Low Profile LTE, WiFi & GPS

L[G]E[X]F-7-27[-24-58]

Low Profile 2G/3G/4G Antenna With WiFi And GPS

- Rugged Low Profile Design
- Wideband LTE-Cellular Element
- Optional 2x2 MiMo 2.4 & 4.9-6GHz Wifi
- Optional Integrated GPS/GNSS/BEIDOU antenna
- With Fakra Connectors

The LGEMF antenna series is a range of low profile antennas in a robust compact housing, with a wideband cellular element covering 4G/3G/2G frequencies.

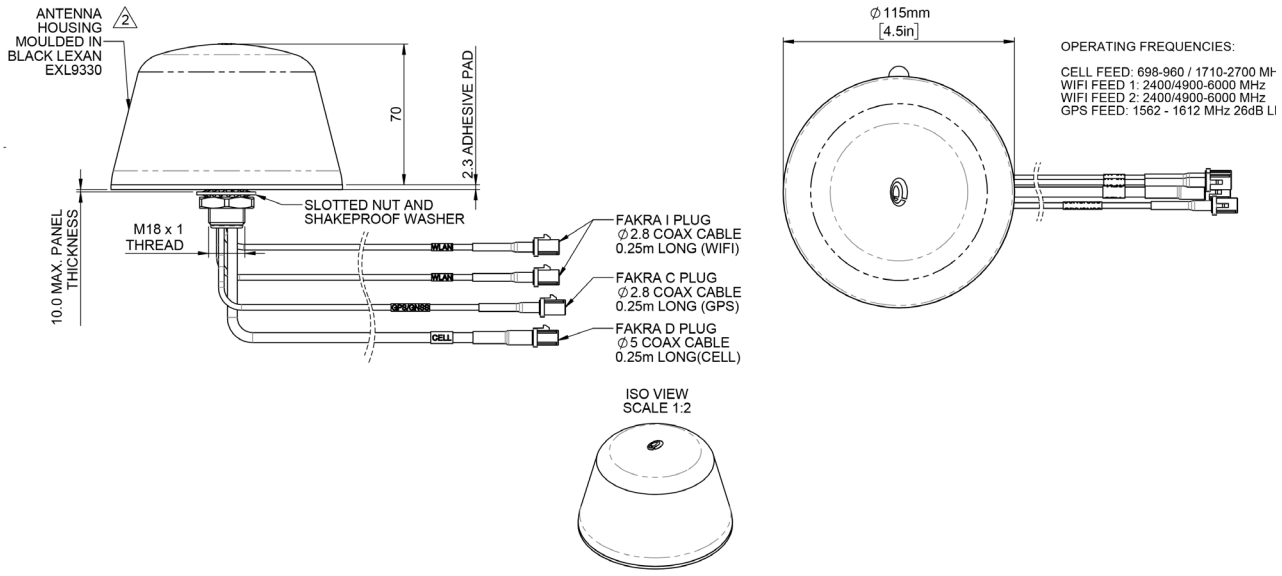
The LGE version incorporates an active GPS/GNSS antenna with a 26dB gain LNA and further variants can feature one or two dual band WIFI elements.

Designed to be tough yet cost effective, the antennas are housed in a IP66 rated enclosure, moulded in ASA 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, compliant with UN ECE 118.01 and fited with FAKRA plug connectors.

This antenna does not require a ground plane, and maintains a high level of performance even when mounted on a non-metallic surface.

Technical Drawing

LGEMF-7-27-24-58 shown



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PANORAMA ANTENNAS

Part. No.			LPEF-7-27	LGEF-7-27	LGEF-7-27-24-58	LGEMF-7-27-24-58
Electrical Data						
Frequency Range (MHz)	Element 1		-	1560-1612MHz	1560-1612MHz	1560-1612MHz
	Element 2			698-960/1710-2700MHz		
	Elements 3 & 4		-	-	1 x 2.4/4.9-6GHz	2 x 2.4/4.9-6GHz
Peak Gain†	Element 2	698-960MHz		4dBi		
		1710-2170MHz		5dBi		
		1710-2700MHz		6dBi		
		2300-2700MHz		6dBi		
	Element 3 & 4	2.4GHz	-	-	5dBi	
	Element 3 & 4	5.8GHz	-	-	9dBi	
Typical VSWR*	Element 2			< 2.5:1		
	Elements 3 & 4			< 2.5:1		
Polarisation				Vertical		
Impedance				50Ω		
Max input power (W)				50		
GPS/GNSS Data						
Frequency Range (MHz)				1560-1612MHz (GPS/GLONASS/BeiDou/Galileo)		
VSRM				<2.0:1		
Gain: LNA				26dB		
Polarisation				Right Hand Circular		
Operating Voltage				3 -5V DC (fed via coax)		
Current				<20mA		
Mechanical Data						
Dimensions (mm)	Height			70mm (2.8”)		
	Diameter			115mm (4.5”)		
Operating Temp (°C)				-30° / +80°C (-22°/ 176°F)		
Material				PC		
Colour				Black		
Ingress Protection				IP66		
Mounting Data						
Mounting type				Panel mount		
Max panel thickness				10mm (0.4”)		
Mounting hole				19mm (3/4”)		
Cable Data						
GPS Cable	Type			RG174		
	Diameter			2.8mm (0.11”)		
	Length			0.3m (1’)		
	Termination			FAKRA C (Blue)		
Cell / LTE Cable	Type			CS29		
	Diameter			5mm (0.2”)		
	Length			0.3m (1’)		
	Termination			FAKRA D (Bordeaux)		
WIFI Cable	Type			RG174		
	Diameter			2.8mm (0.11”)		
	Length			0.3m (1’)		
	Termination			FAKRA I (Beige)		

† Peak Gain simulated in CST microwave studio without cable loss.

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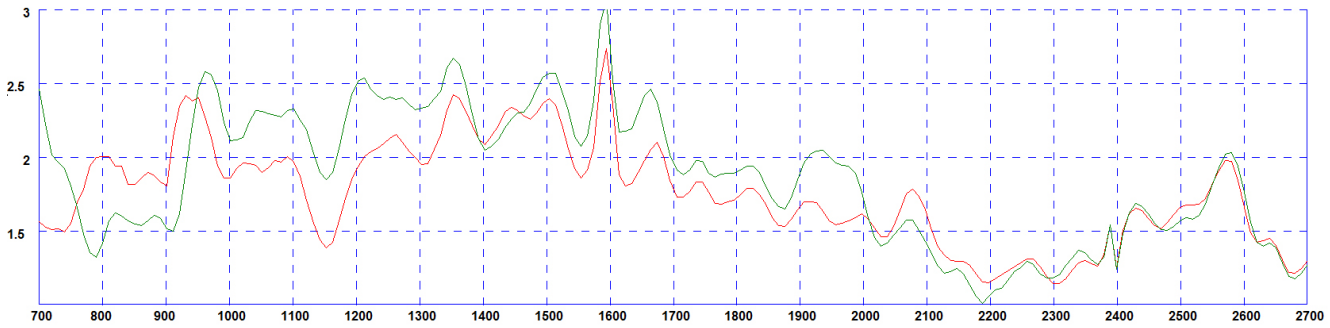
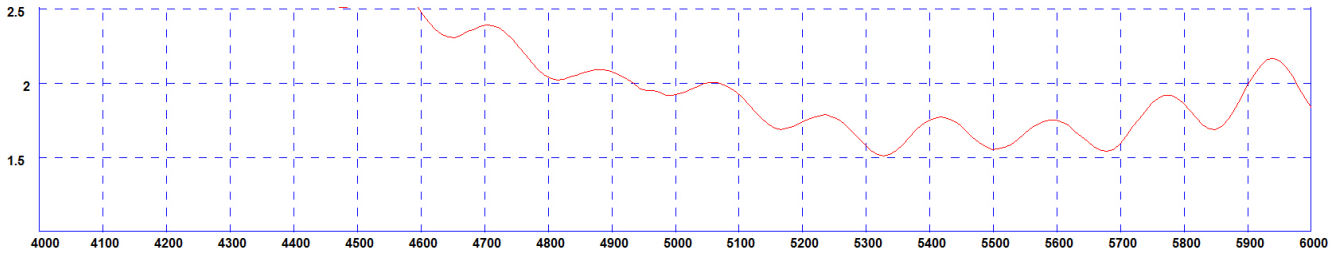
Electrical Data - Cell

Typical VSWR cellular / LTE element 2*



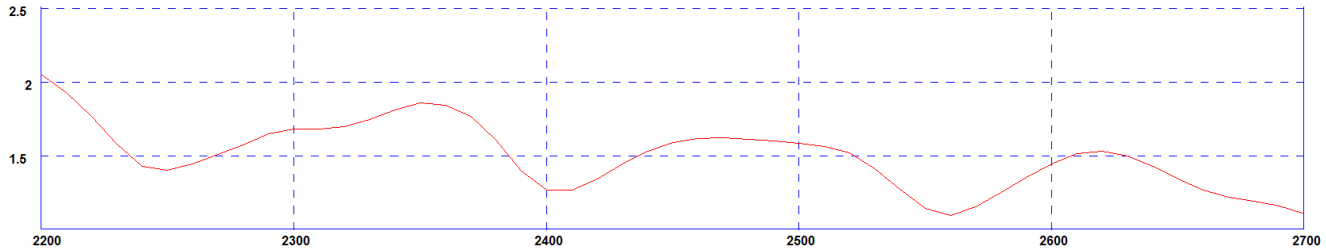
* Red VSWR measured in on a 400 x400mm (1.3' x 1.3') ground plane without extension cables.
Green VSWR measured in free space without extension cables.

Typical VSWR WiFi element 3/4 5.8GHz*

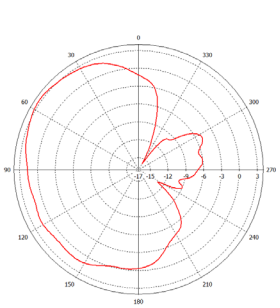


* VSWR measured with 0.5m (1.5') of RG174 cable.

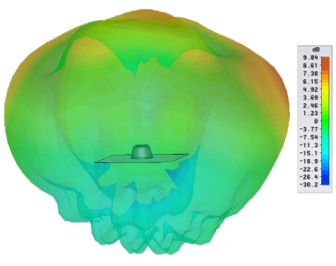
Typical VSWR WiFi element 3/4 2.4GHz*



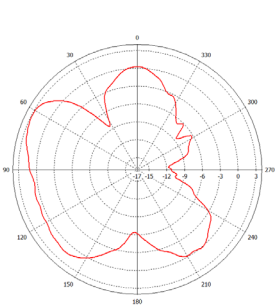
* VSWR measured with 0.5m (1.5') of RG174 cable.



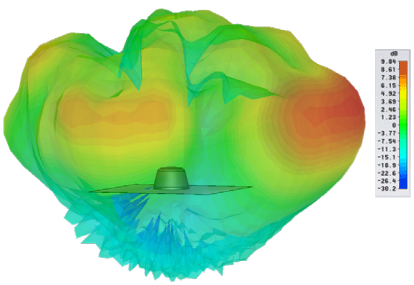
H-Plane - WiFi (2.4GHz)



3D Pattern - WiFi (2.4GHz)



H-Plane WLAN (5.4GHz)



3D Pattern WLAN (5.4GHz)

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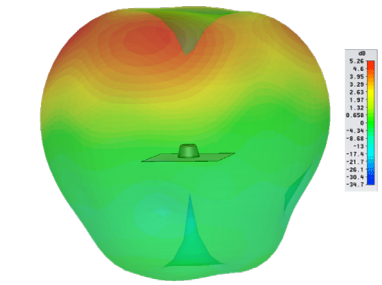
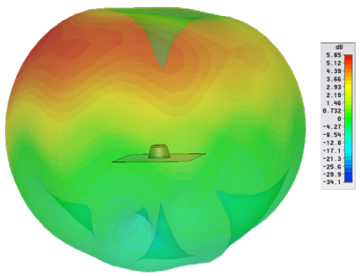
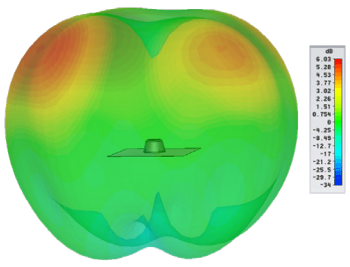
Typical 3D Pattern - Element 2 700MHz



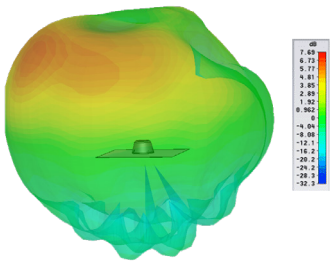
Typical 3D Pattern - Element 2 800MHz



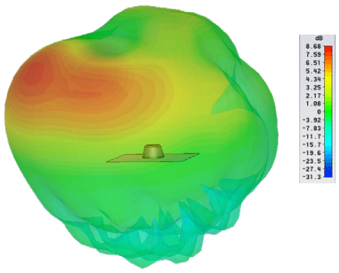
Typical 3D Pattern - Element 2 900MHz



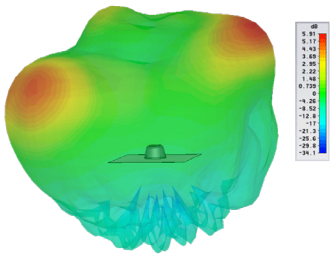
Typical 3D Pattern - Element 2 1800MHz



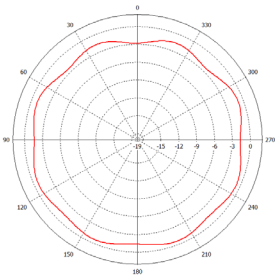
Typical 3D Pattern - Element 2 2000MHz



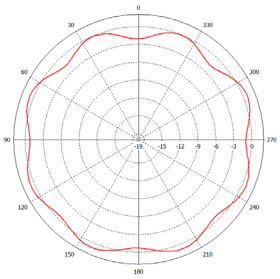
Typical 3D Pattern - Element 2 2600MHz



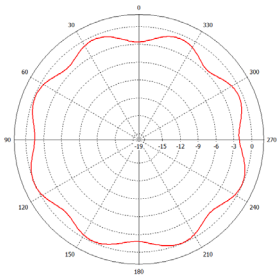
Typical H-Plane (700MHz)



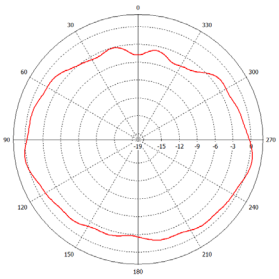
Typical H-Plane (800MHz)



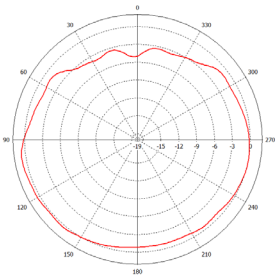
Typical H-Plane (900MHz)



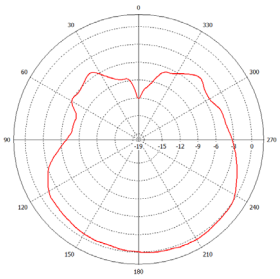
Typical H-Plane (1.7GHz)



Typical H-Plane (1.9GHz)



Typical H-Plane (2.7GHz)



N.B. All pattern and gain measurements taken on a 400 x 400mm (2' x 2') ground plane without additonal cable.

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