Low Profile 4x4 MiMo Antenna

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

PANORAMA ANTENNAS

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Rugged low profile design
4x Wideband LTE/cellular elements
Optional Integrated GPS/GNSS antenna
Optional MiMo WiFi - up to 4x4 2.4/5.0

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

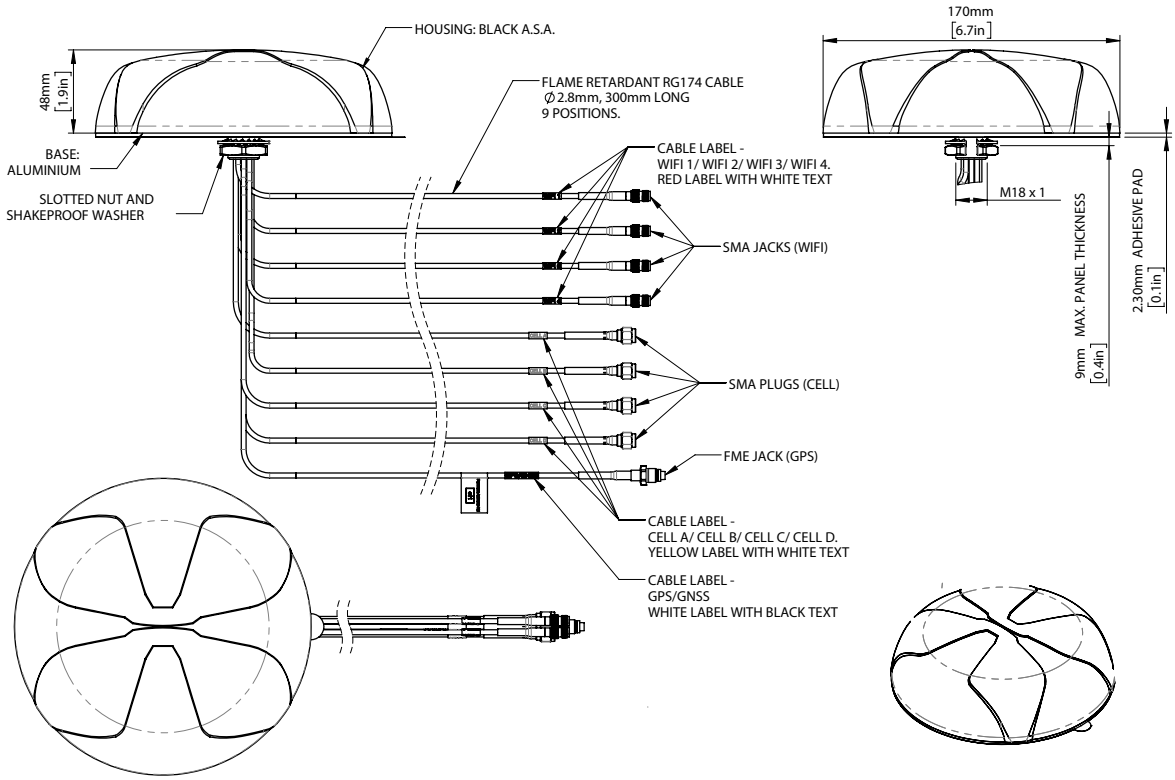
The antenna enclosure contains up to nine isolated antenna elements; four ultra-wideband elements covering 698-3800MHz support MiMo/diversity at cellular/LTE frequencies and a high performance GPS/GNSS antenna with an integrated 26dB gain LNA and high quality filtering to combat noise. There are also variants incoporating 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



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PANORAMA ANTENNAS

17/07/2017 V2

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Product Data

Part No.			LGMM4-7-38	LGMM4-7-38-24-58	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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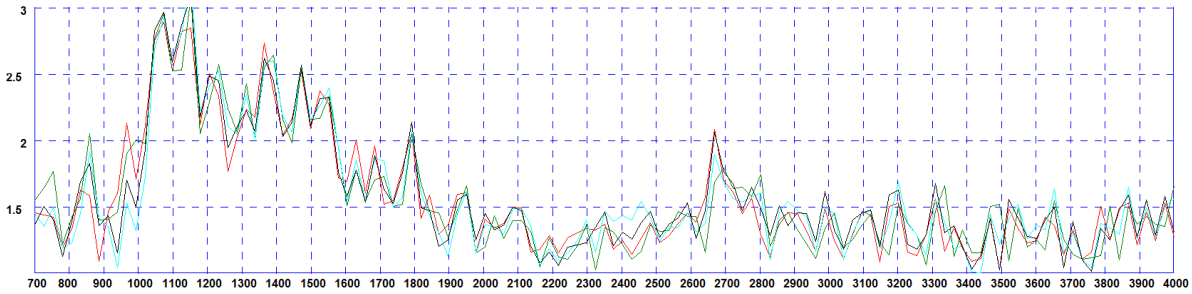
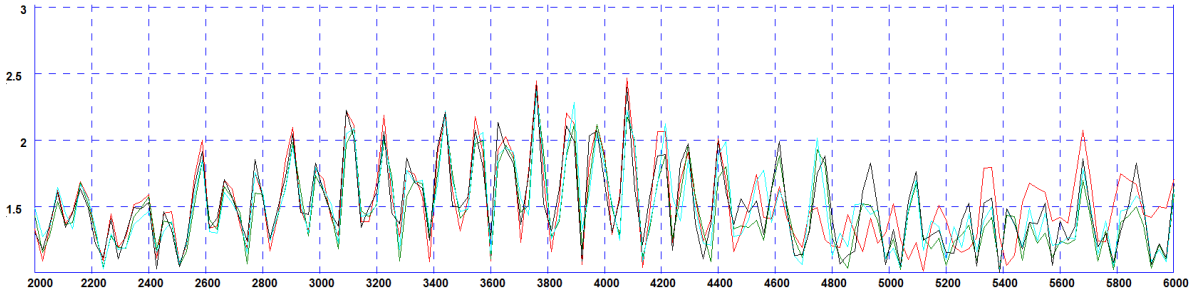
Electrical Data

Typical VSWR -CELL/LTE - Elements 1-4



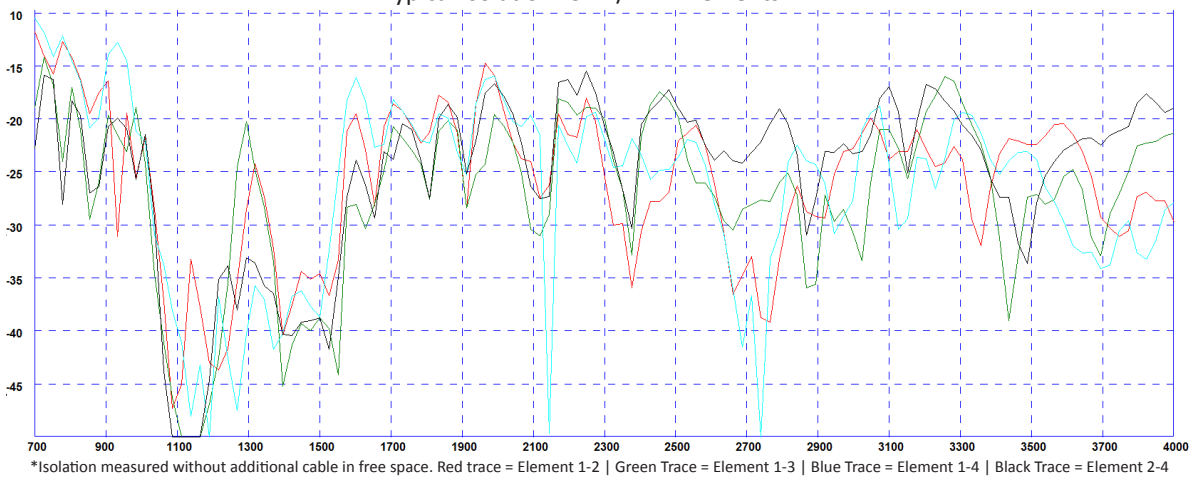
*VSWR measured with 5m (17') of CS29 (double shielded) cable in free space

Typical VSWR - WiFi - Elements 1-4



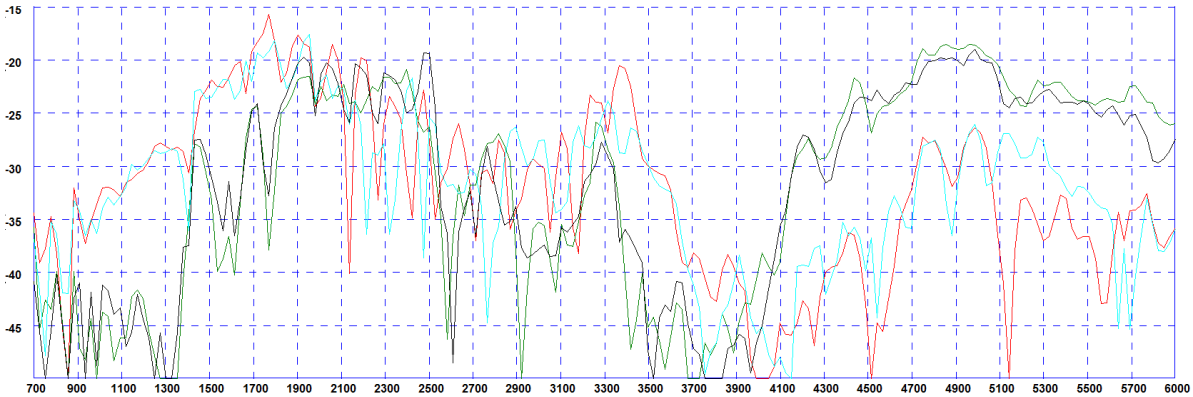
*VSWR measured with 5m (17') of CS32 (double shielded) cable in free space

Typical Isolation -CELL/LTE - Elements 1-4



*Isolation measured without additional cable in free space. Red trace = Element 1-2 | Green Trace = Element 1-3 | Blue Trace = Element 1-4 | Black Trace = Element 2-4

Typical Isolation -WiFi - Elements 1-4



*Isolation measured without additional cable in free space. Red trace = Element 1-2 | Green Trace = Element 1-3 | Blue Trace = Element 1-4 | Black Trace = Element 2-4

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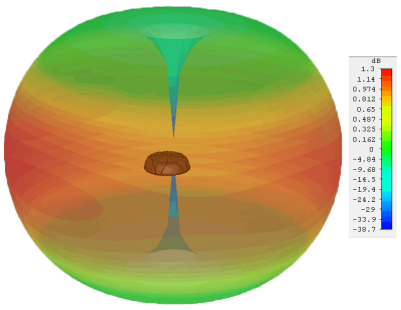
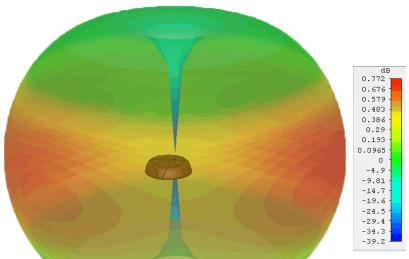
Cell 3D Patterns

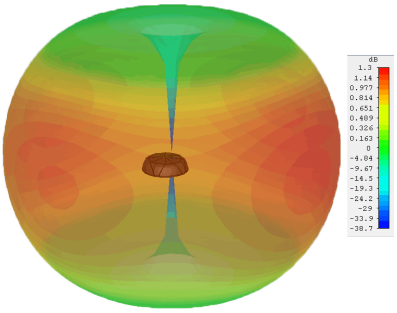
Typical 3D Pattern (700MHz)



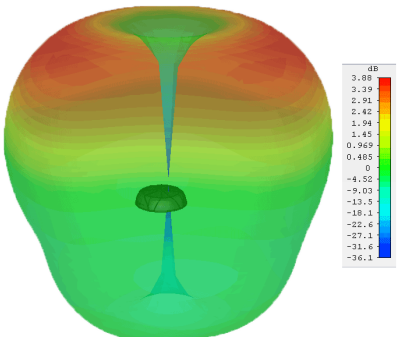
Typical 3D Pattern (800MHz)



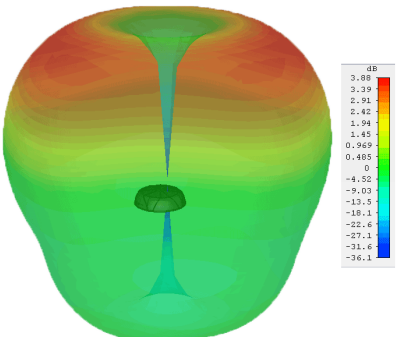
Typical 3D Pattern (900MHz)



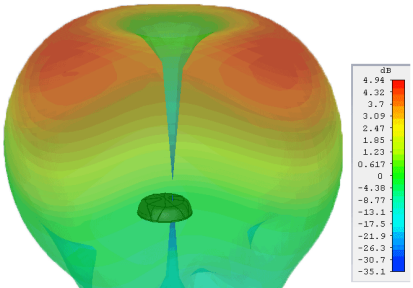
Typical 3D Pattern (1800MHz)



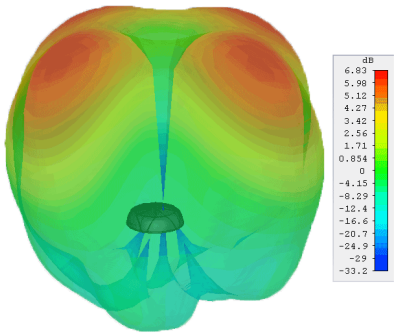
Typical 3D Pattern (1900MHz)



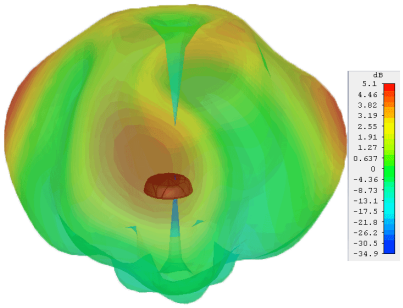
Typical 3D Pattern (2100MHz)



Typical 3D Pattern (2600MHz)

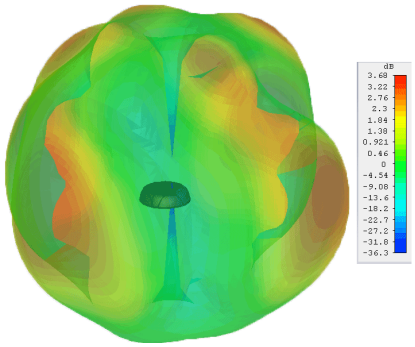


Typical 3D Pattern (3600MHz)

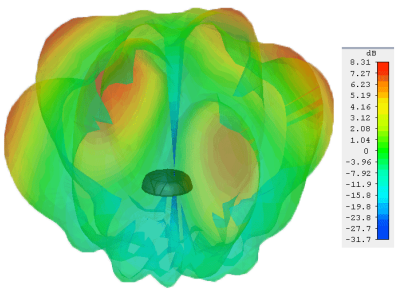


WiFi 3D Patterns

Typical 3D Pattern WiFi (2400MHz)

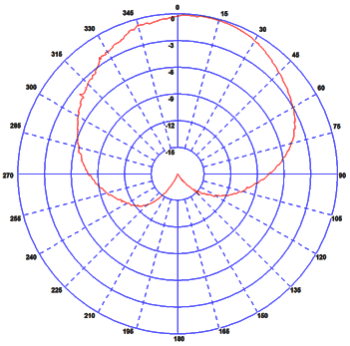


Typical 3D Pattern WiFi (5400MHz)



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.

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