

# SiSo UHF/ LTE IOT Antenna

LPA[L]-460-7-42-[X]



## LPA[L]-460-7-42-[X]

- Efficient antenna covering 450-466/698-960/1710-4200MHz
- Wall, panel or mast mount
- Ensure reliable connectivity for IOT devices
- 5mm (0.2") or 2.8mm (0.1") cable options

The LPA[L]-460-7-42 series is a range of efficient, omni-directional, multi-band antennas for IOT devices suitable for external or internal installation.

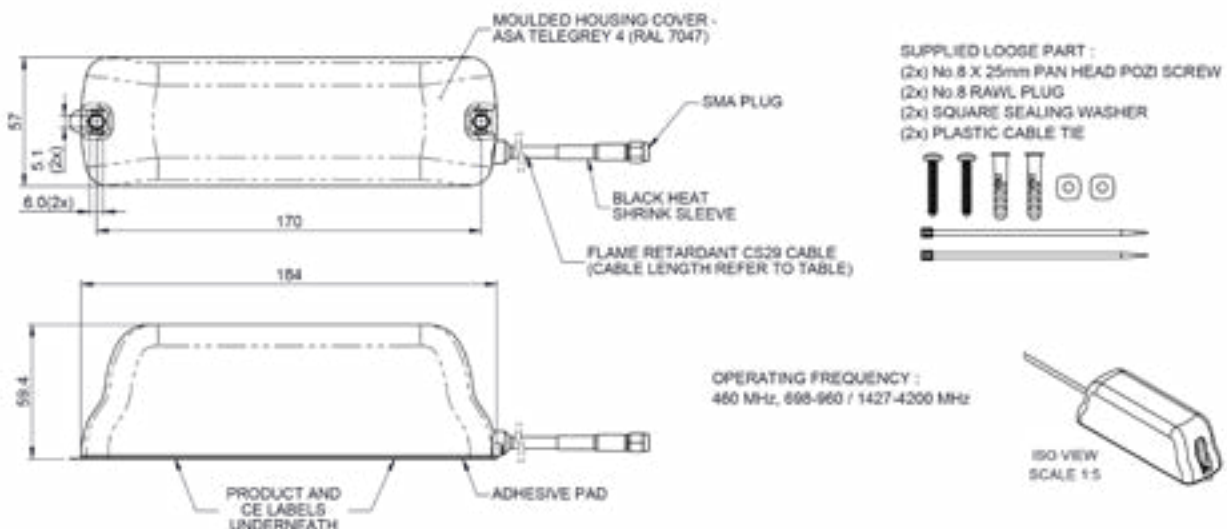
The design of the antenna enables simple panel or wall mounting using the supplied screws and wall plugs, adhesive pad mounting or mast mounting using the supplied cable ties. The omni-directional radiation pattern allows easy placement and flexible installation.

These antennas are an ideal solution for use in industrial and domestic environments with cellular modems/routers for IoT and Machine to Machine (M2M) wireless connectivity applications. The high performance of the antenna helps maximise first time connection rates and minimise revisits and communication issues after installation thereby reducing lifetime costs.

The antennas are fitted with integrated FR RG174 or FR CS29 cable and a variety of connectors.

### Technical Drawing

LPA-460-7-42-[X] Shown



# SiSo UHF/ LTE IOT Antenna

LPA[L]-460-7-42-[X]

PANORAMA  ANTENNAS

Product Data

Part No.	LPAL-460-7-42-5SP	LPAL-460-7-42-5RFDJ	LPA-460-7-42-2SP	LPA-460-7-42-2RFDJ
<b>Electrical Data</b>				
Frequency Range (MHz)	450-466 / 698-960 / 1710-4200			
Peak Gain: Isotropic+	450-466	3dBi		
	698-960MHz	4dBi		
	1710-4200 MHz	8dBi		
Typical VSWR**	453MHz	<2:1		
	698-960	<3:1		
	1427-4200	<2.5:1		
Polarisation	Vertical			
Pattern	Omni-directional			
Impedance	50Ω			
Max Input Power (W)	5			
<b>Mechanical Data</b>				
Dimensions (mm)	Length	184 (7.24")		
	Width	57 (2.2")		
	Height	59 (2.32")		
Operating Temp (°C)	-40° / +85°C ( -40° / 185°F )			
Material	ASA			
Colour	Telegray RAL 7047			
Relative Humidity	95%			
Ingress Protection	IP66			
Regulatory Compliance	RoHS 2 (exemption 6.c applied)   REACH			
<b>Mounting Data</b>				
Fixing	Wall /panel - screw / adhesive / cable tie pole mount			
Mounting Screw Diameter (mm)	4 (0.16")			
<b>Cable Data</b>				
Type	FR CS29	FR RG174		
Diameter (mm)	5 (0.2")	2.8 (0.1")		
Length (m)	5 (16'4")	2 (6'6")		
Voltage Withstand	1000 V DC	500 V DC		
Jacket Spark	3000 V RMS	2000 V RMS		
Termination	SMA Plug (m)	Right Angle FAKRA D Jack	SMA Plug (m)	Right Angle FAKRA D Jack

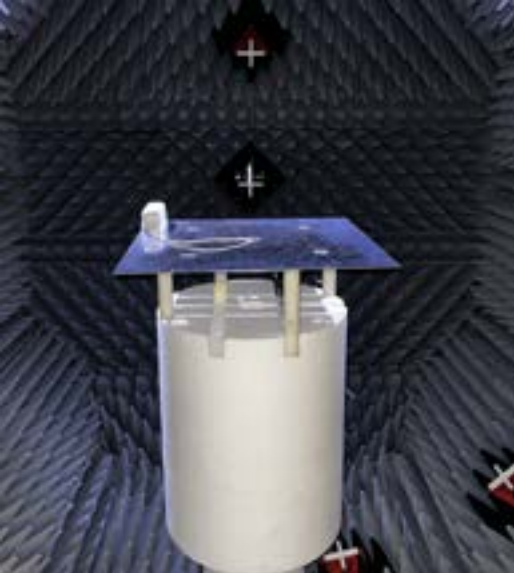
\* Swept Peak Gain measured on the corner of a 600x600mm (1.9' x 1.9') ground plane with 0.1m (4") of CS29 cable

\*\* Typical VSWR stated as measured across 90% of relevant band with 1m (3') of CS32 cable.

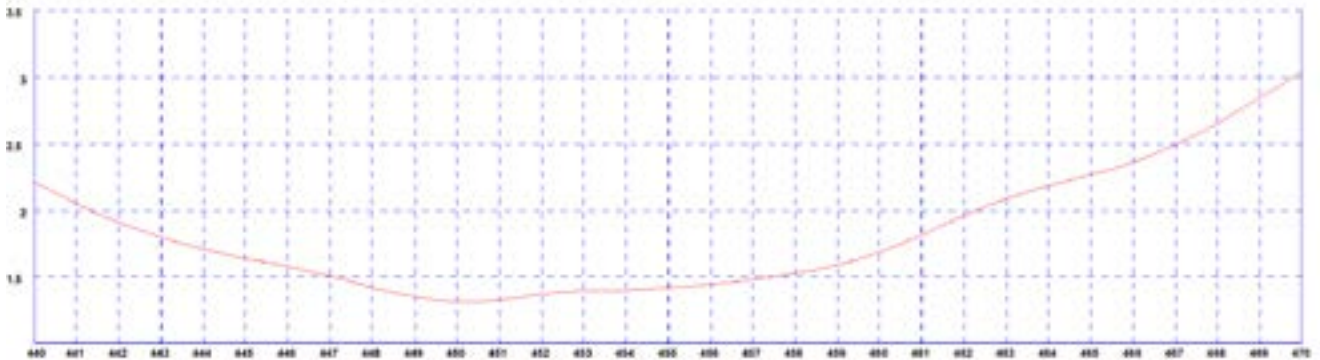
# SiSo UHF/ LTE IOT Antenna

LPA[L]-460-7-42-[X]

Electrical Data on Ground Plane

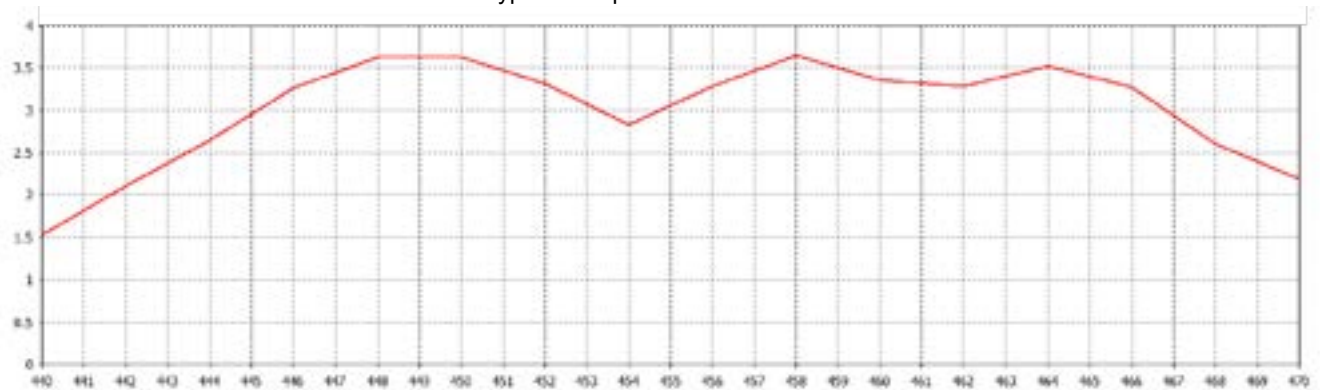
Measurement Conditions	UHF/ LTE IOT Antenna				
Measured on 600x600mm (1.9' x 1.9') ground plane with 0.1m (0.3') of CS29 Cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	450-470	31, 72, 73	Port 1	3.6	68
	699-798	12,13, 14 17,28		3.3	58
	807- 862	5,19,20,26,27		4.3	76
	880-960	8		4.3	63
	1427-1518	11, 21, 74,75,76		5.5	68
	1710-1920	2,3,4,9,25,35,39,66		6.2	58
	1920-2170	1,23		8.4	65
	2300-2400	30,40		8.1	68
	2496-2690	7,38,41		8.3	77
	3300-4200	22,42,43,48,77,78,79		7.1	53

Typical VSWR - UHF\*



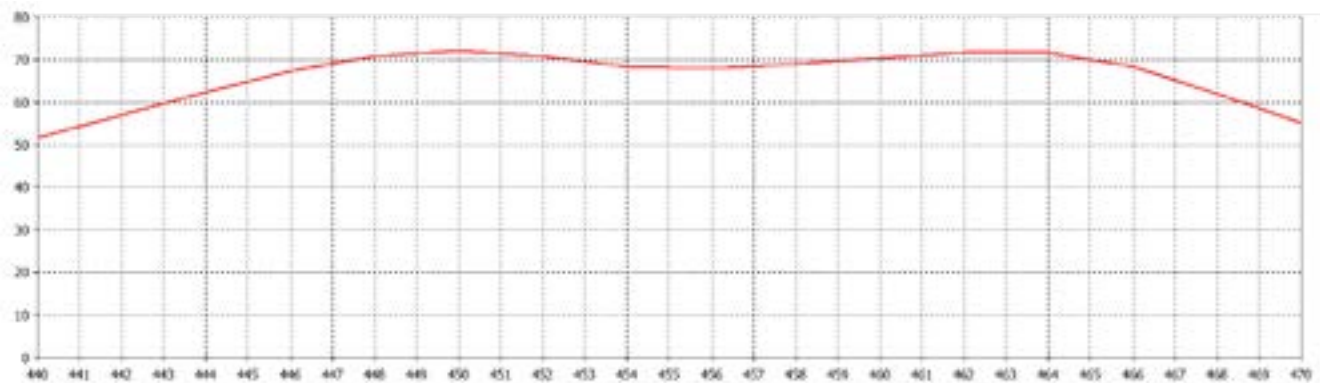
\* VSWR measured on 600x600mm (1.9' x 1.9') ground plane with 1m (3.3') of CS32 cable

Typical Swept Peak Gain - UHF\*



\* Swept Peak Gain measured on 600x600mm (1.9' x 1.9') ground plane with 0.1m (0.3') of CS29 cable

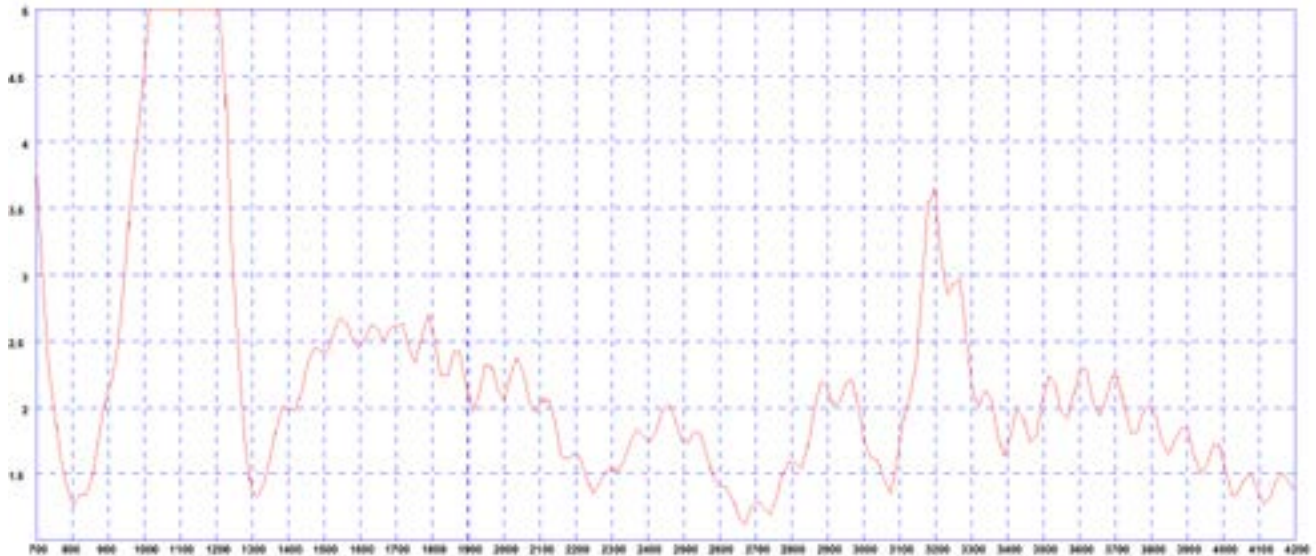
Typical Efficiency - UHF\*



\* Efficiency measured on 600x600mm (1.9' x 1.9') ground plane with 0.1m (0.3') of CS29 cable

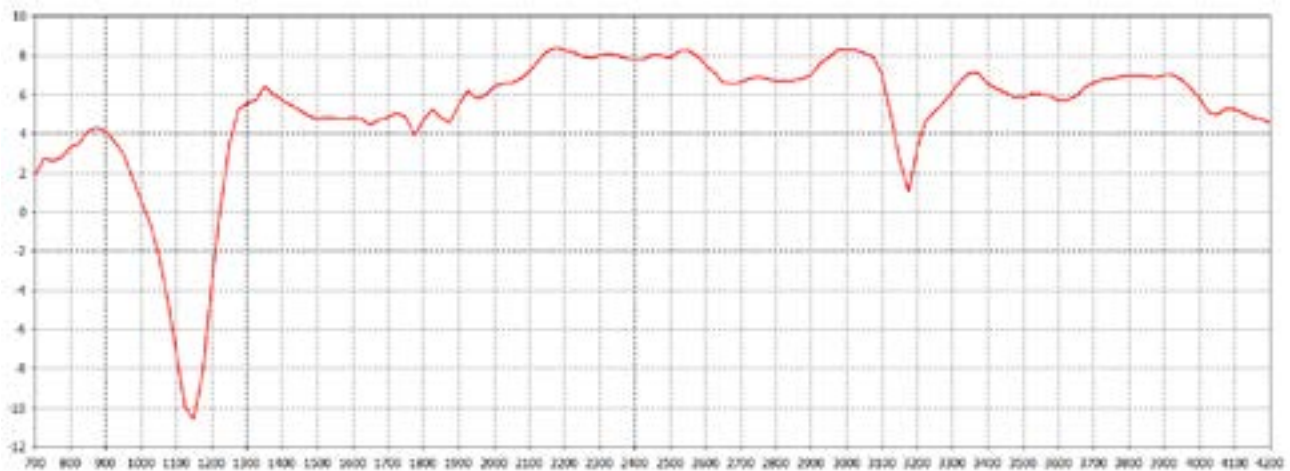
Electrical Data on  
Ground Plane - Cell

Typical VSWR - Cell\*



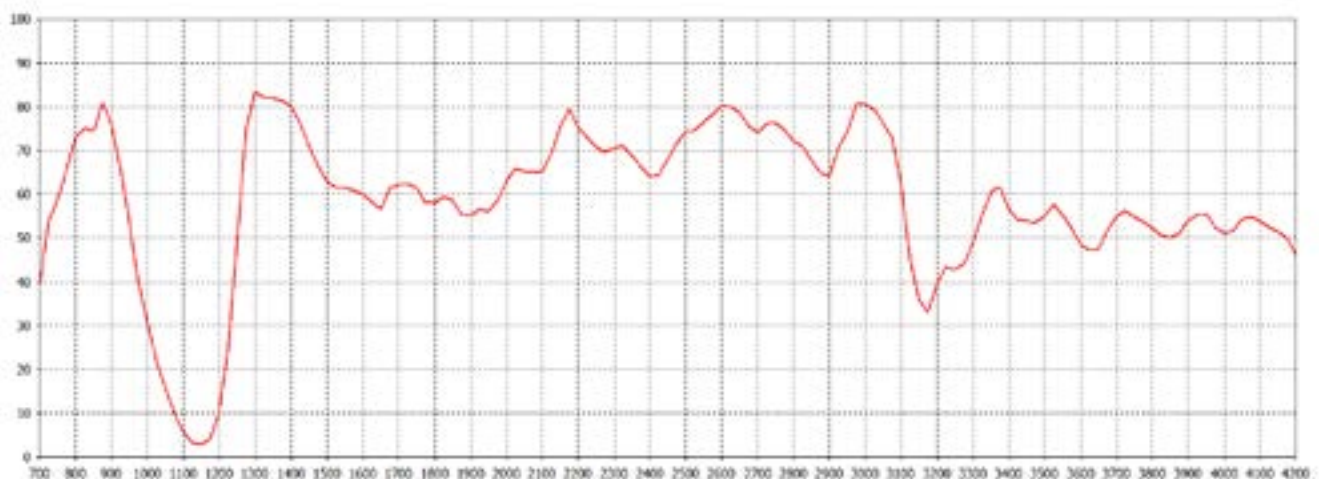
\* VSWR measured on 600x600mm (1.9' x 1.9') groundplane with 1m (3.3') of CS32 cable

Typical Swept Peak Gain - Cell\*



\* Swept Peak Gain measured on 600x600mm (1.9' x 1.9') ground plane with 0.1m (0.3') of CS29 cable

Typical Efficiency - Cell\*



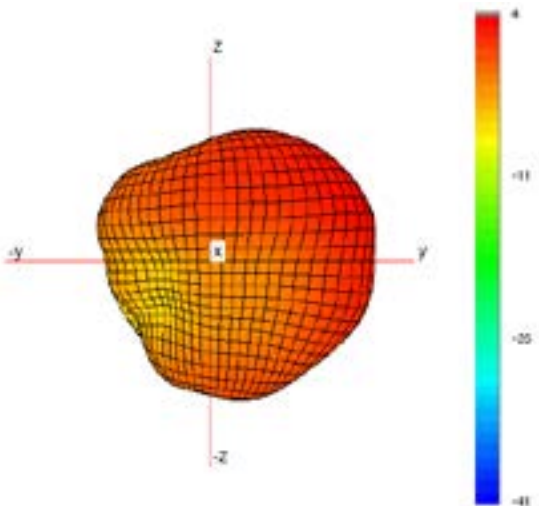
\* Efficiency measured on 600x600mm (1.9' x 1.9') ground plane with 0.1m (0.3') of CS29 cable

# SiSo UHF/ LTE IOT Antenna

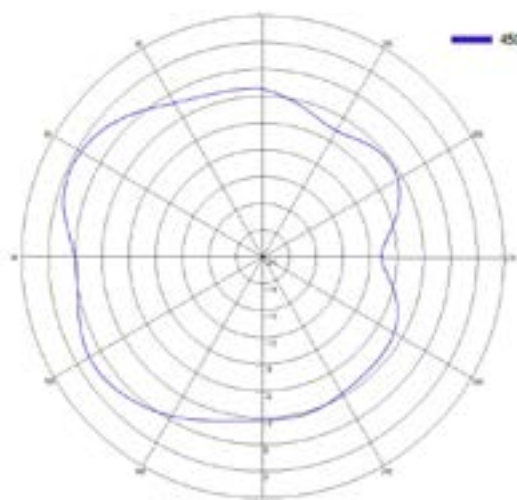
LPA[L]-460-7-42-[X]

3D Pattern Data on  
Ground Plane UHF

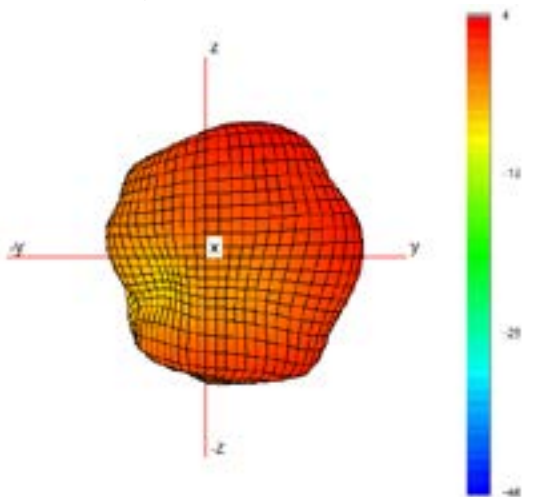
Typical 3D Pattern- UHF - 450 MHz



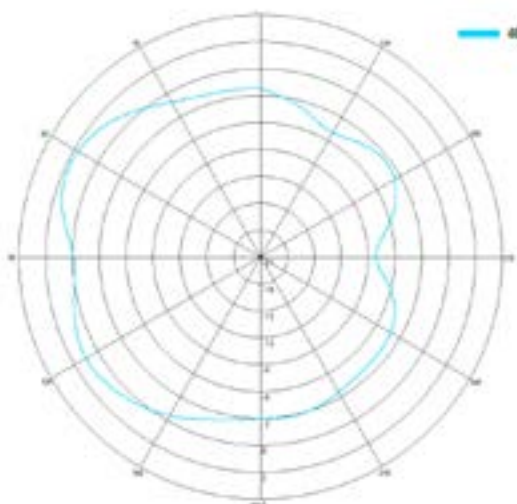
Typical H Plane- UHF Pattern - 450MHz



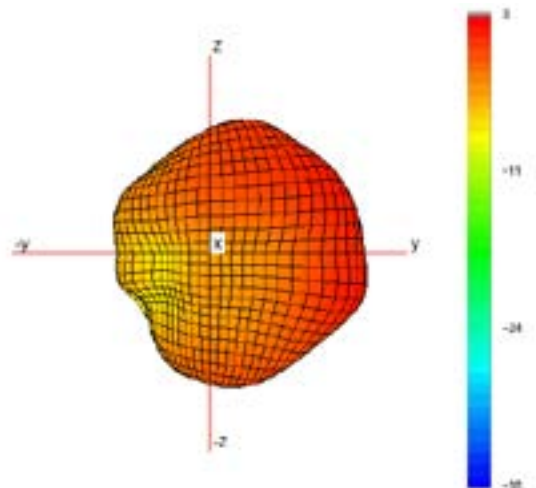
Typical 3D Pattern- UHF - 460 MHz



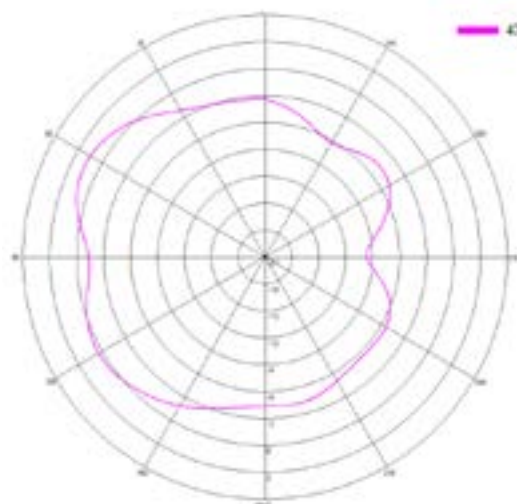
Typical H Plane- UHF Pattern - 460MHz



Typical 3D Pattern- UHF - 470 MHz



Typical H Plane- UHF Pattern - 470MHz

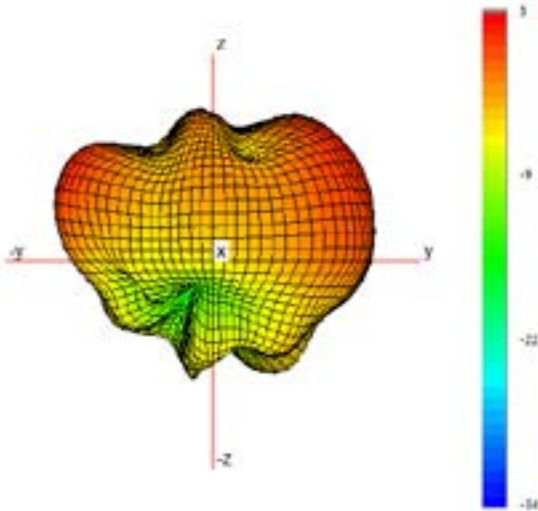


# SiSo UHF/ LTE IOT Antenna

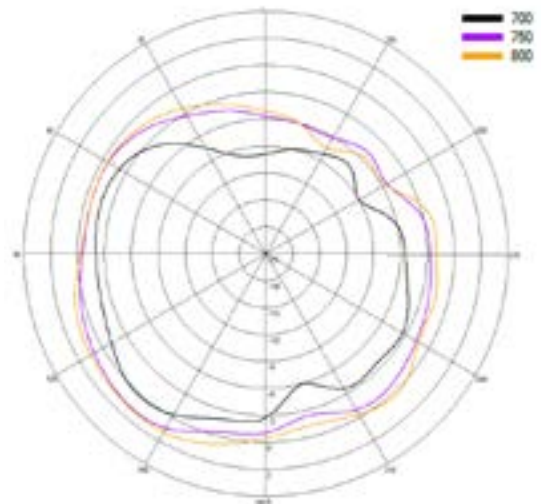
LPA[L]-460-7-42-[X]

3D Pattern Data on Ground Plane Cell

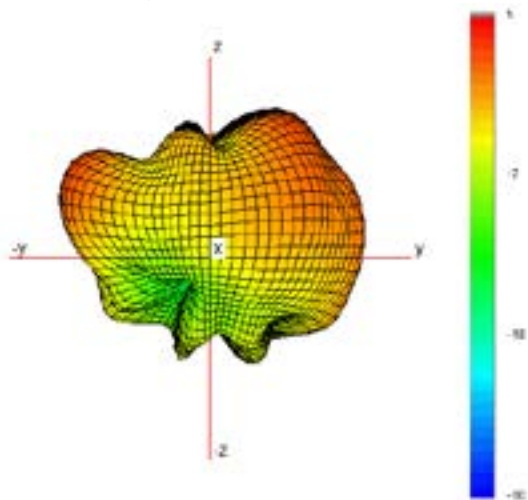
Typical 3D Pattern- Cell - 750 MHz



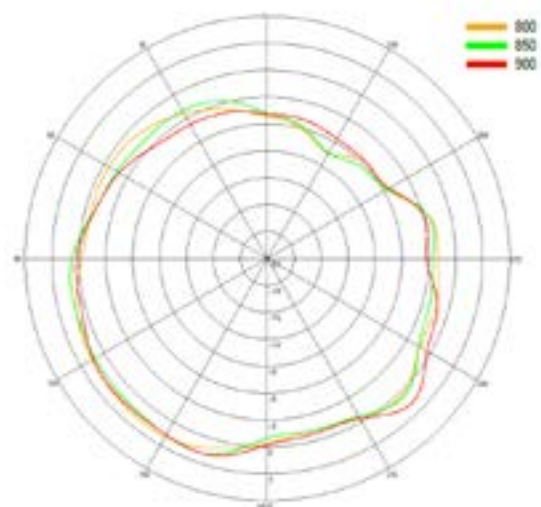
Typical H Plane- Cell - Patterns- 700-800MHz



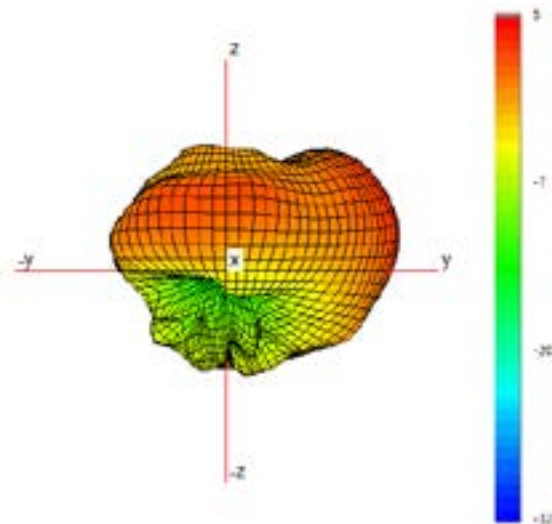
Typical 3D Pattern- Cell - 850 MHz



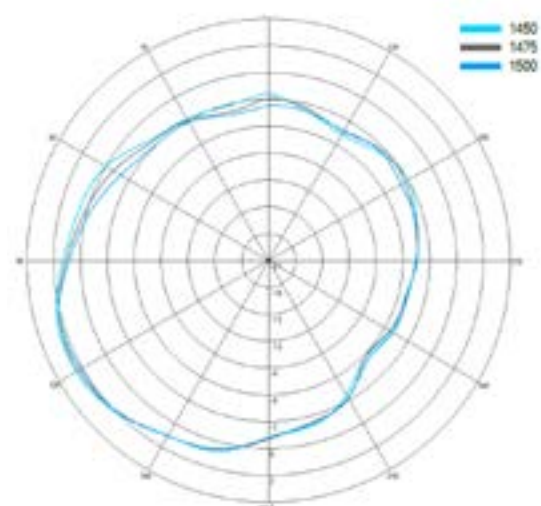
Typical H Plane- Cell - Patterns- 800-900MHz



Typical 3D Pattern- Cell - 1475 MHz



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

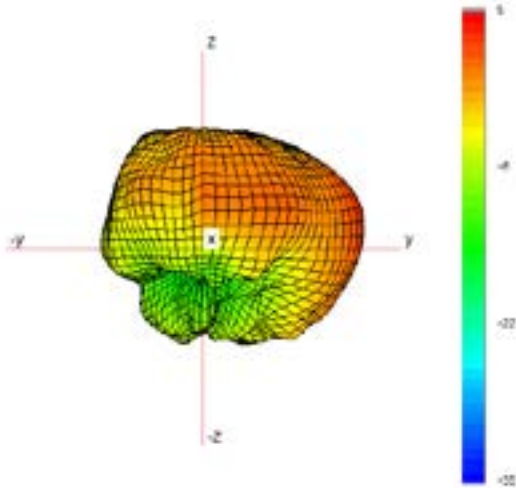


# SiSo UHF/ LTE IOT Antenna

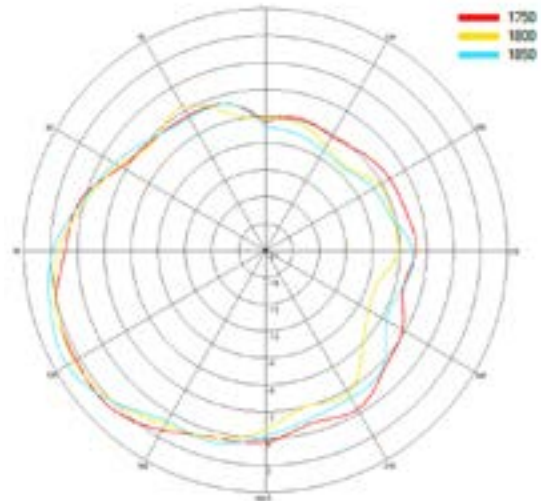
LPA[L]-460-7-42-[X]

3D Pattern Data on  
Ground Plane Cell

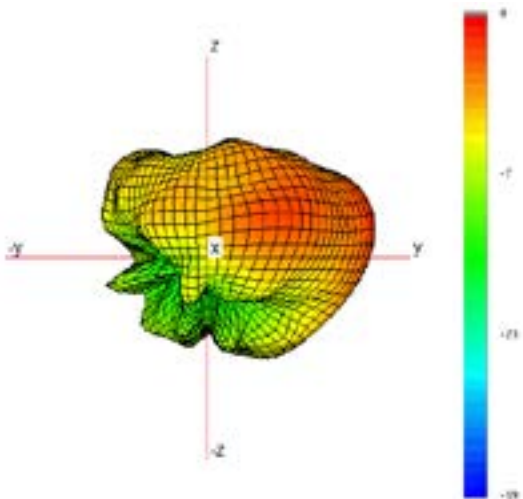
Typical 3D Pattern- Cell - 1800 MHz



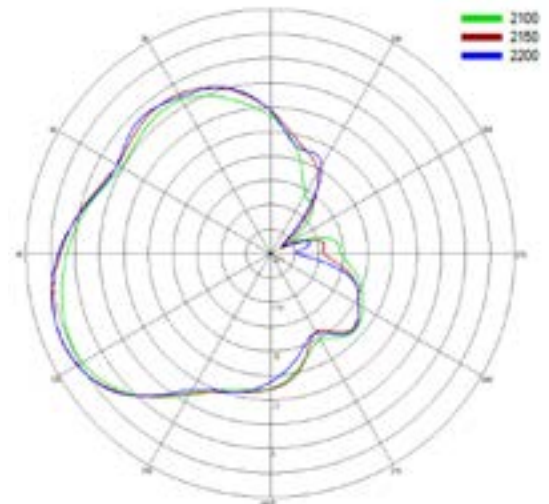
Typical H Plane- Cell- Patterns- 1750-1850 MHz



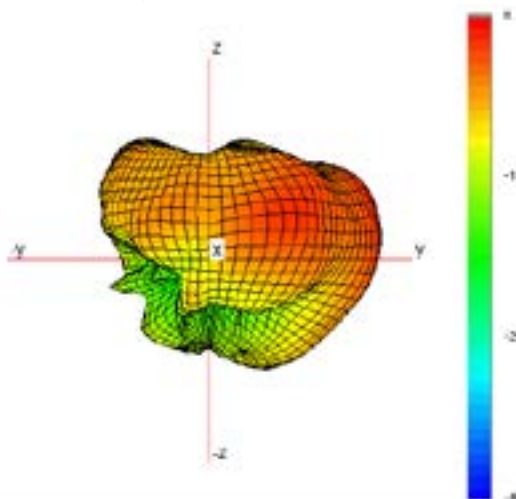
Typical 3D Pattern- Cell - 2150 MHz



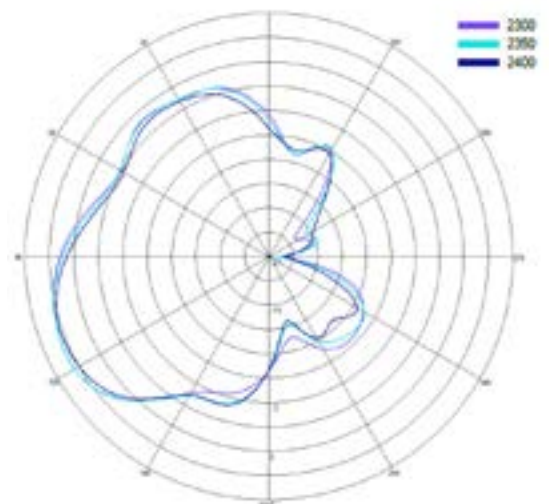
Typical H Plane- Cell- Patterns- 2100-2200 MHz



Typical 3D Pattern- Cell - 2350 MHz



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

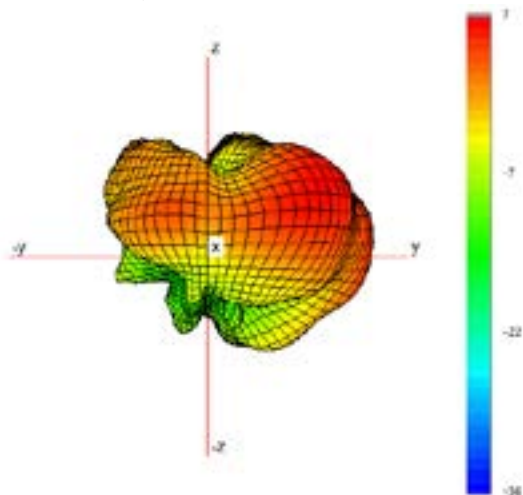


# SiSo UHF/ LTE IOT Antenna

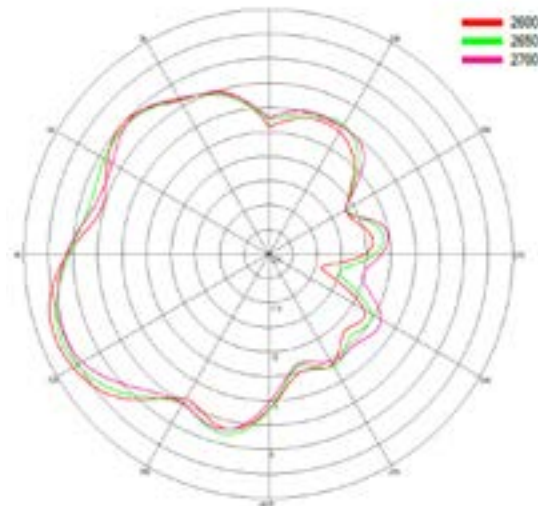
LPA[L]-460-7-42-[X]

## 3D Pattern Data on Ground Plane Cell

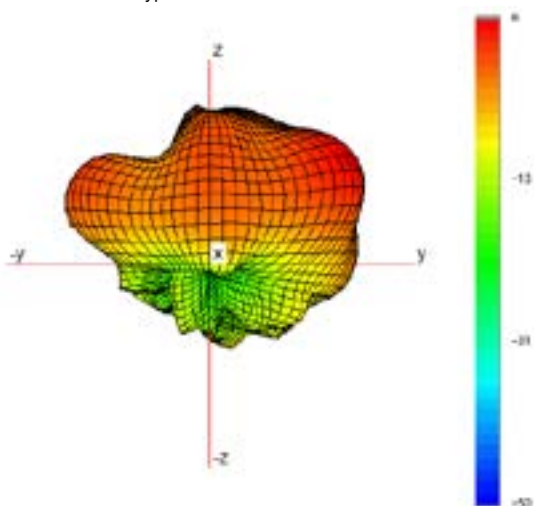
Typical 3D Pattern- Cell - 2650 MHz



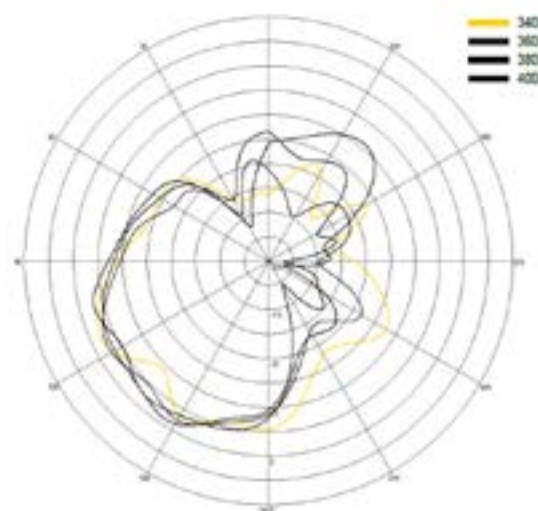
Typical H Plane- Cell - Patterns- 2600-2700 MHz



Typical 3D Pattern- Cell - 3400 MHz



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



# SiSo UHF/ LTE IOT Antenna

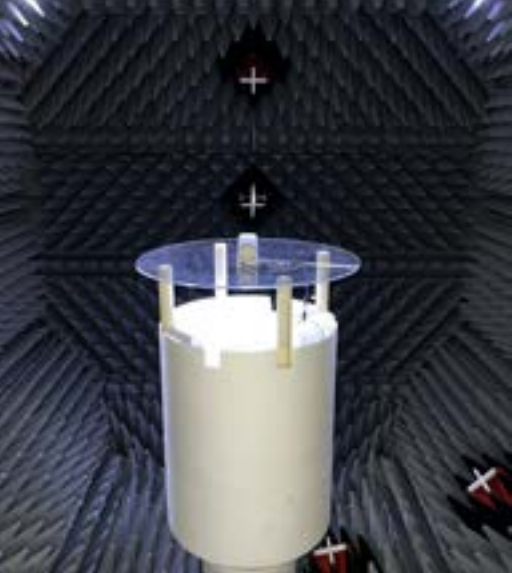
LPA[L]-460-7-42-[X]

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# SiSo UHF/ LTE IOT Antenna

LPA[L]-460-7-42-[X]

Electrical Data in  
Free Space

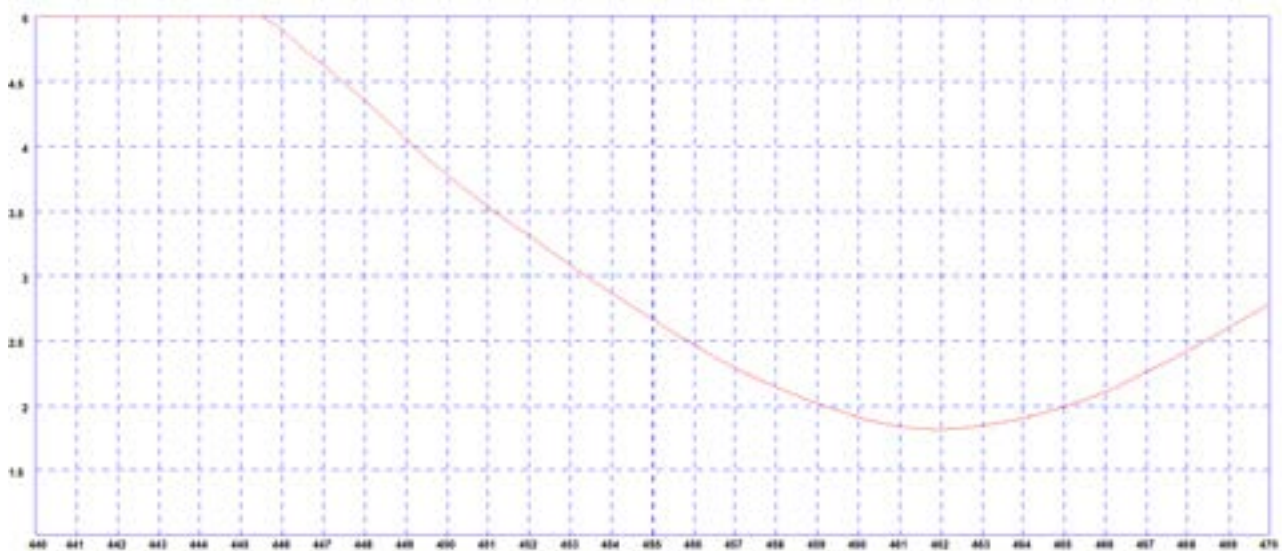
Measurement Conditions	UHF/ LTE Antenna				
Measured in free space with 0.1m (0.3') of CS32 Cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	450-470	31, 72, 73	Port 1	-0.2	52.6
	699-798	12,13, 14 17,28		1.4	72
	807- 862	5,19,20,26,27		2.2	81
	880-960	8		2.2	71
	1427-1518	11, 21, 74,75,76		2.2	64
	1710-1920	2,3,4,9,25,35,39,66		3.1	65
	1920-2170	1,23		6.0	73
	2300-2400	30,40		6.0	85
	2496-2690	7,38,41		6.0	91
	3300-4200	22,42,43,48,77,78,79		6.6	77

# SiSo UHF/ LTE IOT Antenna

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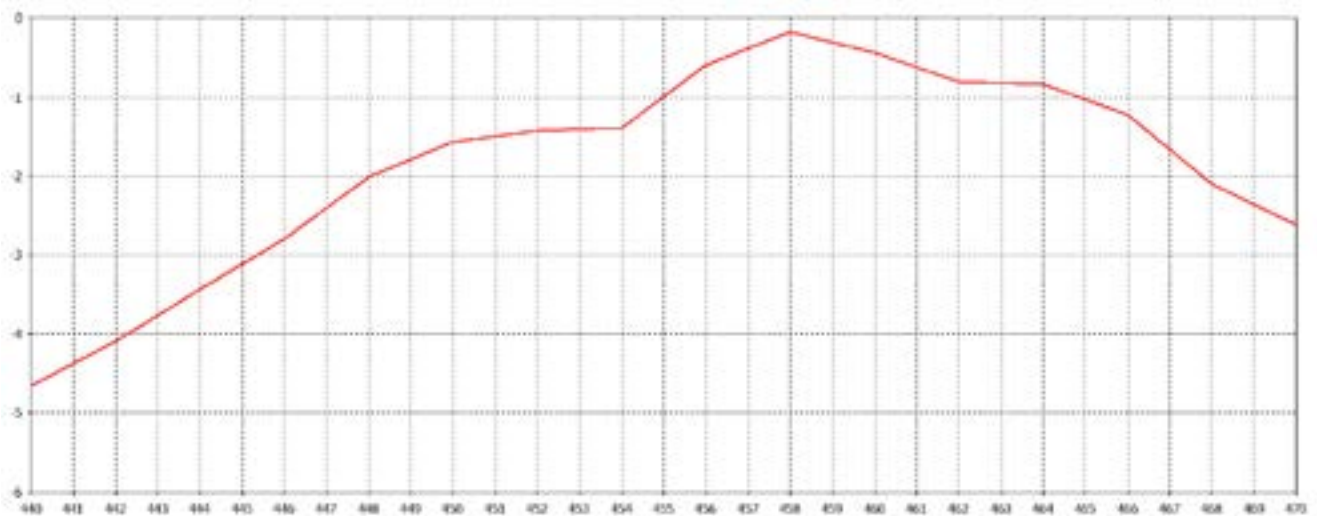
Electrical Data in Free  
Space UHF

Typical VSWR - UHF\*



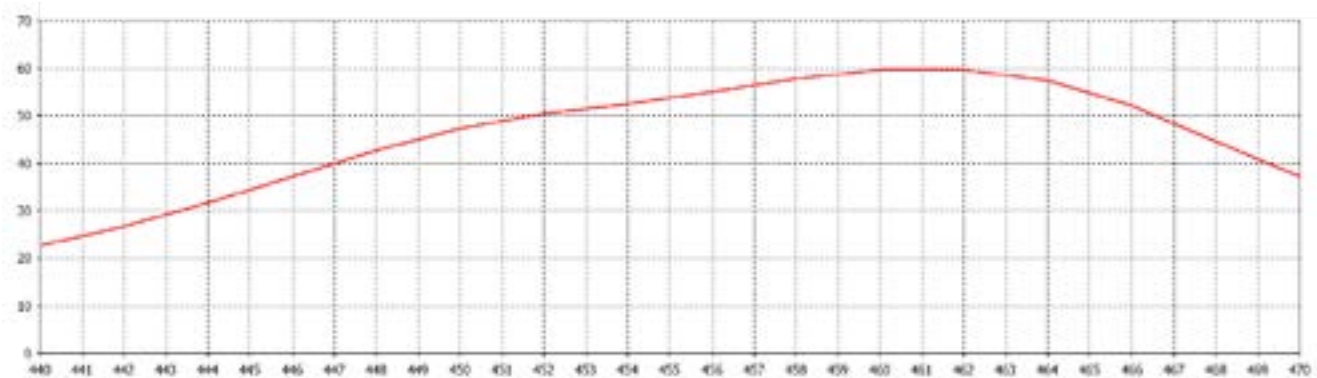
\* VSWR measured in free space with 1m (3.3') of CS32 cable

Typical Swept Peak Gain - UHF\*



\* Swept Peak Gain measured in free space with 0.1m (0.3') of CS29 cable

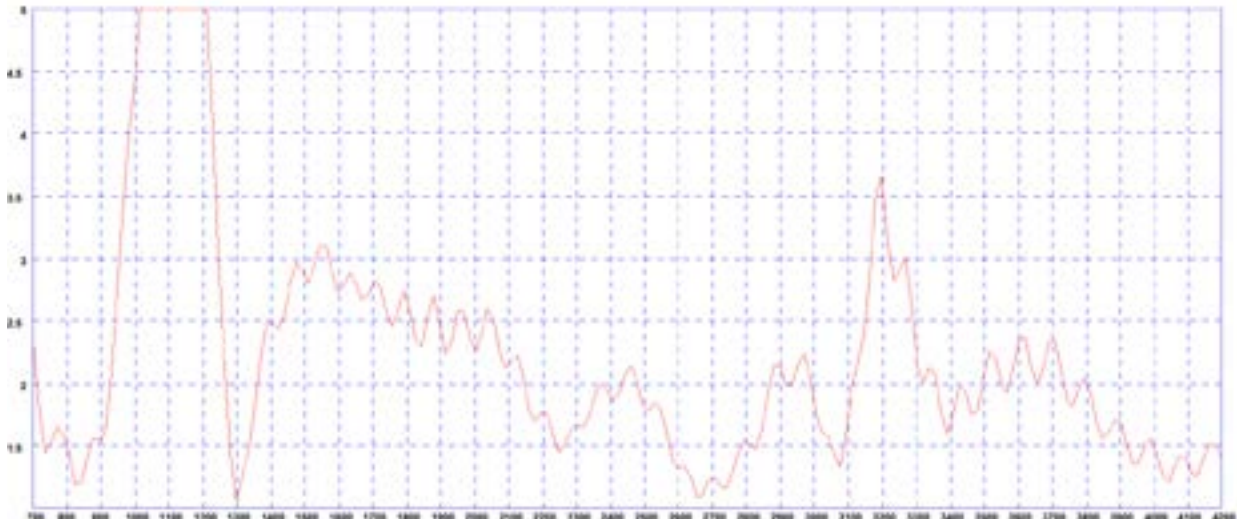
Typical Efficiency - UHF\*



\* Efficiency measured in free space with 0.1m (0.3') of CS29 cable

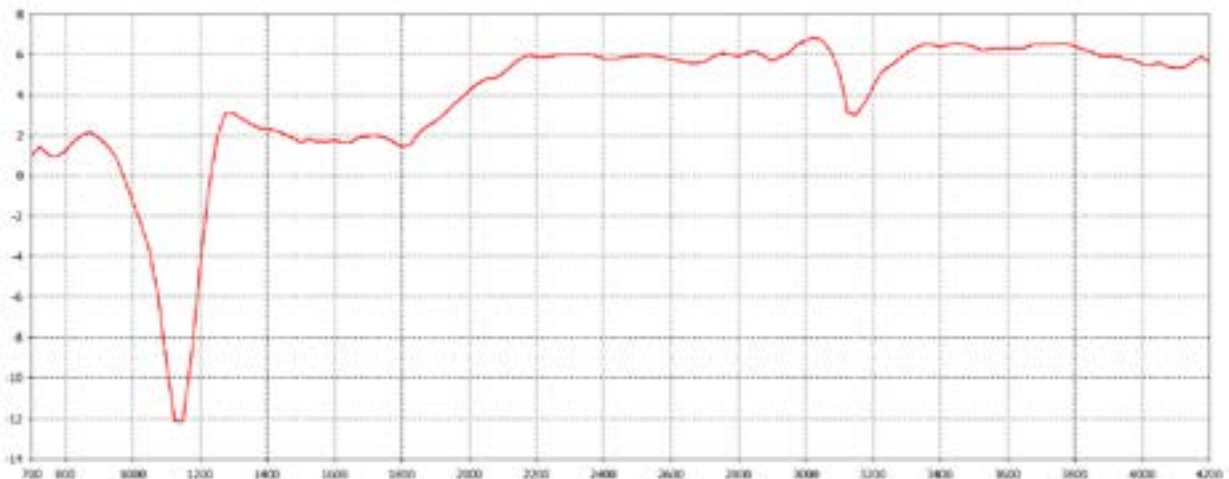
Electrical Data in  
Free Space - Cell

Typical VSWR - Cell\*



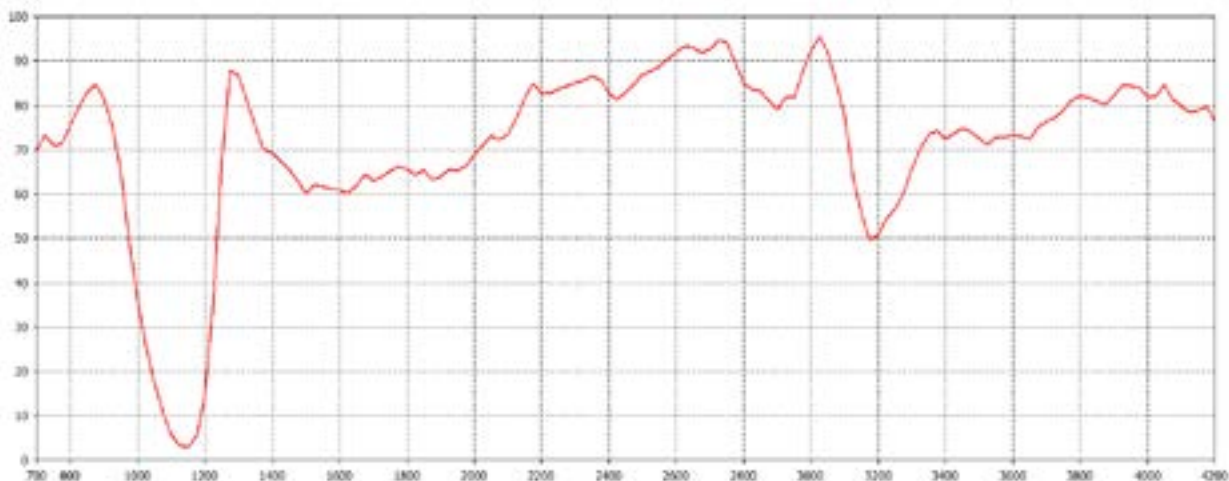
\* VSWR measured in free space with 1m (3.3') of CS32 cable

Typical Swept Peak Gain - Cell\*



\* Swept Peak Gain measured in free space with 0.1m (0.3') of CS29 cable

Typical Efficiency - Cell\*



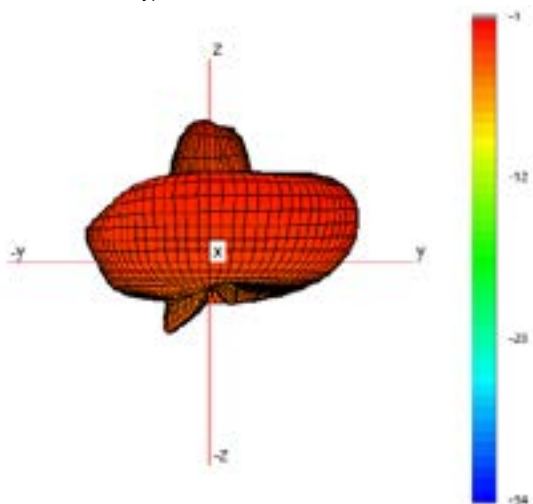
\* Efficiency measured in free space with 0.1m (0.3') of CS29 cable

# SiSo UHF / LTE IOT Antenna

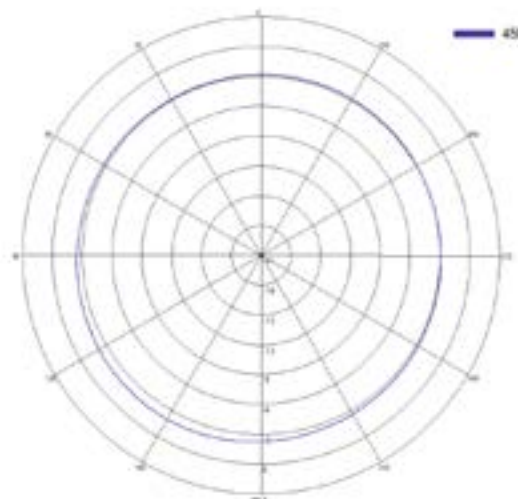
LPA[L]-460-7-42-[X]

3D Pattern Data in Free Space UHF

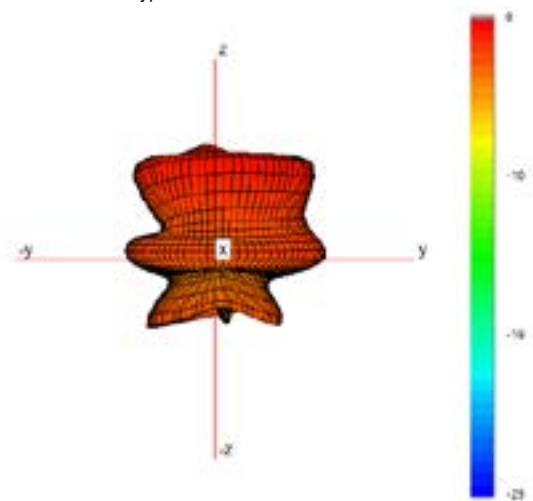
Typical 3D Pattern- UHF - 450 MHz



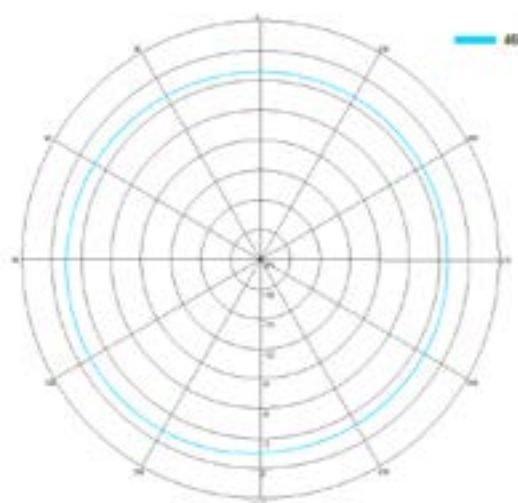
Typical H Plane- UHF Pattern - 450MHz



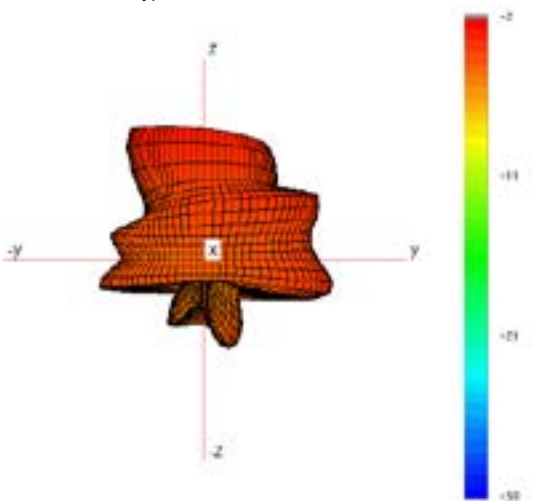
Typical 3D Pattern- UHF - 460 MHz



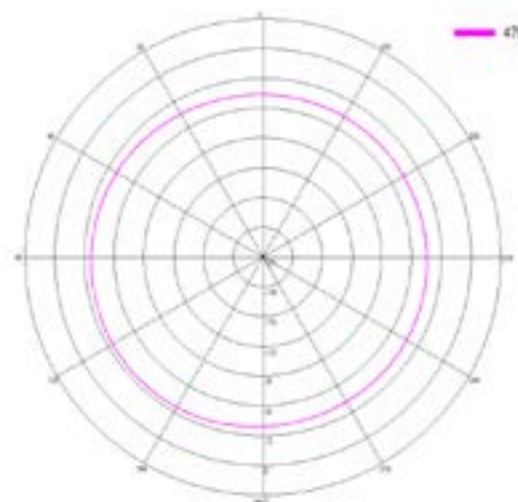
Typical H Plane- UHF Pattern - 460MHz



Typical 3D Pattern- UHF - 470 MHz



Typical H Plane- UHF Pattern - 470MHz

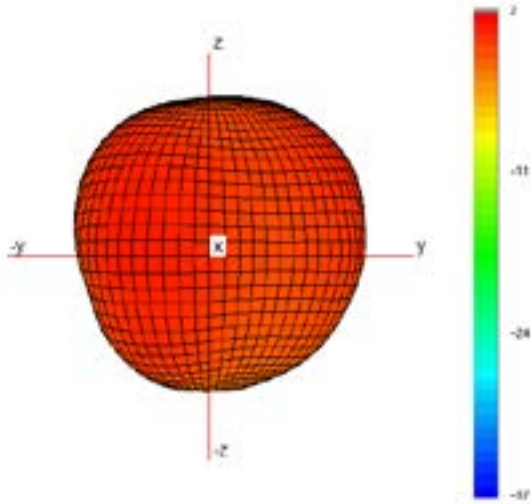


# SiSo UHF/ LTE IOT Antenna

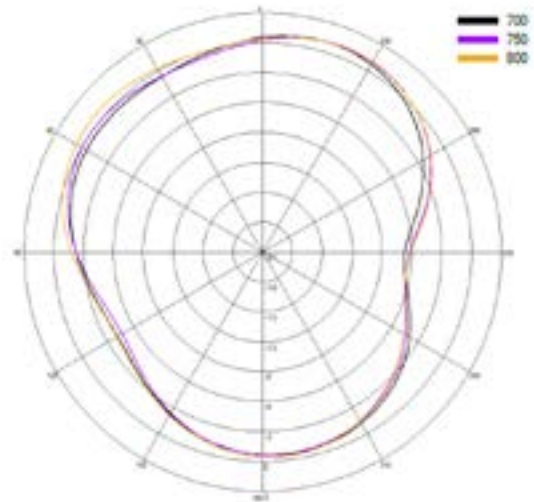
LPA[L]-460-7-42-[X]

3D Pattern Data in Free Space Cell

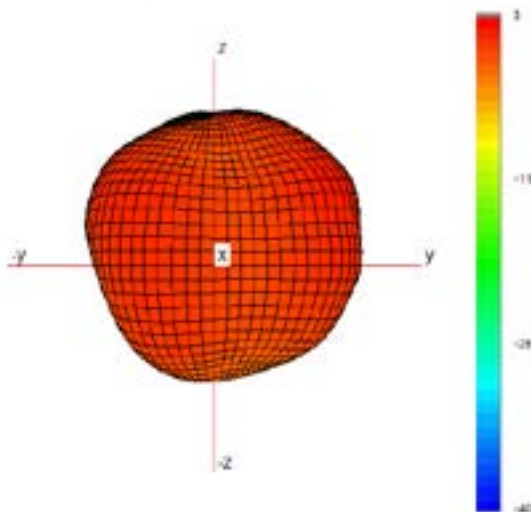
Typical 3D Pattern- Cell - 750 MHz



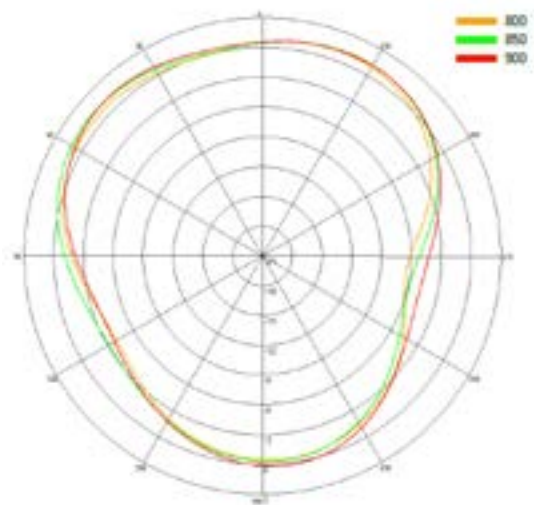
Typical H Plane- Cell - Patterns- 700-800MHz



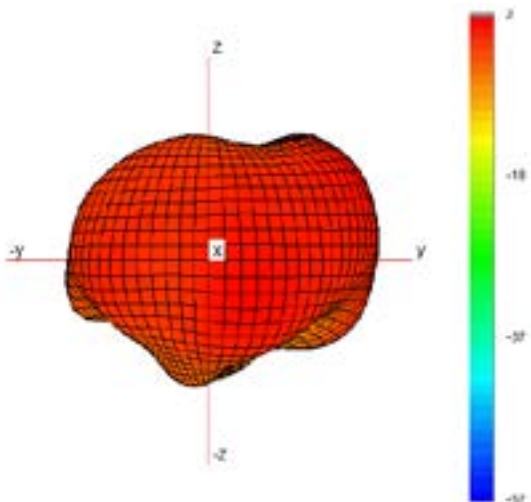
Typical 3D Pattern- Cell - 850 MHz



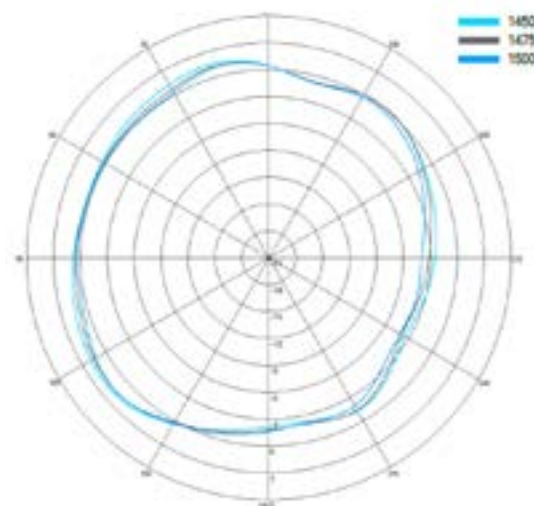
Typical H Plane- Cell - Patterns- 800-900MHz



Typical 3D Pattern- Cell - 1475 MHz



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

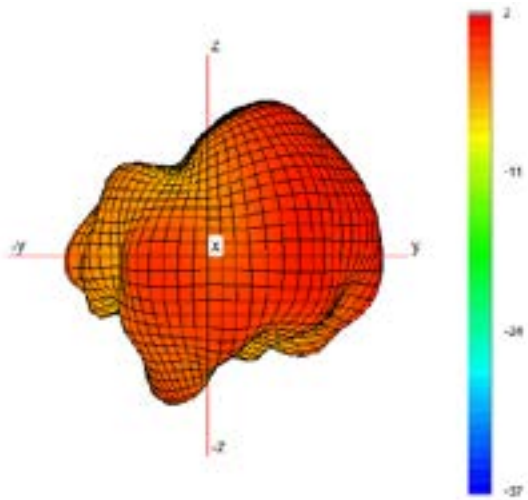


# SiSo UHF/ LTE IOT Antenna

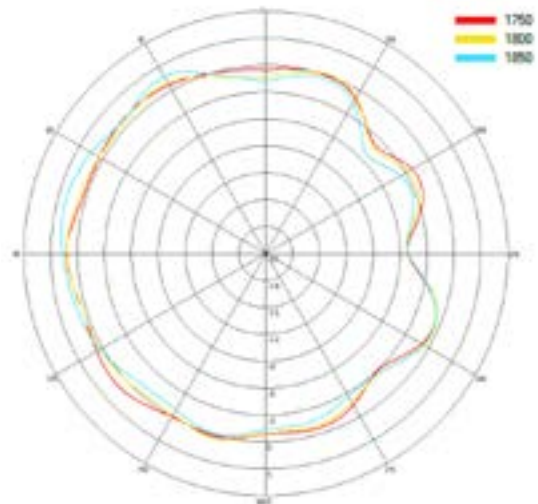
LPA[L]-460-7-42-[X]

3D Pattern Data in  
Free Space Cell

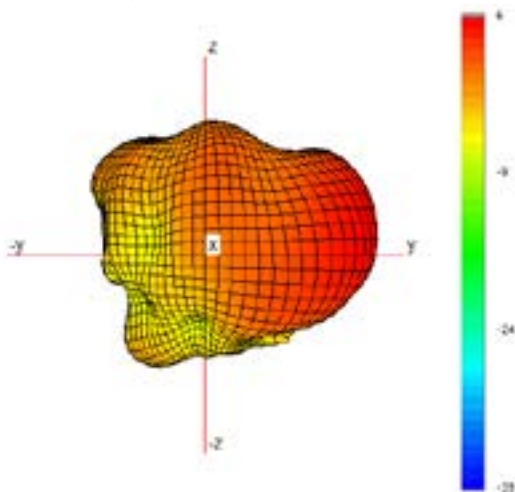
Typical 3D Pattern- Cell - 1800 MHz



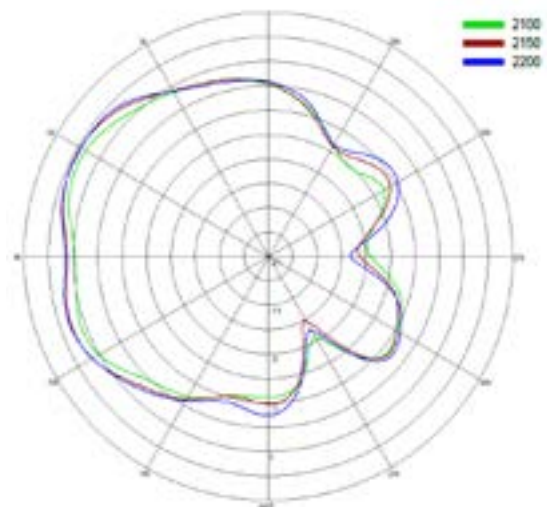
Typical H Plane- Cell- Patterns- 1750-1850 MHz



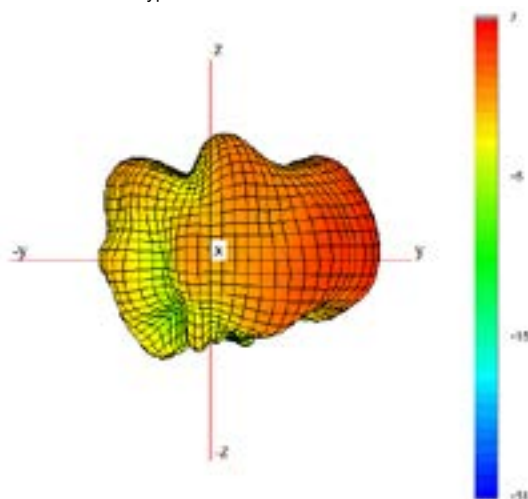
Typical 3D Pattern- Cell - 2150 MHz



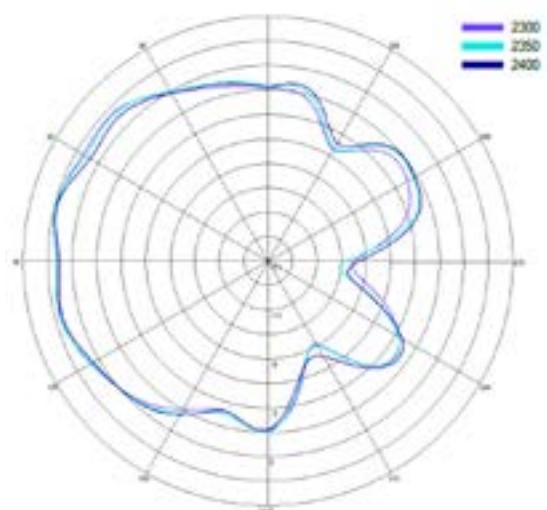
Typical H Plane- Cell- Patterns- 2100-2200 MHz



Typical 3D Pattern- Cell - 2350 MHz



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

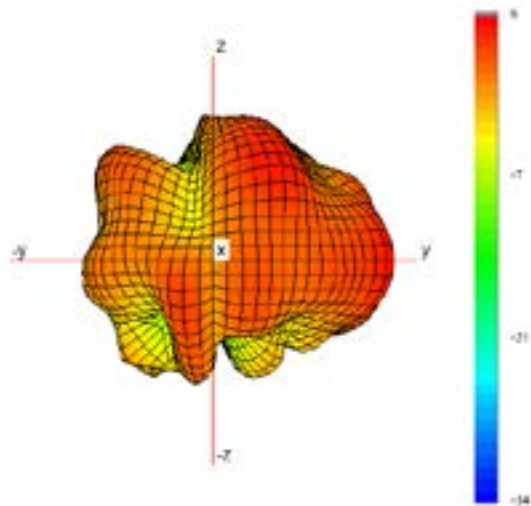


# SiSo UHF/ LTE IOT Antenna

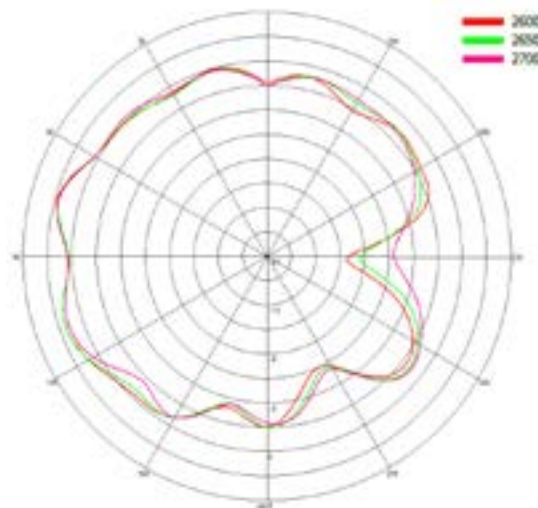
LPA[L]-460-7-42-[X]

3D Pattern Data in  
Free Space Cell

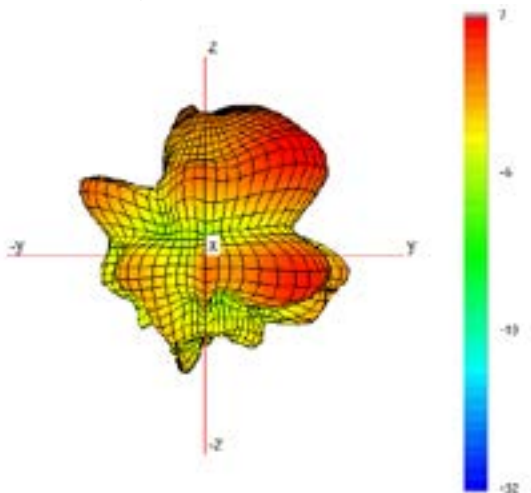
Typical 3D Pattern- Cell - 2650 MHz



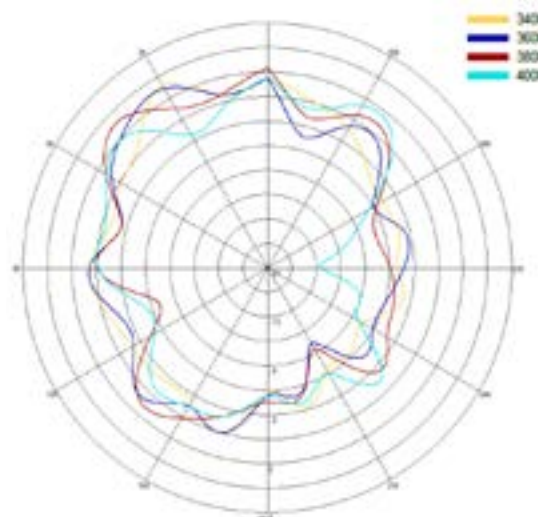
Typical H Plane- Cell - Patterns- 2600-2700 MHz



Typical 3D Pattern- Cell - 3400 MHz



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



# SiSo UHF/ LTE IOT Antenna

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