

# Low Profile 4x4 MiMo Antenna

LGM[Q]M4-7-38[24-58]

## Low Profile 4x4 MiMo Antenna

Rugged low profile design

4x Wideband LTE/cellular elements

Optional Integrated GPS/GNSS antenna

Optional MiMo WiFi - up to 4x4 2.4/4.9-6GHz



The Panorama LGM[Q]M4 low profile MiMo antenna range has been designed to support the next generation of vehicular LTE routers.

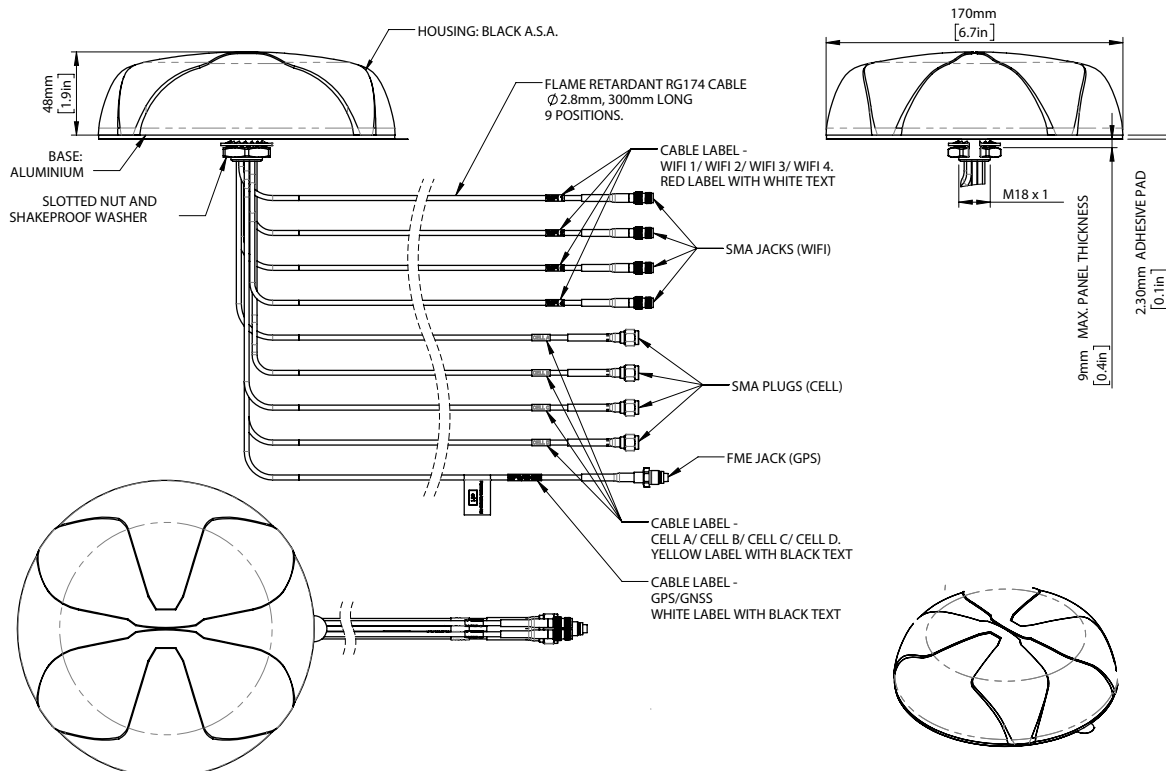
The antenna enclosure contains up to nine isolated antenna elements; four ultra-wideband elements covering 698-3800MHz support MiMo/diversity at cellular/LTE frequencies and a high performance GPS/GNSS antenna with an integrated 26dB gain LNA and high quality filtering to combat noise. There are also variants incorporating two, three or four dualband WiFi elements covering 2.4/4.9-6.0GHz designated by the suffix 24-58.

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

The GPS/GNSS module carries an E11 Mark type approval under ECE R10.4, and the cables are certified to ECE 118.01.

### Technical Drawing

LGMQM4-7-38-24-58 shown



# Low Profile 4x4 MiMo Antenna

LGM[Q]M4-7-38[-24-58]

## Product Data

### Part No.

LGMM4-7-38    LGMDM4-7-38-24-58    LGMTM4-7-38-24-58    LGMQM4-7-38-24-58

### Electrical Data

Frequency Range (MHz)	Cell Elements	4x 698-960 / 1710-3800		
	WiFi Elements	-	2x 2.4/4.9-6GHz	3x 2.4/4.9-6GHz    4x 2.4/4.9-6GHz
Operational Bands	Cell Elements	4x4 MiMo LTE / Cellular		
	WiFi Elements	-	2x2 WiFi	3x3 WiFi    4x4 WiFi
Nominal Peak Gain: Isotropic*	Cell Elements	698-960MHz	4dBi	
		1710-3800MHz	6dBi	
	WiFi Elements	2.4/4.9-6.0GHz	-	6dBi / 8dBi
Correlation Co-efficient	Cell Elements	< 0.3		
Typical Impedance				50Ω
Max Input Power (W)				10

### GPS/GNSS Data

Frequency Range (MHz)	1562-1612		
VSWR	<2.0:1 ± 4MHz		
Gain: LNA	26dB		
Operating Voltage	3 - 5V DC		
Type Approval	E11 (ECE R10.4)		

### Mechanical Data

Dimensions	Height	48mm (1.9")
	Diameter	170mm (6.7")
Operating Temp	-30° / +80°C (-22° / 176°F)	
Colour	White (Black also available)	

### Mounting Data

Mounting type	Panel mount
Max panel thickness	7mm (0.27")
Mounting hole	19mm (3/4")

### Cable Data

4x Cell / LTE Cables	Type	RG174-FR (ECE118.01 Compliant)	
	Diameter	2.8mm (0.1")	
	Length	0.3m (1')	
	Termination	SMA (m)	
GPS/GNSS Cable	Type	RG174-FR (ECE118.01 Compliant)	
	Diameter	2.8mm (0.11")	
	Length	0.3m (1')	
	Termination	FME (f)	
WiFi Cables	Type	-	RG174-FR (ECE118.01 Compliant)
	Diameter	-	2.8mm (0.1")
	Length	-	0.3m (1')
	Termination	-	SMA (f)

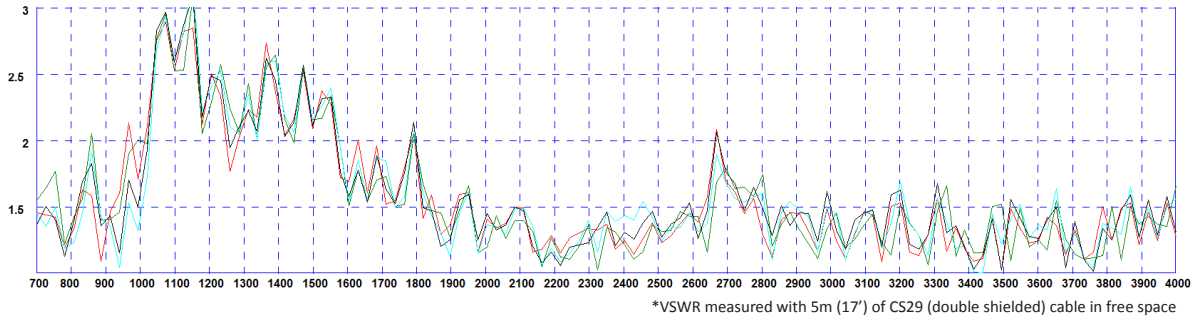
\* Peak gain simulated with all elements fed on 600x600mm ground plane excluding cable loss

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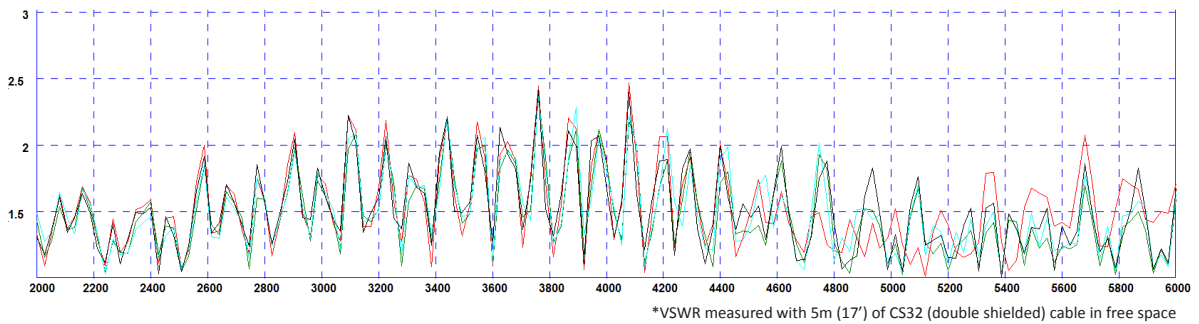
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## Electrical Data

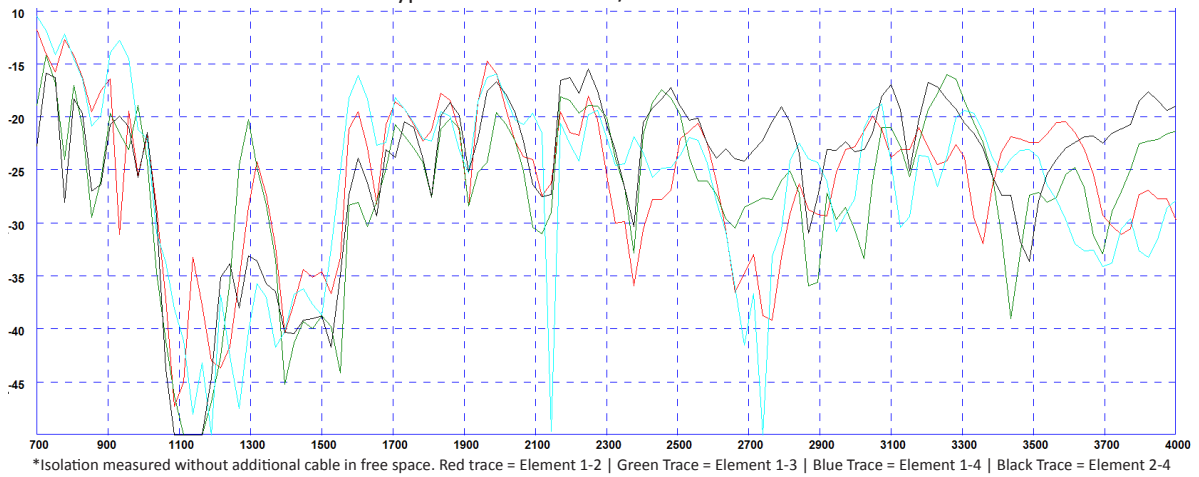
### Typical VSWR - CELL/LTE - Elements 1-4



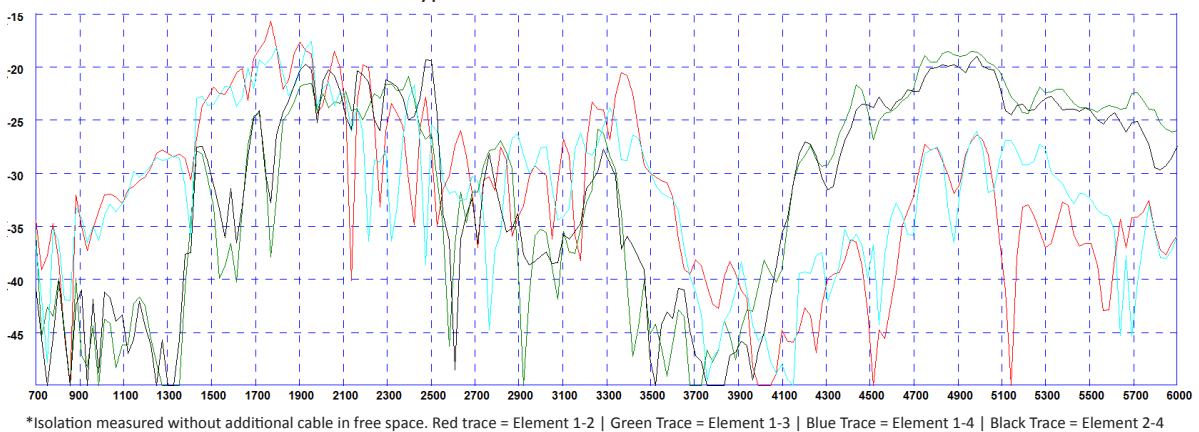
### Typical VSWR - WiFi - Elements 1-4



### Typical Isolation - CELL/LTE - Elements 1-4



### Typical Isolation - WiFi - Elements 1-4

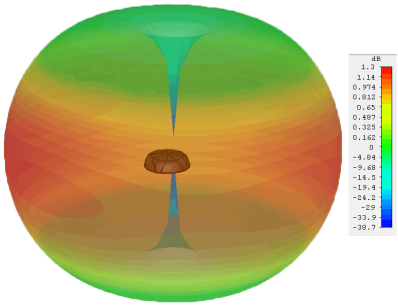


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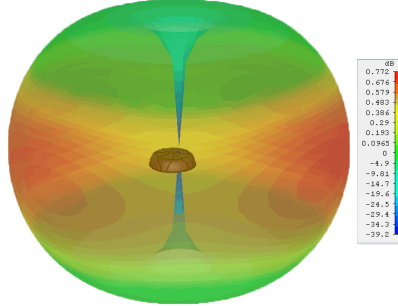
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## Cell 3D Patterns

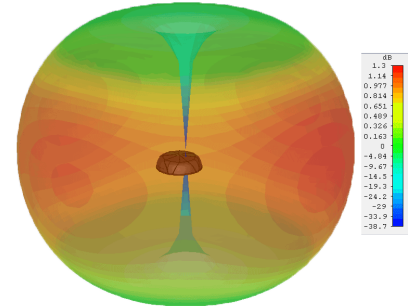
Typical 3D Pattern (700MHz)



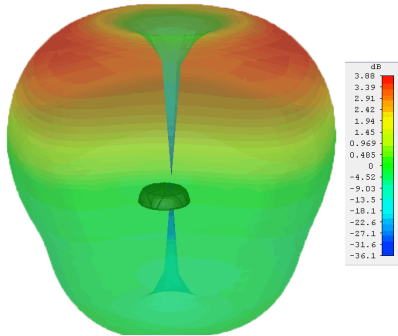
Typical 3D Pattern (800MHz)



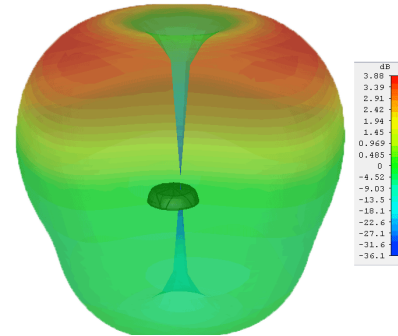
Typical 3D Pattern (900MHz)



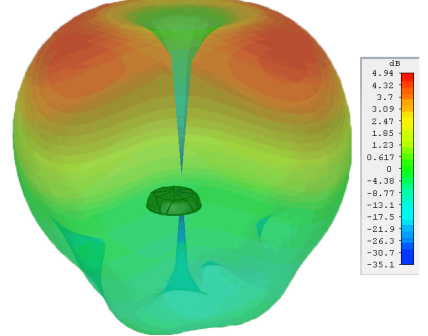
Typical 3D Pattern (1800MHz)



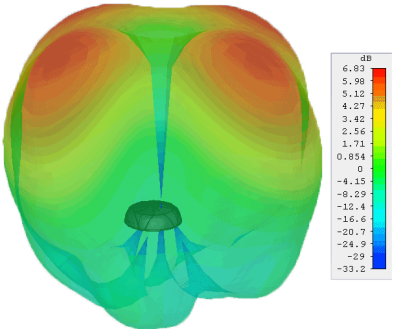
Typical 3D Pattern (1900MHz)



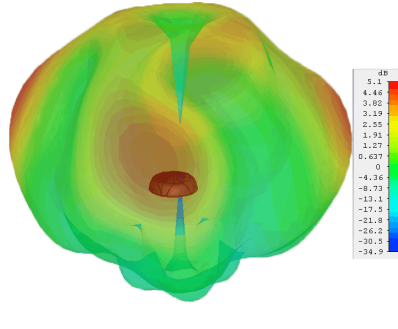
Typical 3D Pattern (2100MHz)



Typical 3D Pattern (2600MHz)

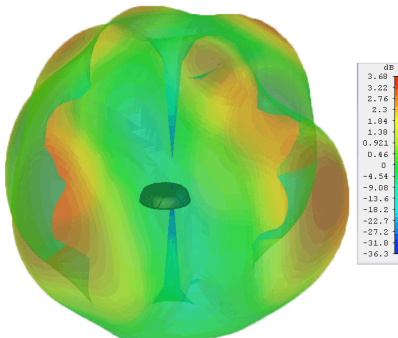


Typical 3D Pattern (3600MHz)

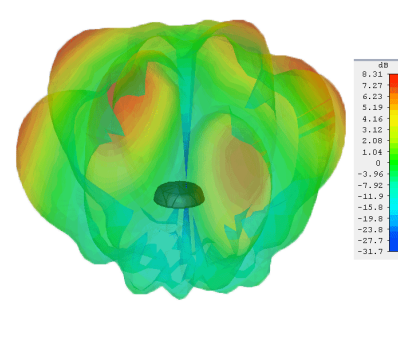


## WiFi 3D Patterns

Typical 3D Pattern WiFi (2400MHz)

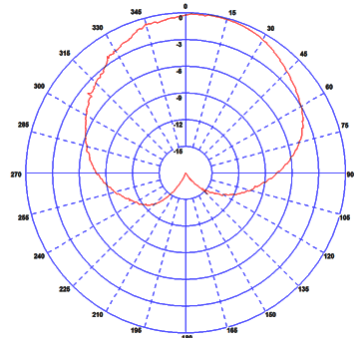


Typical 3D Pattern WiFi (5400MHz)



## GPS/GNSS Patterns

Typical E-Plane Pattern GPS/GNSS



\*3d patterns simulated in CST Microwave Studio with no ground plane or additional cable and all elements fed.