

Product Data Sheet

LGMM-7-27-24-58

Low profile MiMo LTE & cellular antenna
with MiMo WiFi and GPS

C/Note	Doc Issue	Date	Approval
01019	3	04.06.2013	J.J.

PANORAMA  ANTENNAS

LTE MIMO Antenna

Low Profile MIMO Antenna with GPS



LGMM-7-27-24-58

Rugged low profile design

2x Wideband LTE/cellular elements

2x 2.4 & 4.9-6GHz Wifi / WIMAX Elements

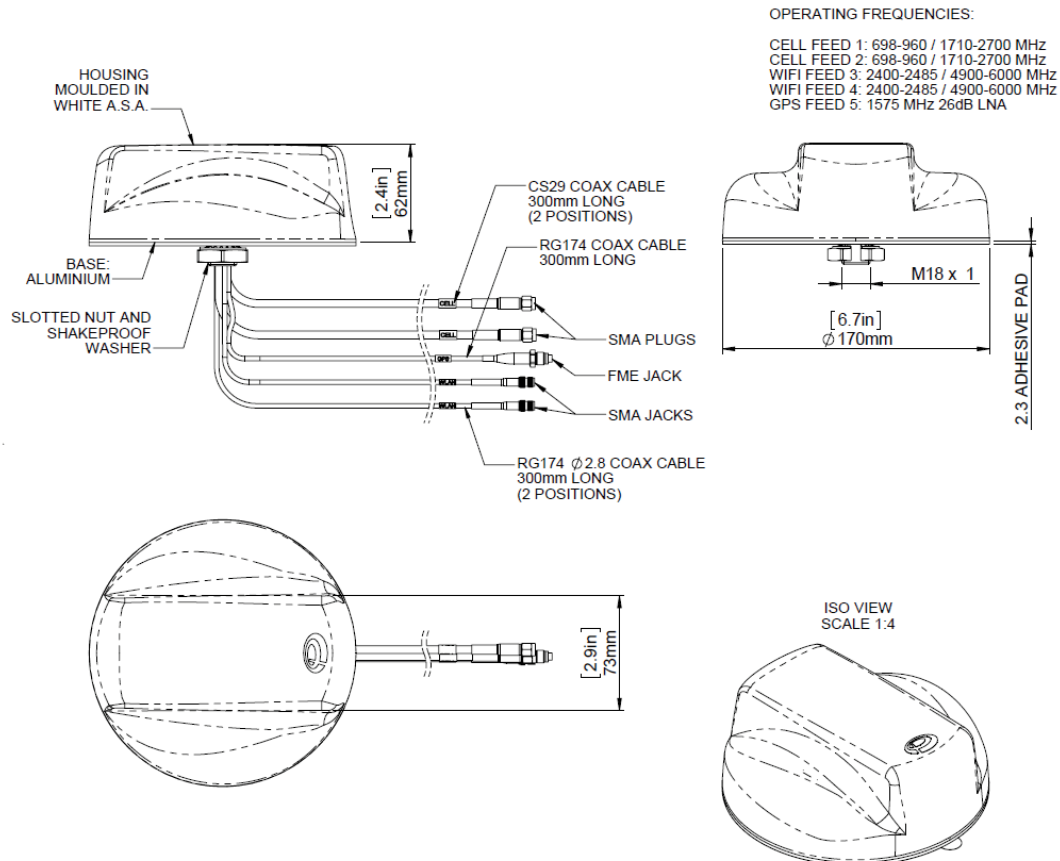
Integrated GPS antenna

The Panorama LGMM low profile MIMO antenna range has been designed to support the new generation of vehicular LTE routers.

The antenna enclosure contains five isolated high performance antenna elements; two ultra-wideband elements covering 698-2700MHz support MiMo / diversity at cellular / LTE frequencies and two dual band elements covering 2.3-2.7 & 4.9-6GHz support MiMo / diversity operation for WIFI and WiMAX. The LGMM also contains a high performance GPS antenna with an intergrated 26dB gain LNA and high quality filtering to combat noise.

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

Technical Drawing



LTE MIMO Antenna

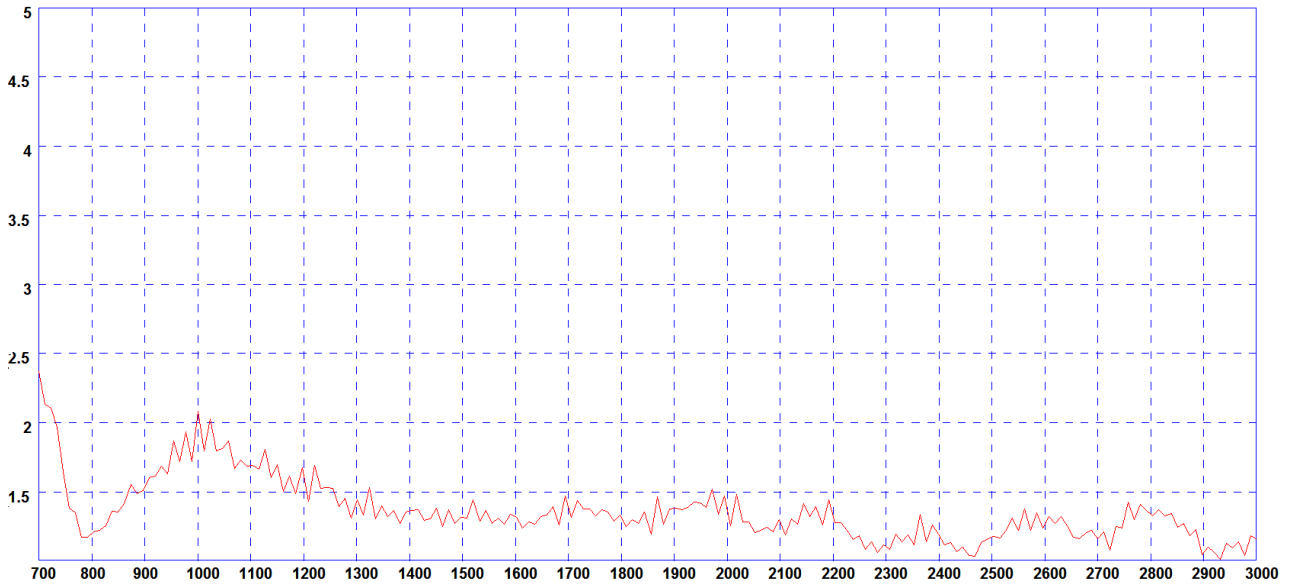
Low Profile MIMO Antenna with GPS

Part No.		
LGMM-7-27-24-58		
Electrical Data		
Frequency Range (MHz)	Elements 1 & 2	698-960 / 1700-2700
	Elements 3 & 4	2.3-2.7 / 4.9-6GHz
Operational Bands	Elements 1 & 2	LTE / Cellular
	Elements 3 & 4	WIFI / WIMAX
Peak Gain: Isotropic	Elements 1 & 2 -698-960	2.3dBi
	Elements 1 & 2 -1700-2700	5dBi
	Elements 3 & 4	2dBi
VSWR	Elements 1 & 2	< 2.5:1
	Elements 3 & 4	< 2:1
Isolation (in free space)	Elements 1 & 2	> 15dB
	Elements 3 & 4	> 20dB
Polarisation	Vertical	
Impedance	50Ω	
Max Input Power (W)	50	
GPS Data		
Frequency Range (MHz)	1575	
VSWR	<2.0:1 ± 4MHz	
Gain: LNA	26dB	
Polarisation	Right Hand Circular	
Operating Voltage	3 - 7V DC (fed via coax)	
Current	Typical 14mA	
Mechanical Data		
Dimensions	Height	2.4" (82mm)
	Diameter	6.7" (176mm)
Operating Temp	-22° / 176°F (-30° / +80°C)	
Material	A.S.A & diecast aluminium	
Colour	White	
Mounting Data		
Mounting type	Panel mount	
Max panel thickness	0.236"(6mm)	
Mounting hole	3/4" (19mm)	
Cable Data		
GPS Cable	Type	RG174
	Diameter	0.11" (2.8mm)
	Length	1' (0.3m)
	Termination	FME (female)
Cell / LTE Cables x2	Type	CS29 (double shielded RG58)
	Diameter	0.2"(5mm)
	Length	1' (0.3m)
	Termination	SMA (male)
WIFI / WiMAX Cables x2	Type	RG174
	Diameter	0.11" (2.8mm)
	Length	1' (0.3m)
	Termination	SMA (female)

LTE MIMO Antenna

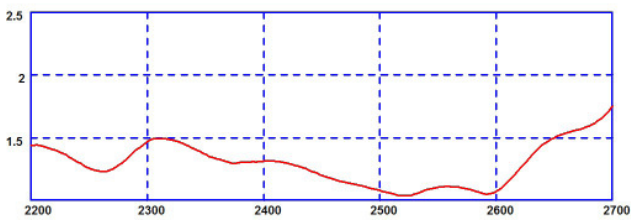
Low Profile MIMO Antenna with GPS

Typical VSWR cellular / LTE elements*

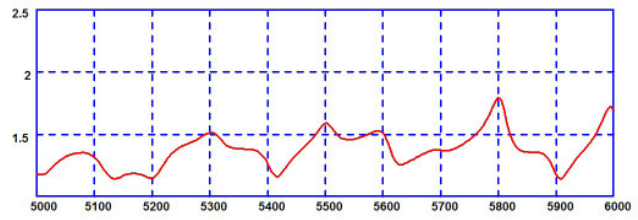


* VSWR measured in free space with 4.5m (15') of CS29 cable.

Typical VSWR WIFI elements 2.4GHz*

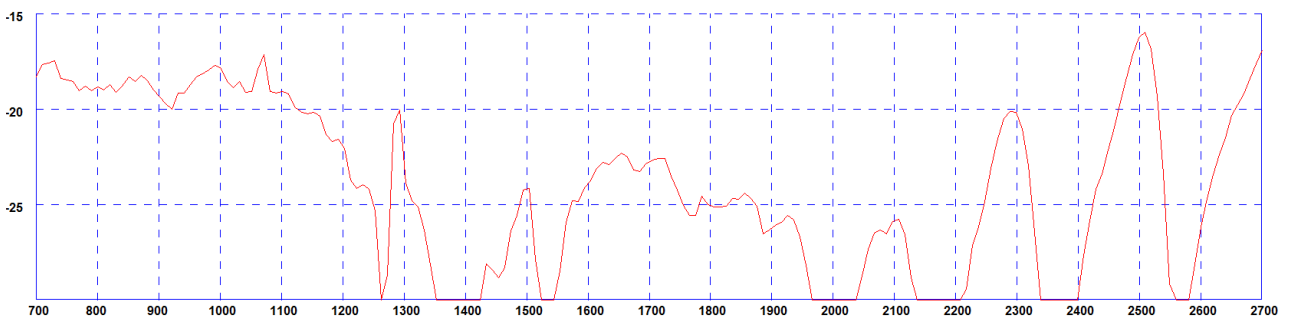


Typical VSWR WIFI elements 5GHz*



* VSWR measured with 5m (17') of cable.

Typical Isolation cellular / LTE elements*

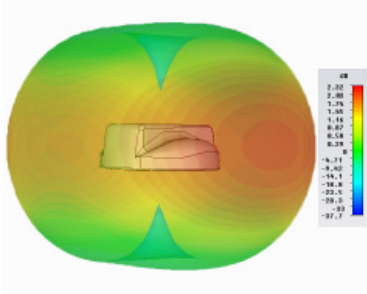


* Isolation measured in free space with 300mm (1') of cable.

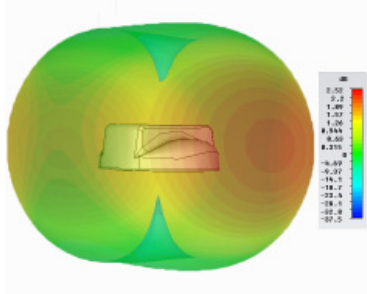
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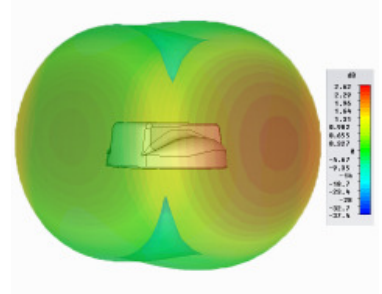
Typical 3D Pattern - Elements 1&2 700MHz



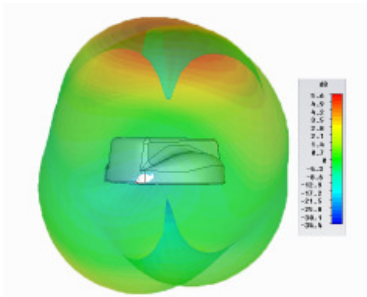
Typical 3D Pattern - Elements 1&2 800MHz



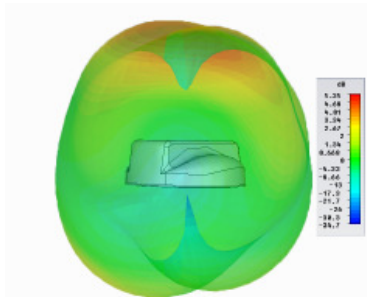
Typical 3D Pattern - Elements 1&2 900MHz



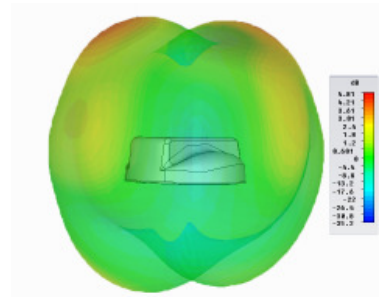
Typical 3D Pattern - Elements 1&2 1800MHz



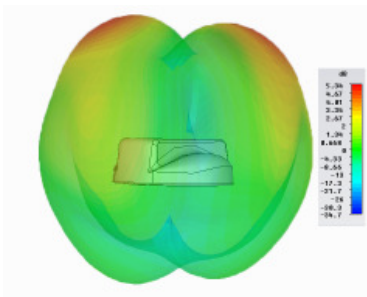
Typical 3D Pattern - Elements 1&2 1900MHz



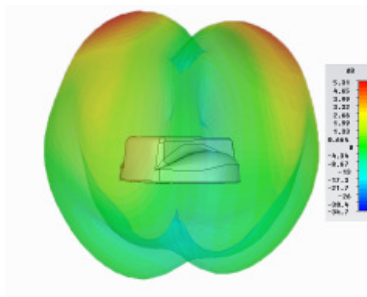
Typical 3D Pattern - Elements 1&2 2100MHz



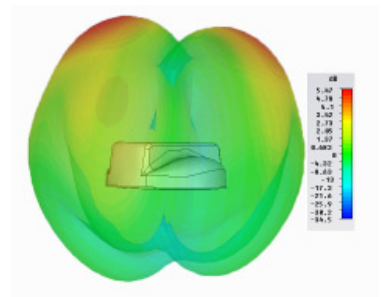
Typical 3D Pattern - Elements 1&2 2400MHz



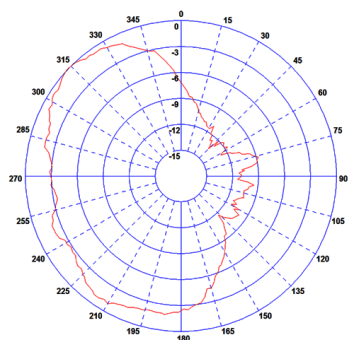
Typical 3D Pattern - Elements 1&2 2500MHz



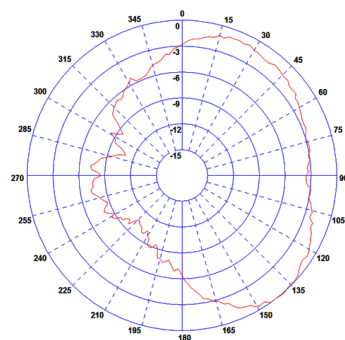
Typical 3D Pattern - Elements 1&2 2600MHz



Typical H-Plane - Element 3 2450 MHz



Typical H-Plane - Element 4 2450MHz



N.B. All pattern and gain measurements taken in free space without additional ground plane.

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