

Low Profile 4G/5G, WiFi & GPS

L[G]E[X]-6-60[-X]

PANORAMA ANTENNAS



Low Profile 4G/5G Antenna With WiFi And GPS

Rugged Low Profile Design

Wideband 4G/5G Element

Up to 4x4 MiMo 2.4 & 4.9-7.2GHz Wifi 6e

Optional Integrated GPS/GNSS/BEIDOU antenna

The L[G]E antenna series is a range of low profile antennas in a robust compact housing, with a wideband cellular element covering 4G/5G frequencies from 617-960/ 1427-6000MHz.

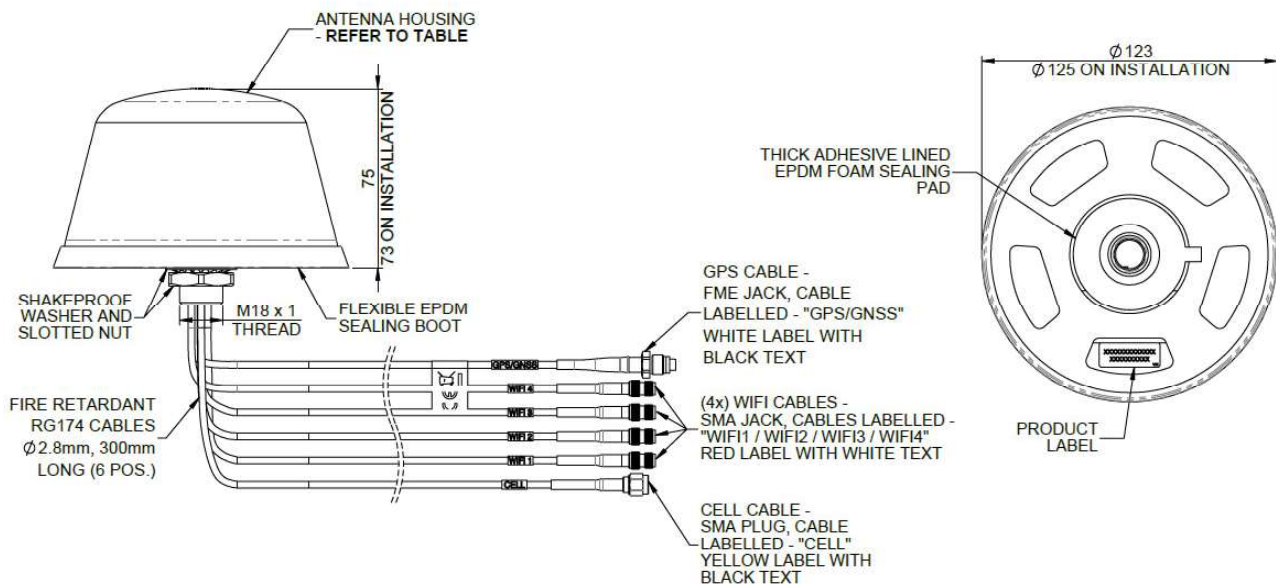
The LGE version incorporates an active GPS/GNSS antenna with a 26dB gain LNA and further variants can feature one to four dual band WiFi 6e elements.

Designed to be tough yet cost effective, the antennas are housed in a IP69K / IK10 rated enclosure, moulded in LEXAN for effective impact resistance. The range is supplied with short fly leads and can be kitted with Panorama Antennas' low loss extension cables in various length and connector configurations.

This antenna does not require a ground plane for use above 698MHz and maintains a high level of performance even when mounted on a non-metallic surface.

Technical Drawing

LGE-6-60-QW shown



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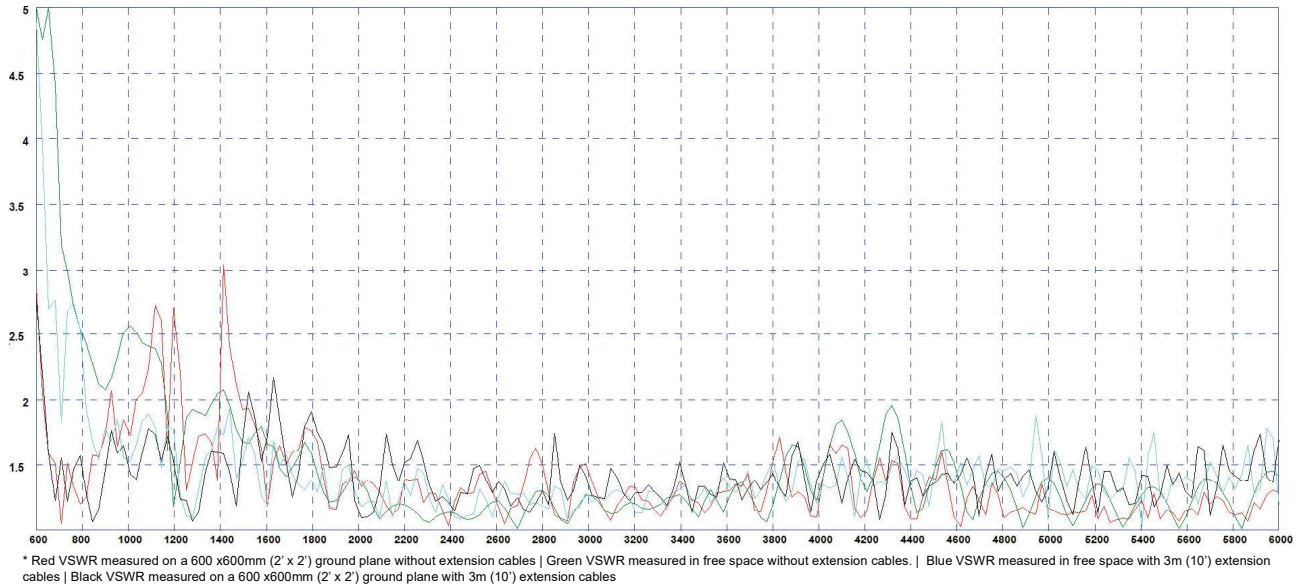
PANORAMA ANTENNAS

Part. No.	LPE-6-60	LGE-6-60	LGE-6-60-DW	LGE-6-60-QW	
Electrical Data					
Frequency Range (MHz)	Element 1	-	1560-1612MHz		
	Element 2	617-960/1427-6000MHz			
	Elements 3-6	-	2x 2.4/4.9-7.2GHz	4x 2.4/4.9-7.2GHz	
Peak Gain†		617-960MHz	4dBi		
	Element 2	1427-2700MHz	6dBi		
		3400-4200MHz	8dBi		
		4900-6000MHz	9dBi		
	Element 3 -6	2.4-2.5GHz	-	-	5dBi
	Element 3 -6	4.9-7.2GHz	-	-	10dBi
Typical VSWR*	Element 2	< 2.5:1			
	Elements 3-6	-	-	< 2.5:1	
Efficiency †		617-960MHz	>50%		
	Element 2	1427-2700MHz	>65%		
		3400-4200MHz	>80%		
		4900-6000MHz	>90%		
	Element 3 -6	2.4-2.5GHz	-	-	>65%
	Element 3 -6	4.9-7.2GHz	-	-	>80%
Polarisation	Vertical				
Impedance	50Ω				
Max input power (W)	50				
GPS/GNSS Data					
Frequency Range (MHz)	1560-1612MHz (GPS/GLONASS/BeiDou/Galileo)				
Gain: LNA	26dB				
Polarisation	Right Hand Circular				
Operating Voltage	3 -5V DC (fed via coax)				
Current	<20mA				
Mechanical Data					
Dimensions (mm)	Height	75mm (2.95")			
	Diameter	123mm (4.84")			
Operating Temp (°C)	-40° / +85°C (-40° / 185°F)				
Material	PC				
Colour	Black				
Ingress Protection	IP69K				
Vandal Protection	IK10				
Mounting Data					
Mounting type	Panel mount				
Max panel thickness	10mm (0.4")				
Mounting hole	19mm (3/4")				
Cable Data					
All Cables	Type	FR RG174 (meets UN ECE R118 & EN45545-2)			
	Diameter	2.8mm (0.11")			
	Length	~0.3m (1')			
Terminations	Cell / LTE	SMA (m)			
	GPS/GNSS	-	FME(f)		
	WiFi	-	2x SMA (f)	4x SMA (f)	

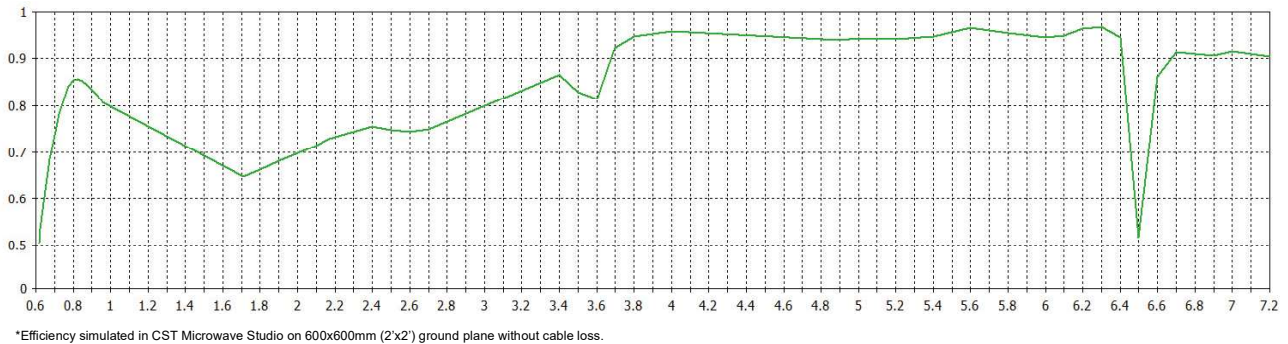
† Peak Gain and efficiency simulated in CST microwave studio on a ground plane without cable loss. *Typical VSWR measured on 600x600 (2'x2') Ground plane without additional cable

Electrical Data - Cell

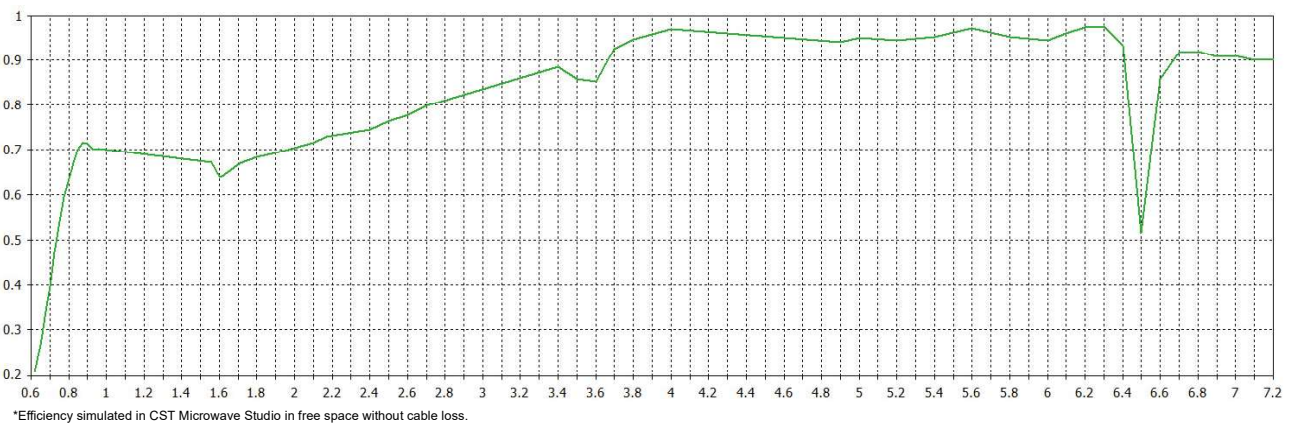
Typical VSWR cellular / LTE Element 2*



Typical Efficiency Element 2 - on Ground Plane*

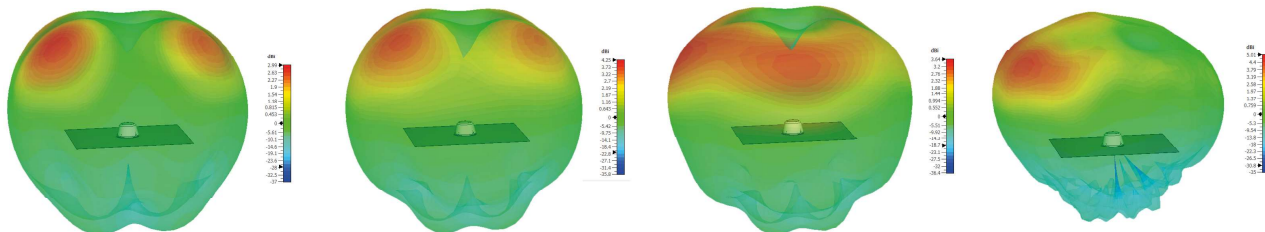


Typical Efficiency Element 2 - in Free Space*

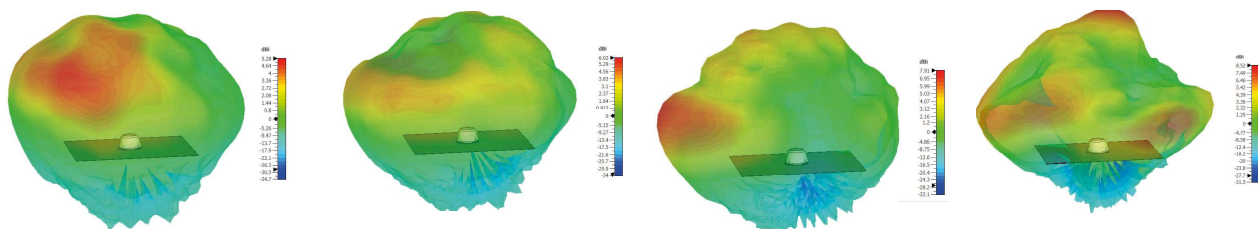


3D Patterns Cell Ground Plane

Typical 3D Pattern - Element 2 650MHz Typical 3D Pattern - Element 2 750MHz Typical 3D Pattern - Element 2 850MHz Typical 3D Pattern - Element 2 1800MHz

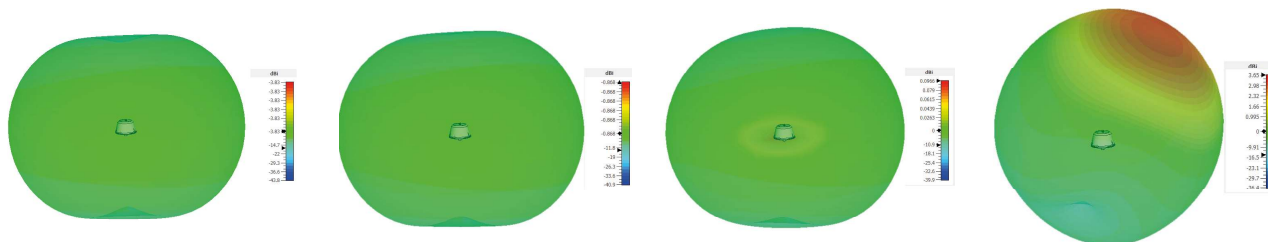


Typical 3D Pattern - Element 2 2170MHz Typical 3D Pattern - Element 2 2600MHz Typical 3D Pattern - Element 2 3500MHz Typical 3D Pattern - Element 2 5400MHz

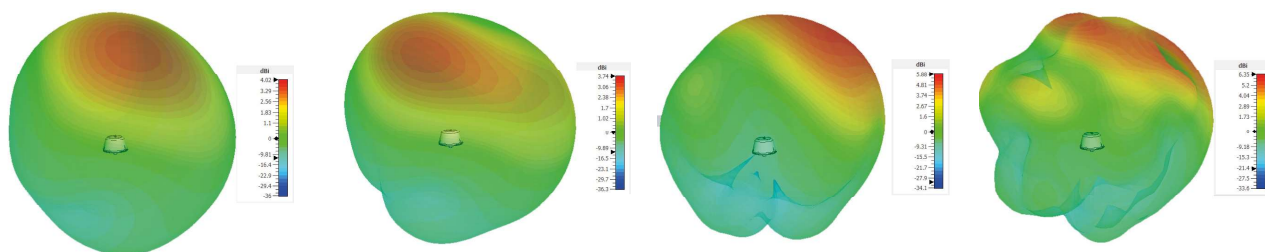


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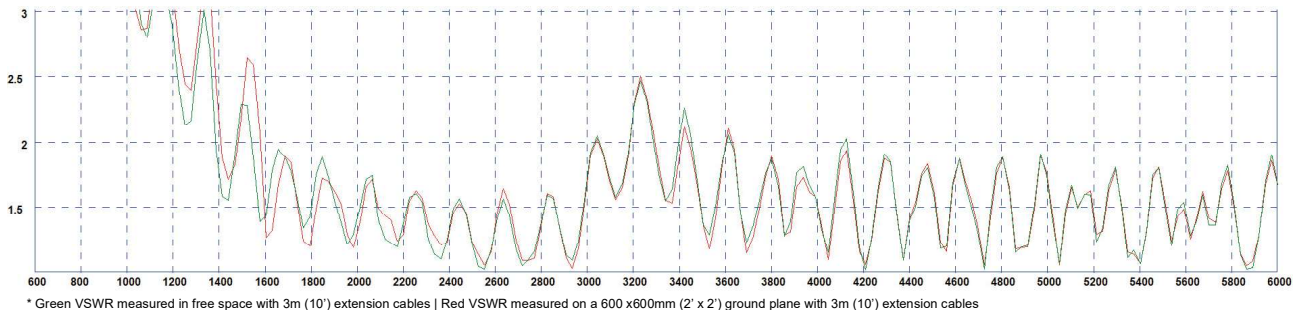
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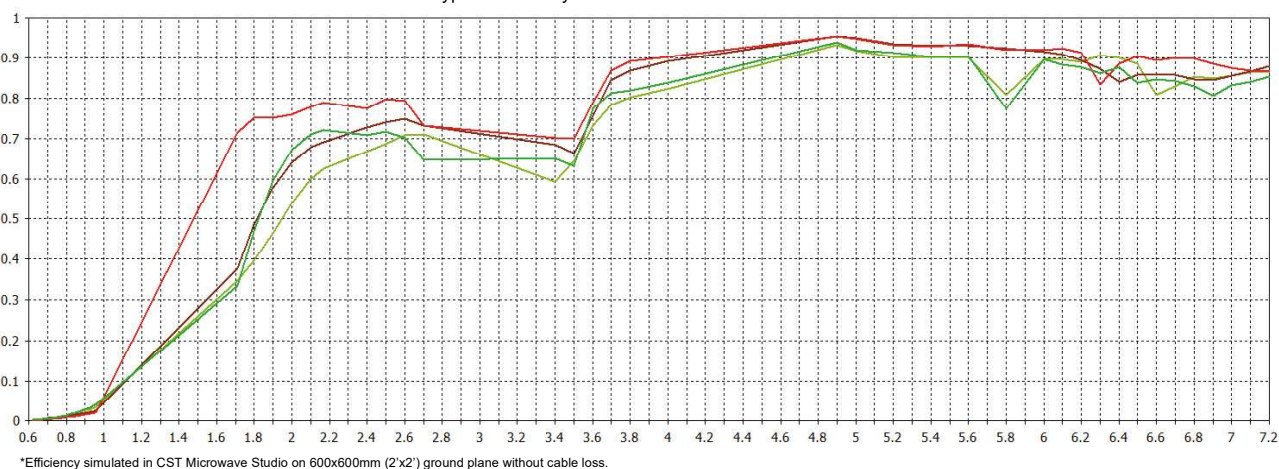
3D patterns simulated in CST microwave studio on a ground plane without cable loss.

Electrical Data - WiFi

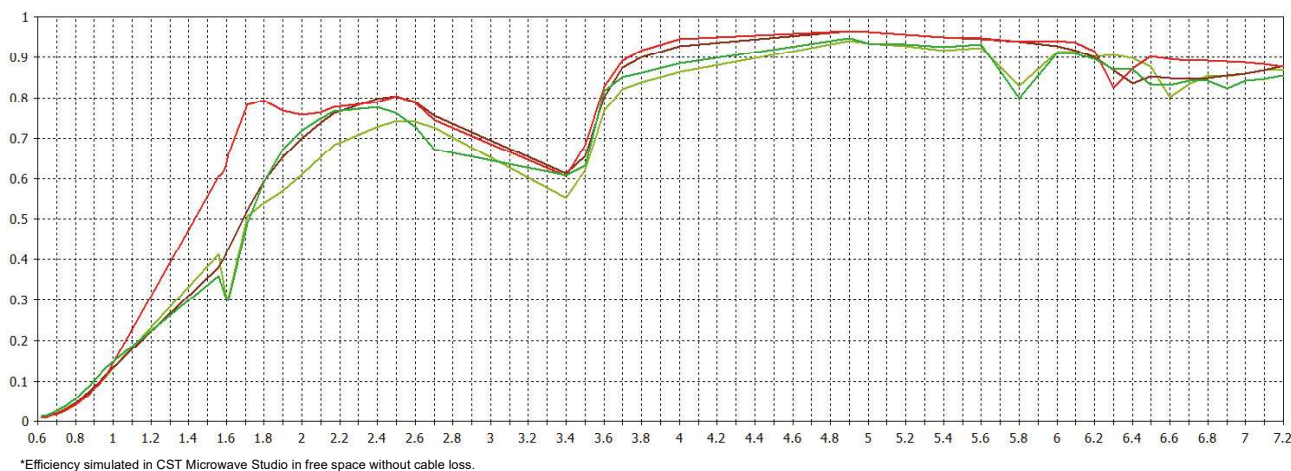
Typical VSWR WiFi Elements 3-6*



Typical Efficiency Elements 3-6 - on Ground Plane*

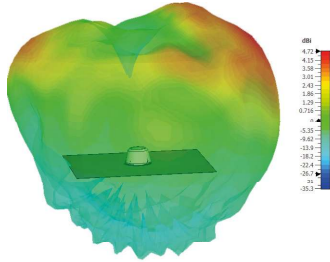


Typical Efficiency Elements 3-6 - in Free Space*

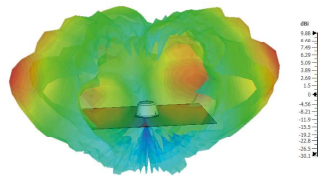


WiFi Patterns Ground Plane

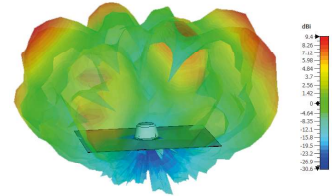
Typical 3D Pattern - 2450MHz



Typical 3D Pattern - 5400MHz

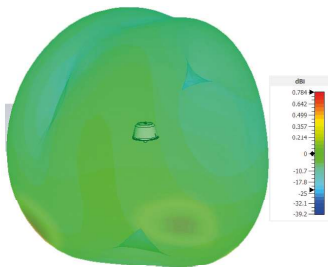


Typical 3D Pattern 7100MHz

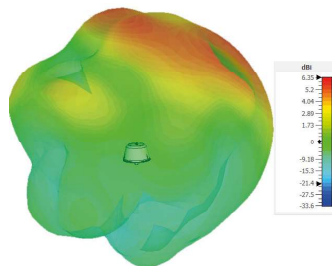


WiFi Patterns Free Space

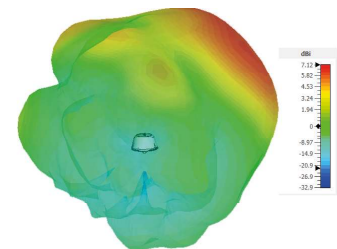
Typical 3D Pattern - 2450MHz



Typical 3D Pattern - 5400MHz

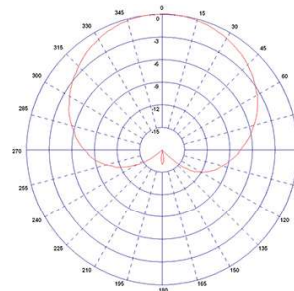


Typical 3D Pattern 7100MHz

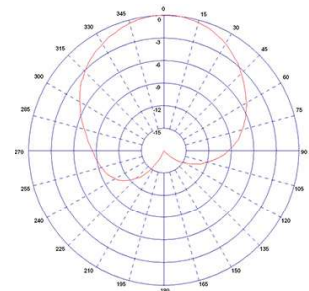


GPS/GNSS E Plane Patterns

GPS 1575MHz Typical E Plane



GPS 1602MHz Typical E Plane



3D patterns simulated in CST microwave studio on a ground plane without cable loss.