

Multifunction MiMo Antenna

GPSD

PANORAMA ANTENNAS



GPSD

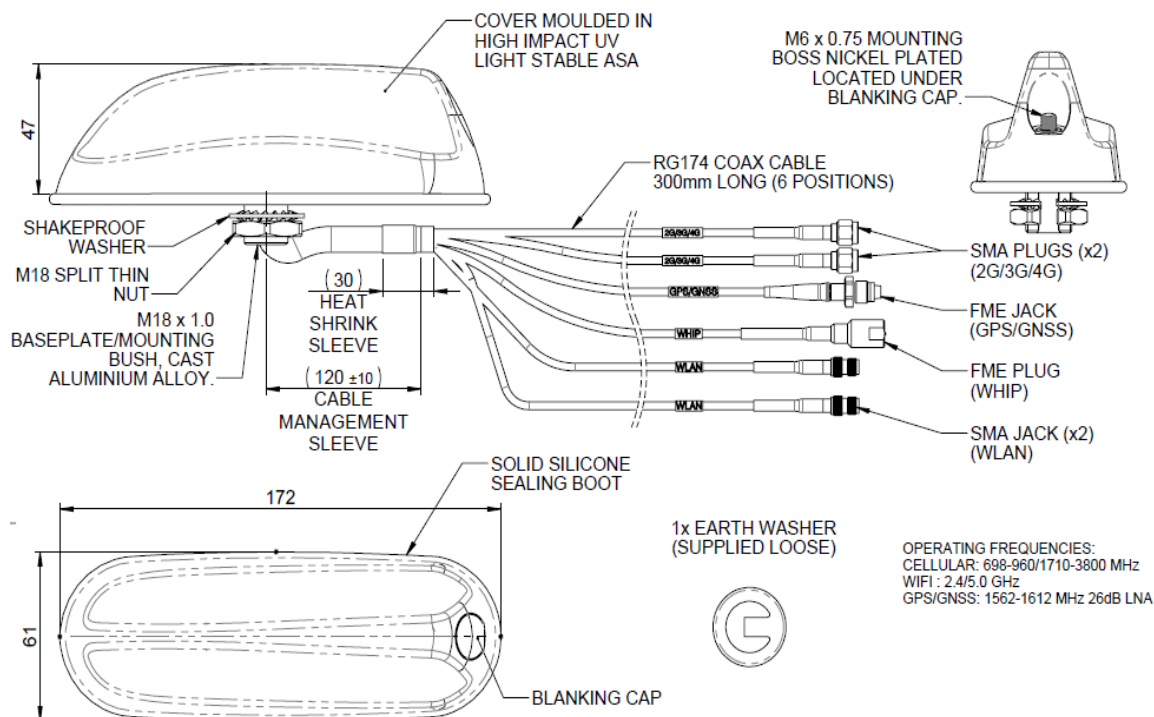
- OEM shark fin styling
- GPS/GNSS, MiMo 4G/3G/2G & Optional MiMo 2.4/4.9-6GHz
- Support for VHF or UHF external antenna

The GPSD has a compact OEM style shark fin housing that contains 2x2 MiMo antenna function for 4G/3G/2G and an active antenna for GPS/GLONASS/Galileo/Beidou with 26dB gain LNA. In addition, there is an integral stud mount for an external antenna whip that can support a range of VHF, UHF or 700/800MHz antennas. A blanking cover is supplied for when an external whip is not required. A further version of GPSD is available that adds 2x2 MiMo antenna function for 2.4/5.8GHz WiFi.

The GPSD shark fin style design provides multiple antenna functions while remaining discreet and is suitable for public safety (overt/covert), industrial and transport applications where a cost effective, efficient and robust antenna is essential. Requiring only a single hole mounting, the GPSD reduces vehicle damage, installation time & cost and visual impact whilst protecting a vehicle's resale value.

Technical Drawing

GPSD-7-27-24-58 shown



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Product Data

Part No

GPSD-7-27

GPSD-7-27-24-58

Electrical Data

Frequency Range (MHz)	Element 1	1562-1612
	Elements 2 & 3	698-960, 1710-2170, 2500-3800
	Elements 4 & 5	- 2300-2500 & 4900-6000
	Whip	Dependent on selected whip
Operational Bands	Element 1	GPS/GNSS/Galileo/Beidou
	Elements 2 & 3	4G/3G/2G
	Elements 4 & 5	- 2.4GHz WLAN / Public Safety 4.9GHz / 5.8GHz WiFi
	Whip	Dependent on selected whip
Peak gain: Isotropic*	Elements 2 & 3	2dBi (698-960MHz) 5dBi (1710-3800MHz)
	Elements 3 & 4	- 4dBi (2.4GHz), 6dBi (5.8GHz)
Isolation (with 5m (16') CS29	Cellular	>12dB
	WiFi	> 20dB
Typical Efficiency* w/o Cable Loss	Elements 2 & 3	> 50%
Correlation Co-efficient	Elements 2 & 3	<0.2
Polarisation		Vertical
Pattern		Omni-directional
Impedance		50Ω
Max Input Power (W)		Internal elements 25W / main whip 60W

GPS/GNSS Data

Frequency Range (MHz)	1562-1612
VSWR	<2:1 ± 4MHz
Gain: LNA	26dB
Polarisation	Right Hand Circular
Operating Voltage	3-5V DC (fed via coax)
Current	Typical <20mA

Mechanical Data

Dimensions (mm)	Total Height (excluding whip)	50 (2.2")
	Length	170 (6.77")
	Width	60 (2.4")
Operating Temp (°C)		-40° / +80°C (-40° / 176°F)
Material		ASA, EPDM, Aluminium Alloy
Colour		Black
Weight (g)	240	260
Ingress Protection		IP66

Mounting Info

Fixing	Panel Mount
Hole Size (mm)	19 (3/4")

Cable Data

Cable Type - All Feeds		RG174 (UN ECE 118 Compliant)
Dimensions (mm)	Diameter	2.8 (0.11")
	Length	300 mm (12")
Termination	Whip	FME plug
	GPS/GNSS	FME socket
	2 x 4G/3G/2G	2 x SMA plug
	2 x WiFi	- 2 x SMA socket

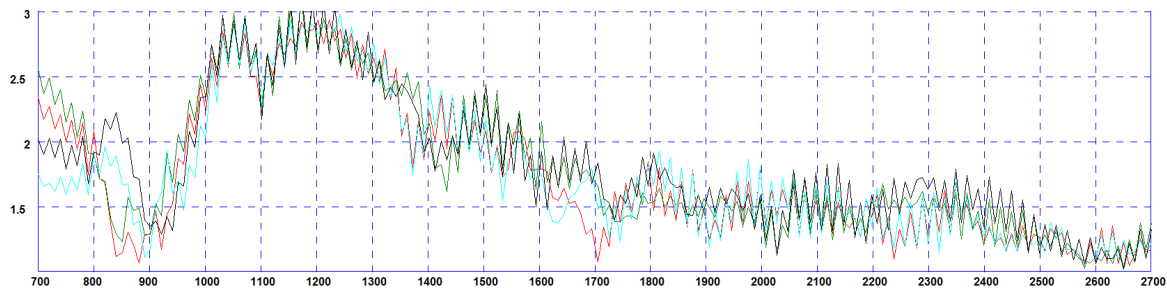
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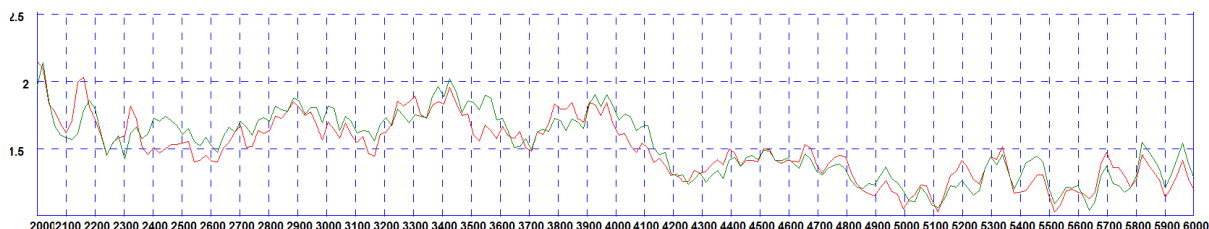
Electrical Data - Cell

Typical VSWR - 2G/3G/4G Elements 2&3*



*VSWR measured with no whip and 5m (16') of CS29 cable Black & Blue = no ground plane Green and Red = 600x 600mm (2'x2') ground plane

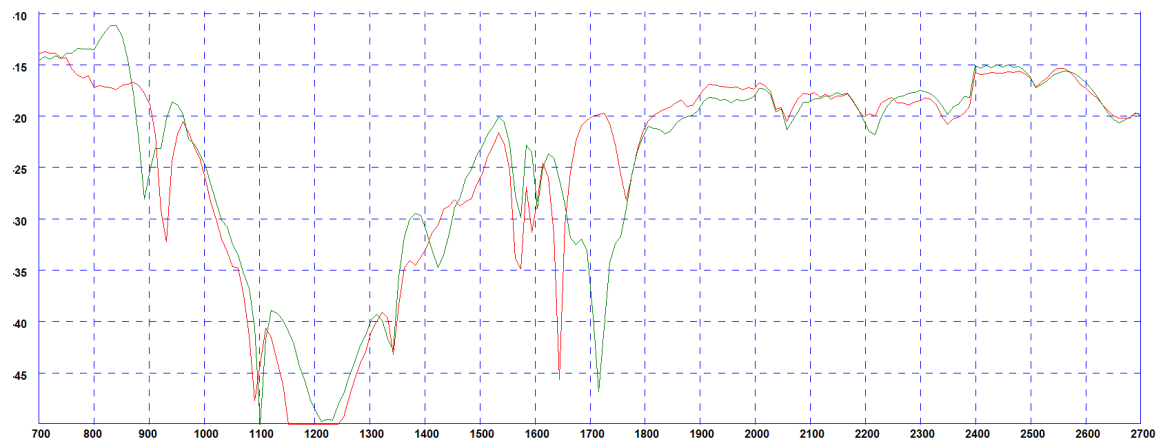
Typical VSWR - WiFi Elements 4&5*



*VSWR measured with no whip and 5m (16') of CS32 cable

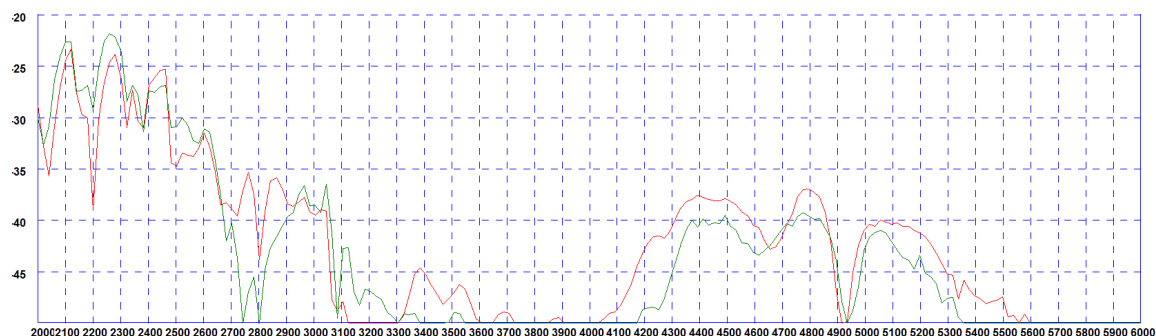
Isolation

Typical Isolation - Cellular Elements 2&3*



*Isolation measured with no whip and 5m (16') of CS29 cable Green Plot = 600x600mm (2' X2') ground plane Red Plot = no ground plane

Typical Isolation - WiFi Elements 4&5*

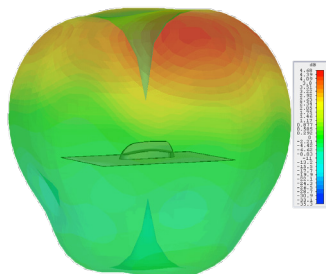


*Isolation measured with no whip and 5m (16') of CS29 cable Red Plot = 600x600mm (2' X2') ground plane Green Plot = no ground plane

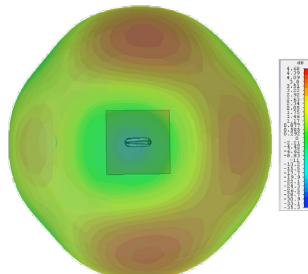
3D Patterns - Cell

3D Radiation Patterns - Cell / LTE Elements 2&3

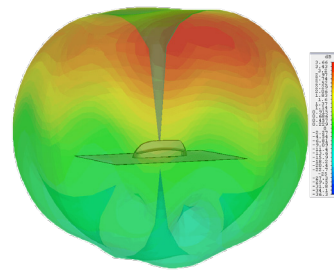
3D Gain Plot Side (700MHz)



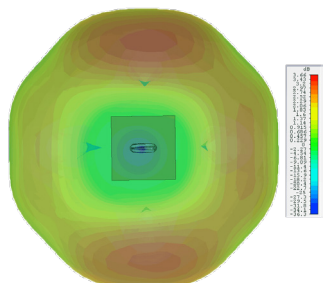
3D Gain Plot Top (700MHz)



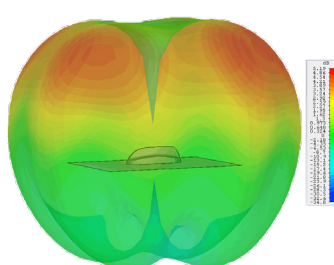
3D Gain Plot Side (800MHz)



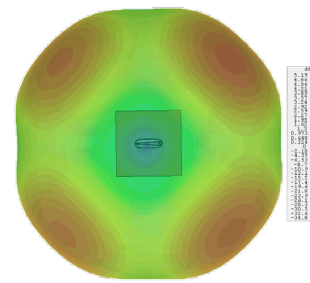
3D Gain Plot Top (800MHz)



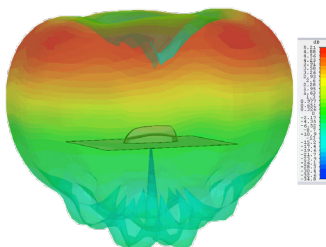
3D Gain Plot Side (900MHz)



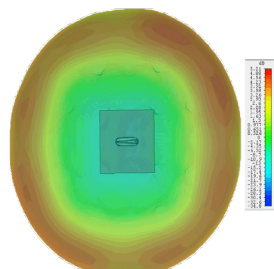
3D Gain Plot Top (900MHz)



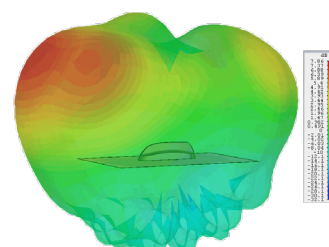
3D Gain Plot Side (1800MHz)



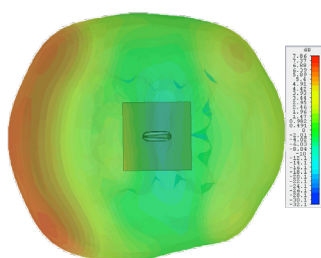
3D Gain Plot Top (1800MHz)



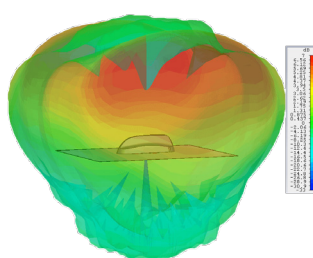
3D Gain Plot Side (2100MHz)



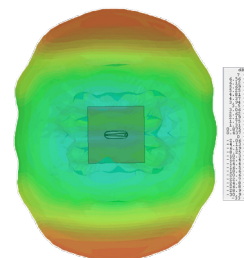
3D Gain Plot Top (2100MHz)



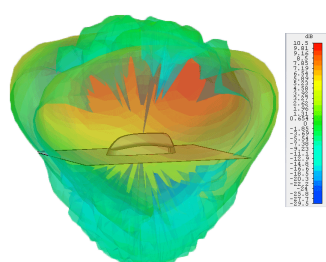
3D Gain Plot Side (2600MHz)



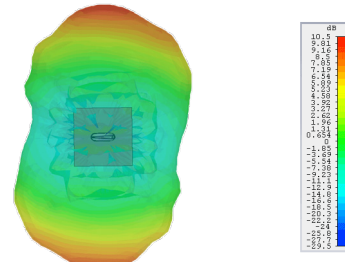
3D Gain Plot Top (2600MHz)



3D Gain Plot Side (3600MHz)



3D Gain Plot Top (3600MHz)

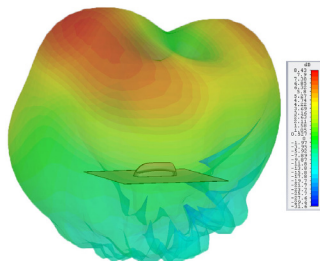


*3D radiation patterns simulated in CST Microwave Studio on a 600x600mm (2' X2') ground plane with both elements fed together.

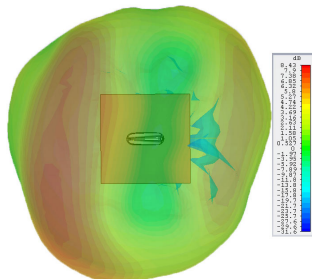
3D Patterns - Cell

Typical 3D Radiation Patterns - Wifi Elements 4&5

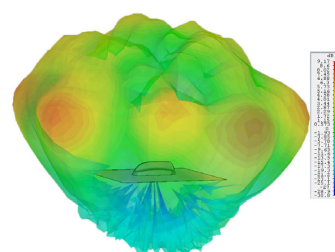
3D Gain Plot Side (2.4GHz)



3D Gain Plot Top (2.4GHz)

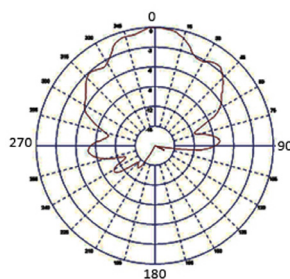
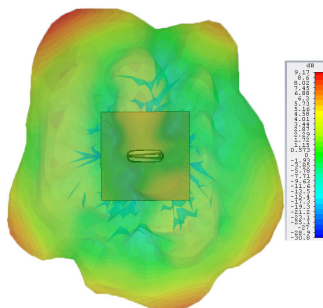


3D Gain Plot Side (5.4GHz)



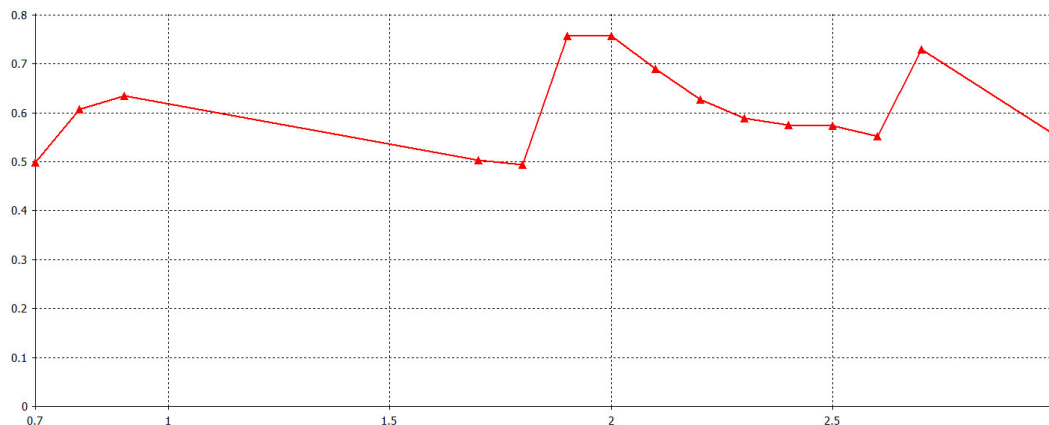
Typical Radiation Patterns - GPS/GNSS Element 1 Element 3: Typical E Plane Pattern

3D Gain Plot Top (5.4GHz)



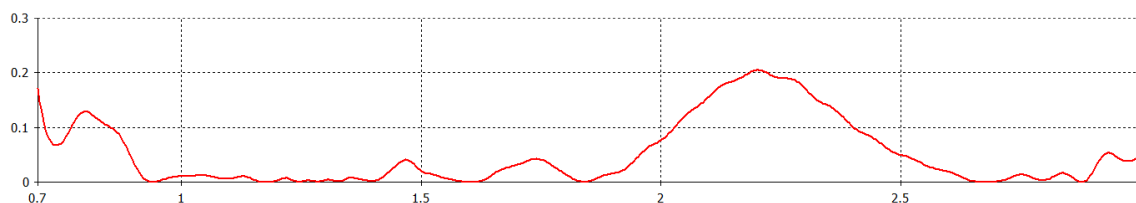
*3D radiation patterns simulated in CST Microwave Studio on a 600x600mm (2' X2') ground plane with both elements fed together.

Typical Total Efficiency Typical Total Efficiency - Cellular Elements 2&3*



* Efficient simulated in free space with no whip and no ground plane and no cable.

Typical Correlation Co-efficient Typical Correlation Co-efficient- Cellular Elements 2&3*



*Correlation co-efficient simulated in free space with no whip, no additional cable and no ground plane

Waiver: The data given above is indicative of the performance of the product/s under particular conditions and does not imply a guarantee of performance. These specifications are subject to change without notice.