on 2.5mm (0.1") ABS sheet with 100mm (4") cable

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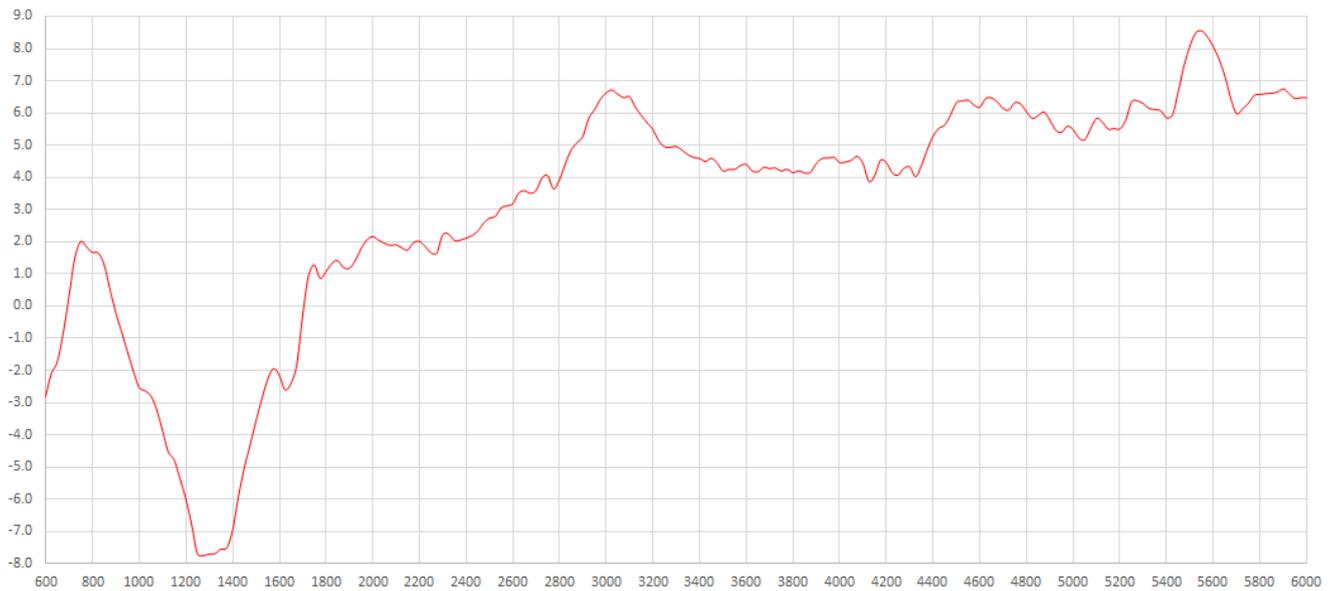
Electrical Data in  
Free Space - Cell

Typical Efficiency\*



\*Efficiency measured on 2.5mm (0.1") ABS sheet with 100mm (4") cable

Typical Peak Gain\*



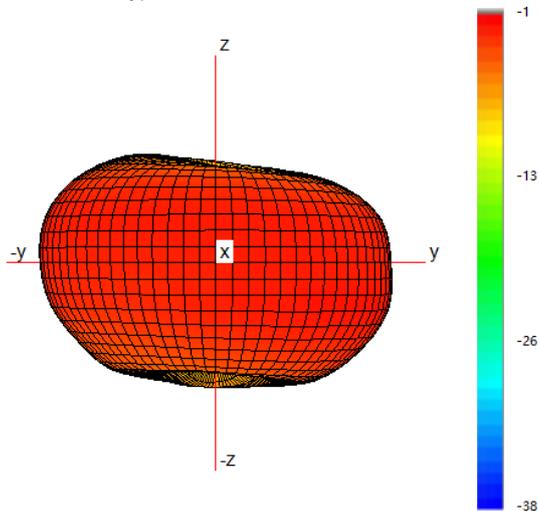
\*Peak gain measured on 2.5mm (0.1") ABS sheet with 100mm (4") cable

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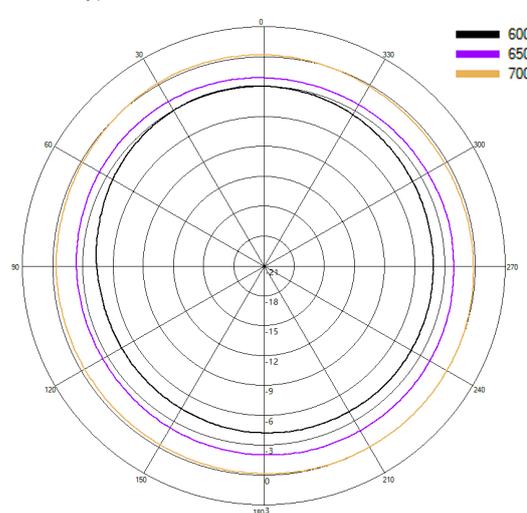
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3D Pattern Data in Free space - Cell

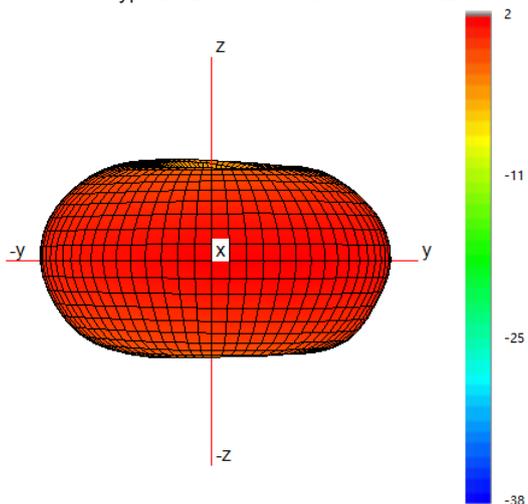
Typical 3D Pattern- Cell A - 650 MHz



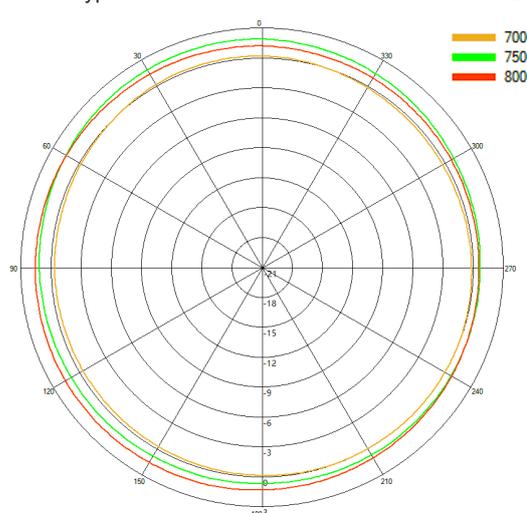
Typical H Plane- Cell A - Patterns- 600-700MHz



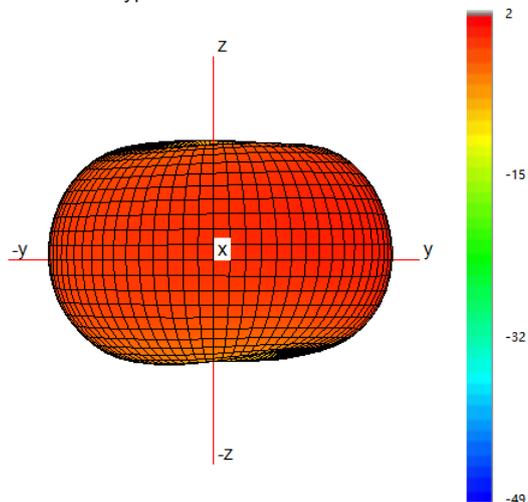
Typical 3D Pattern- Cell A - 750 MHz



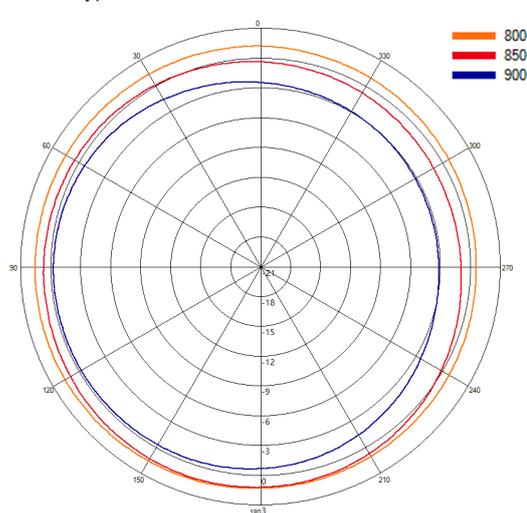
Typical H Plane- Cell A - Patterns- 700-800MHz



Typical 3D Pattern- Cell A - 850 MHz



Typical H Plane- Cell A - Patterns- 800-900MHz

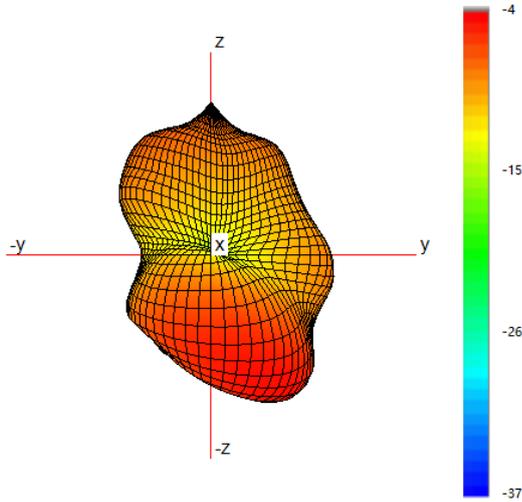


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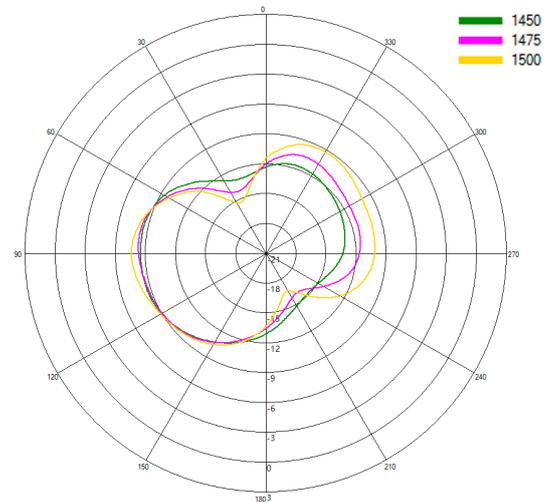
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3D Pattern Data in Free space - Cell

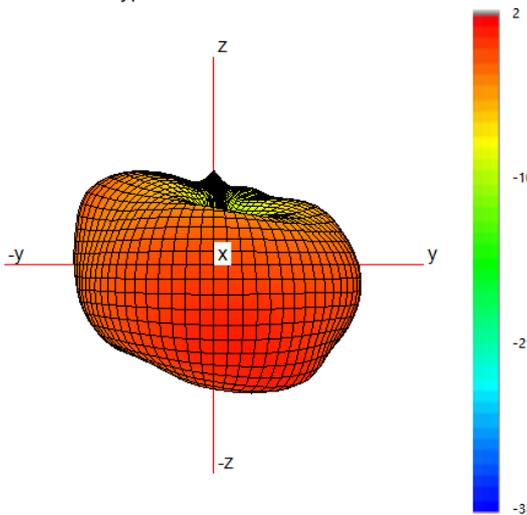
Typical 3D Pattern- Cell A - 1475 MHz



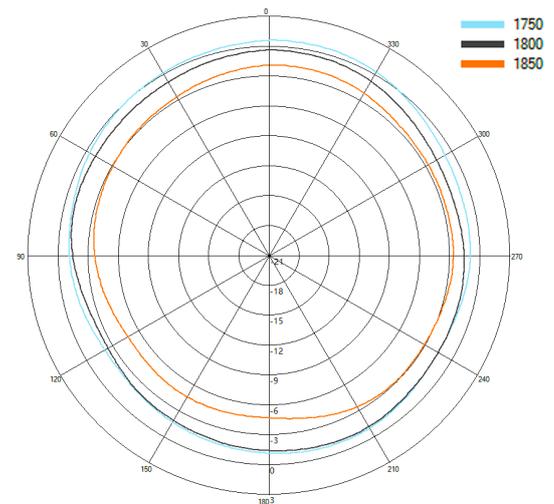
Typical H Plane- Cell A- Patterns- 1450-1500 MHz



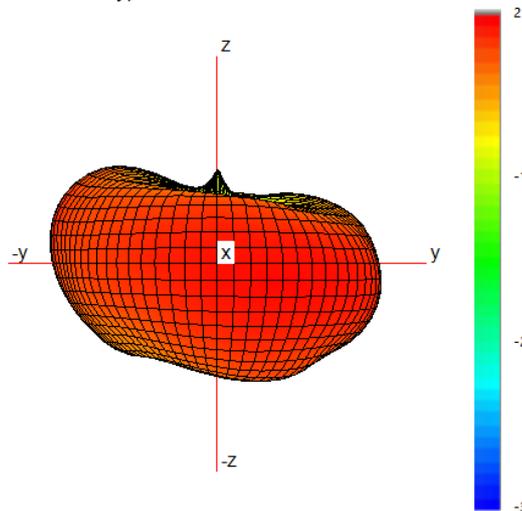
Typical 3D Pattern- Cell A - 1800 MHz



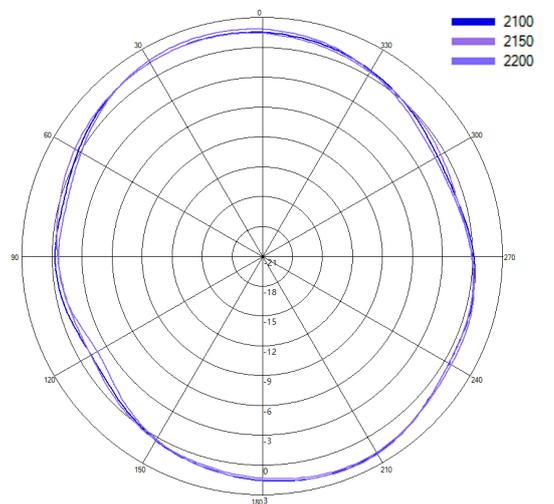
Typical H Plane- Cell A- Patterns- 1750-1850 MHz



Typical 3D Pattern- Cell A - 2150 MHz



Typical H Plane- Cell A- Patterns- 2100-2200 MHz

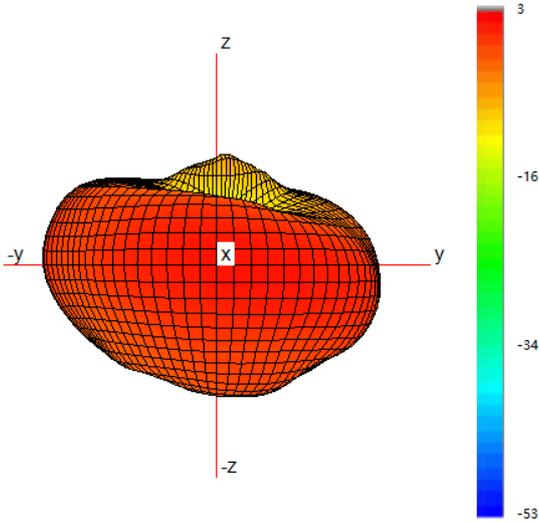


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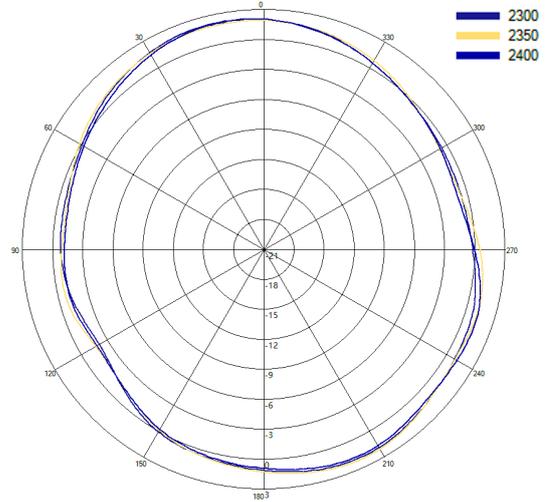
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3D Pattern Data in Free space - Cell

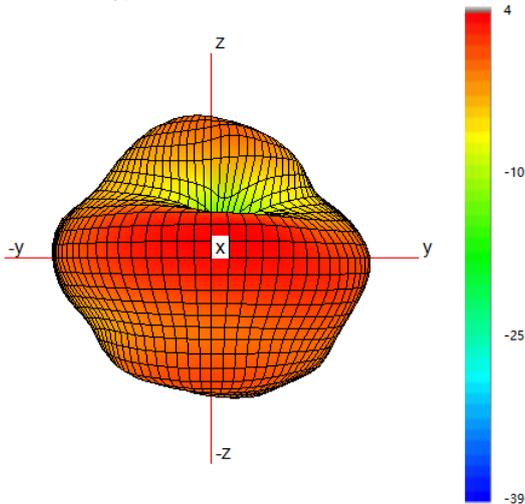
Typical 3D Pattern- Cell A - 2350 MHz



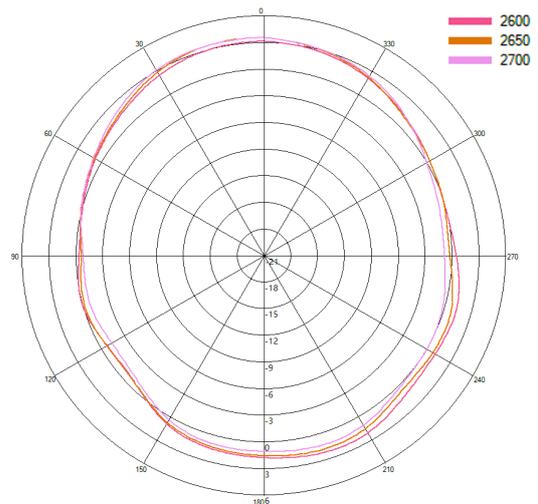
Typical H Plane- Cell A - Patterns- 2300-2400 MHz



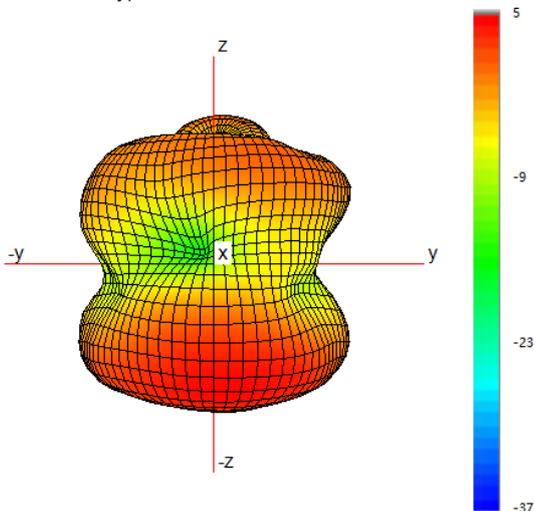
Typical 3D Pattern- Cell A - 2650 MHz



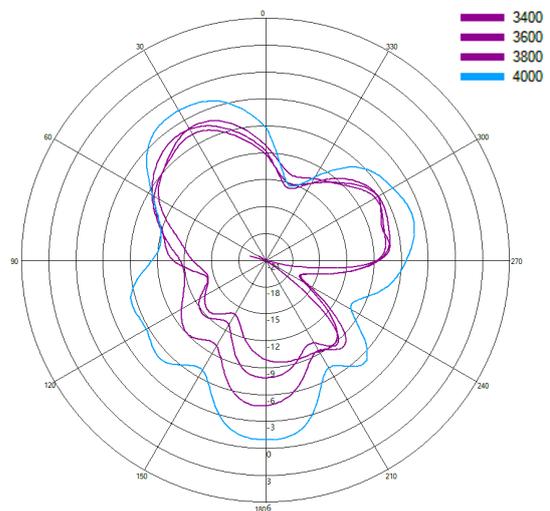
Typical H Plane- Cell A - Patterns- 2600-2700 MHz



Typical 3D Pattern- Cell A - 3600 MHz



Typical H Plane- Cell A - Patterns- 3400-4000 MHz

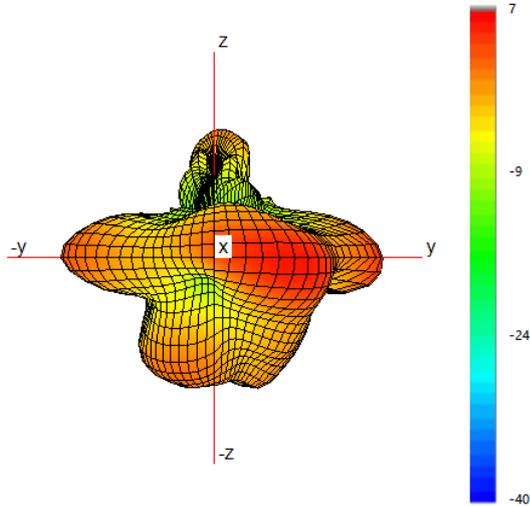


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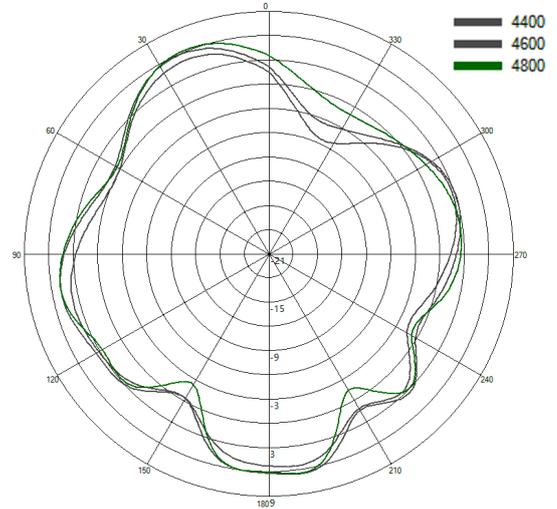
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3D Pattern Data in Free space - Cell

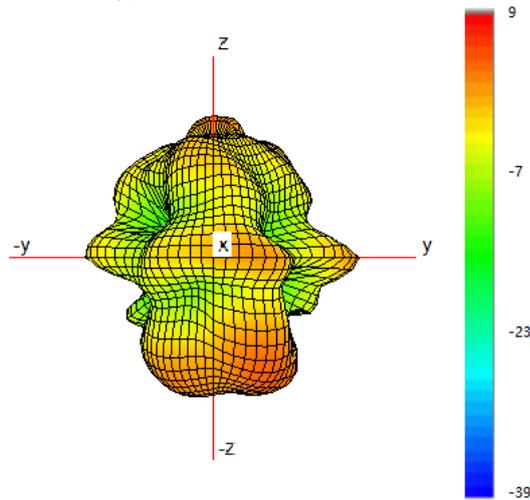
Typical 3D Pattern- Cell A - 4700 MHz



Typical H Plane- Cell A - Patterns- 4400-4800 MHz



Typical 3D Pattern- Cell A - 5600 MHz



Typical H Plane- Cell A - Patterns- 5400-5800 MHz

