

GPSD

Multifunction MiMo Antenna

PANORAMA ANTENNAS

24/11/2016 v.2

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

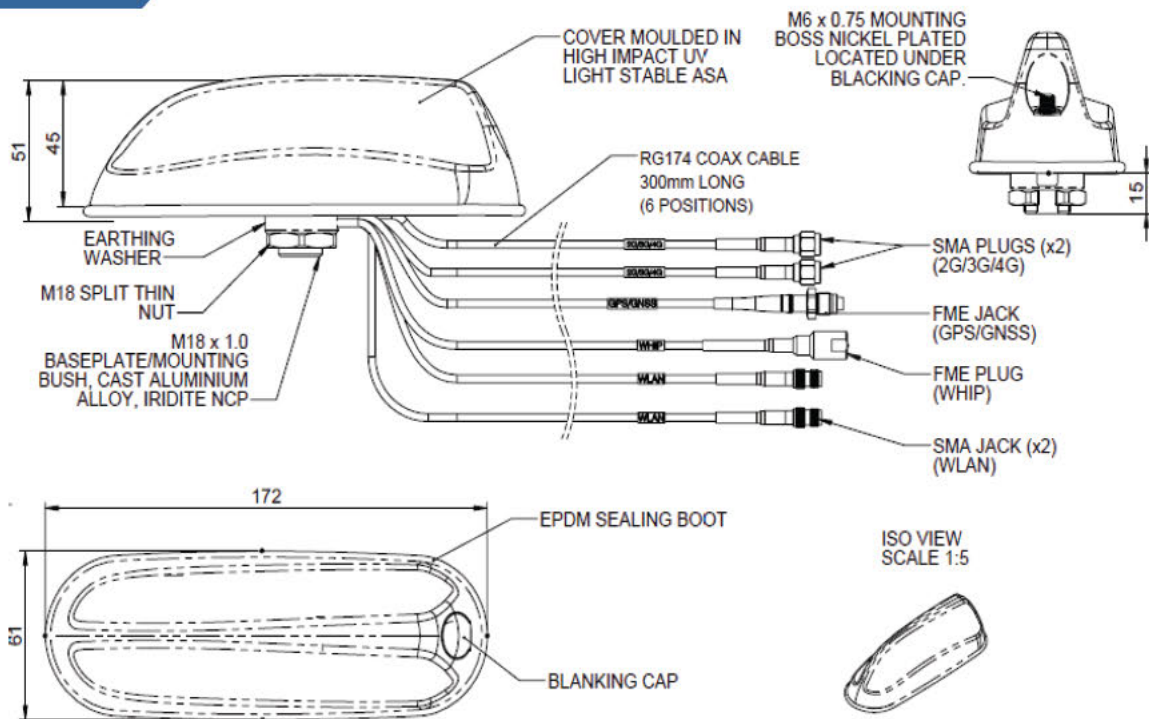


The GPSD has a compact OEM style shark fin housing that contains 2x2 MiMo antenna function for 4G/3G/2G and an active antenna for GPS/GLONASS/Galileo/Beidou with 26dB gain LNA. In addition, there is an integral stud mount for an external antenna whip that can support a range of VHF, UHF or 700/800MHz 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.

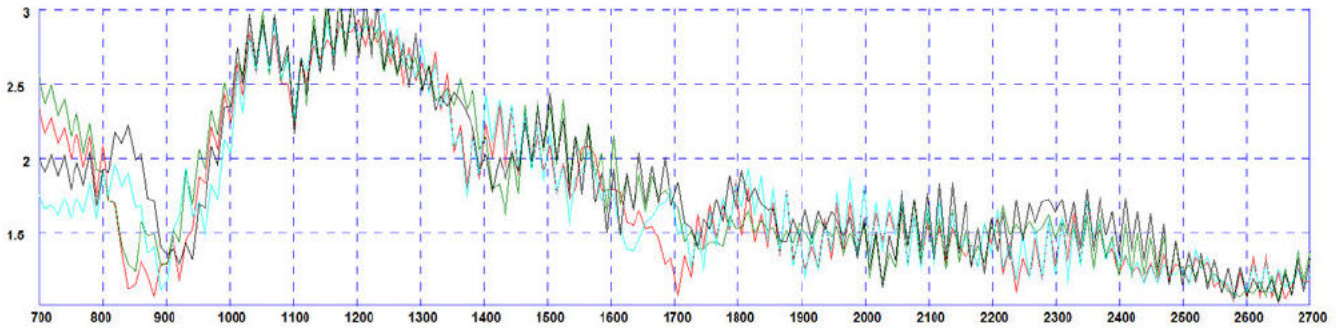
Technical Drawing

GPSD-7-27-24-58 shown



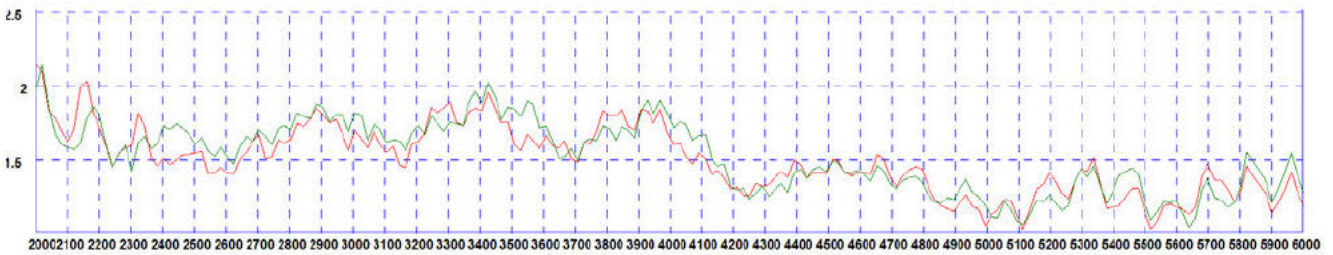
Part No.	GPSD-7-27	GPSD-7-27-24-58
Electrical Data		
Frequency Range (MHz)	Element 1	1562-1612
	Elements 2 & 3	698-960, 1710-2170, 2500-3800
	Elements 4 & 5	- 2300-2500 & 4900-6000
	Whip	Dependent on selected whip
Operational Bands	Element 1	GPS/GNSS/Galileo/Beidou
	Elements 2 & 3	4G/3G/2G
	Elements 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 01 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

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



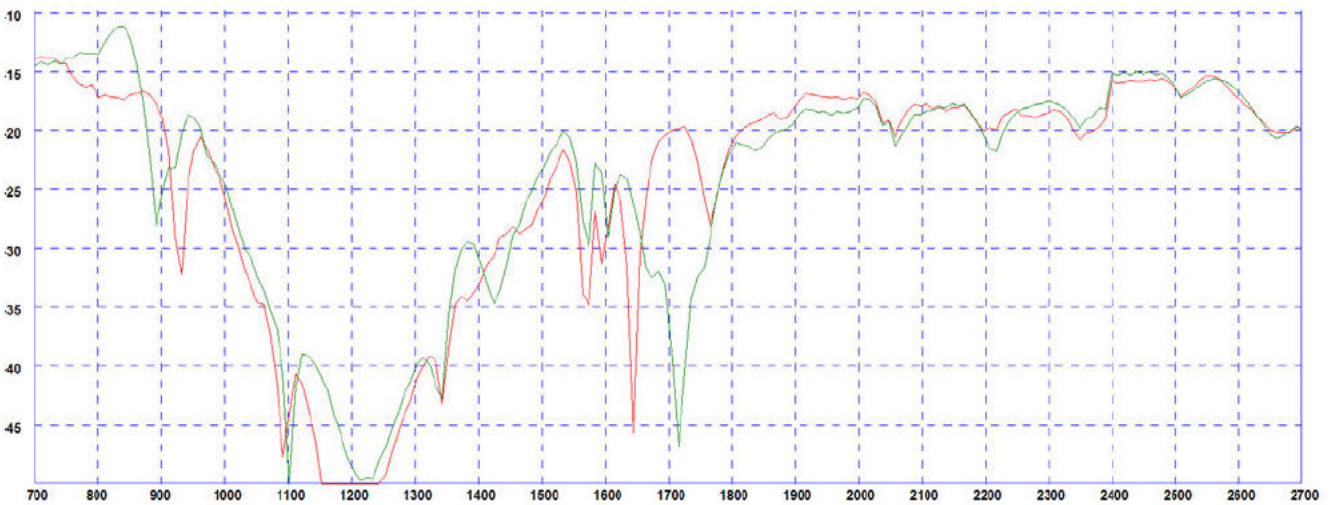
*VSWR measured with no whip and 5m (16') of CS29 cable Black & Blue = no ground plane Green and Red = 600x600mm (2'x2') ground plane

Typical VSWR - WiFi Elements 4&5*



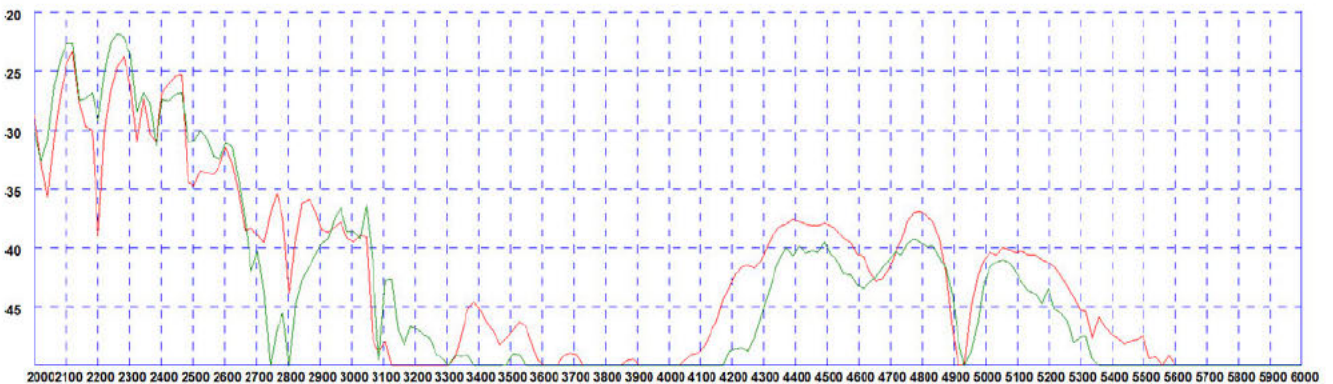
*VSWR measured with no whip and 5m (16') of CS32 cable

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

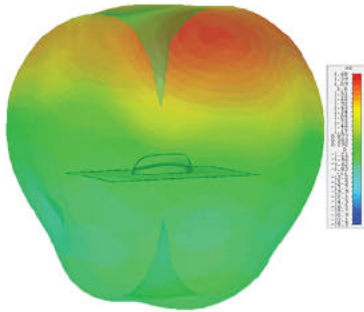
Typical Isolation - WiFi Elements 4&5*



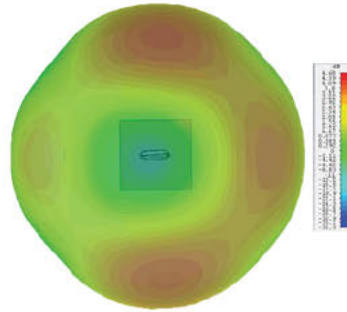
*Isolation measured with no whip and 5m (16') of CS29 cable Red Plot = 600x600mm (2' X2') ground plane Green Plot = no ground plane

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

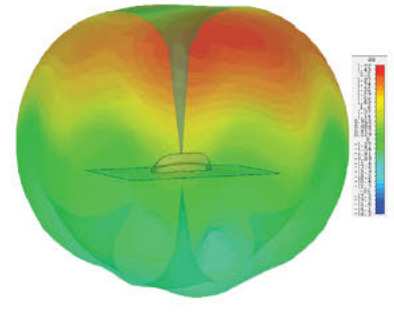
3D Gain Plot Side (700MHz)



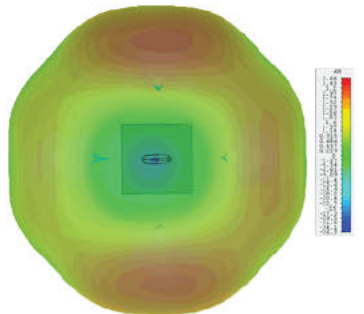
3D Gain Plot Top (700MHz)



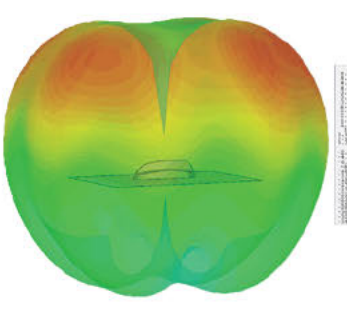
3D Gain Plot Side (800MHz)



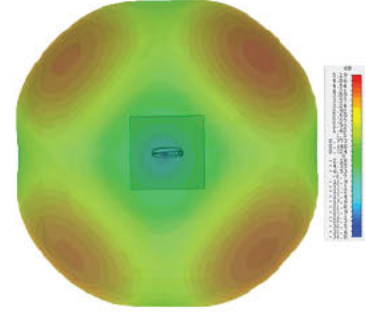
3D Gain Plot Top (800MHz)



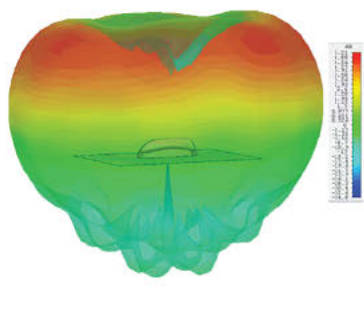
3D Gain Plot Side (900MHz)



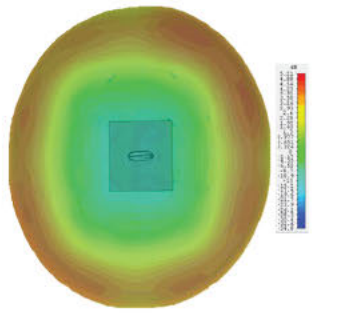
3D Gain Plot Top (900MHz)



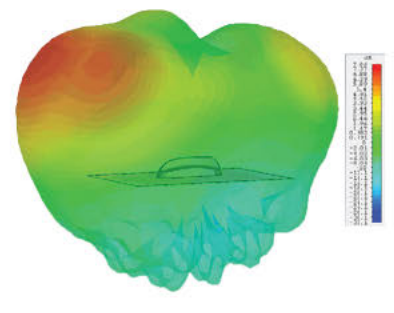
3D Gain Plot Side (1800MHz)



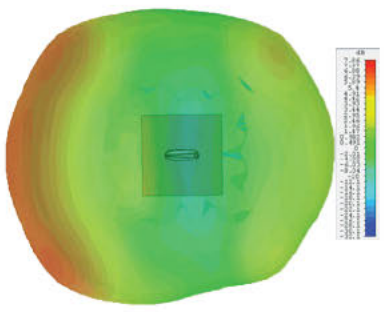
3D Gain Plot Top (1800MHz)



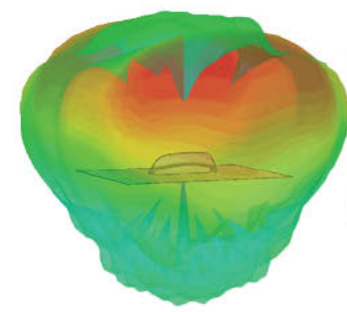
3D Gain Plot Side (2100MHz)



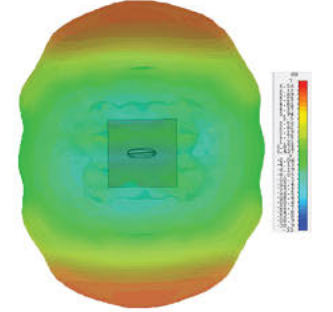
3D Gain Plot Top (2100MHz)



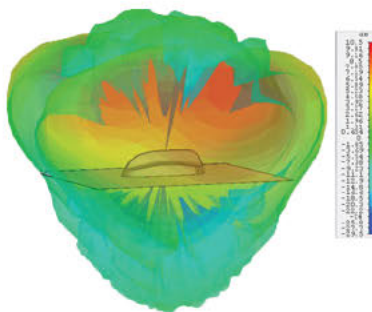
3D Gain Plot Side (2600MHz)



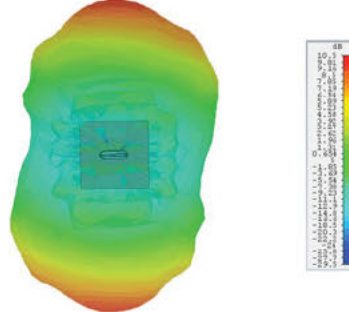
3D Gain Plot Top (2600MHz)



3D Gain Plot Side (3600MHz)

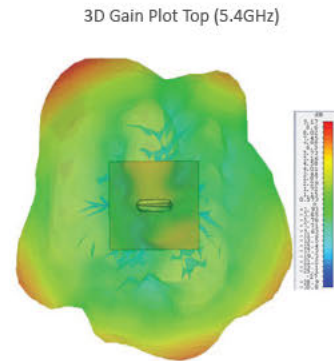
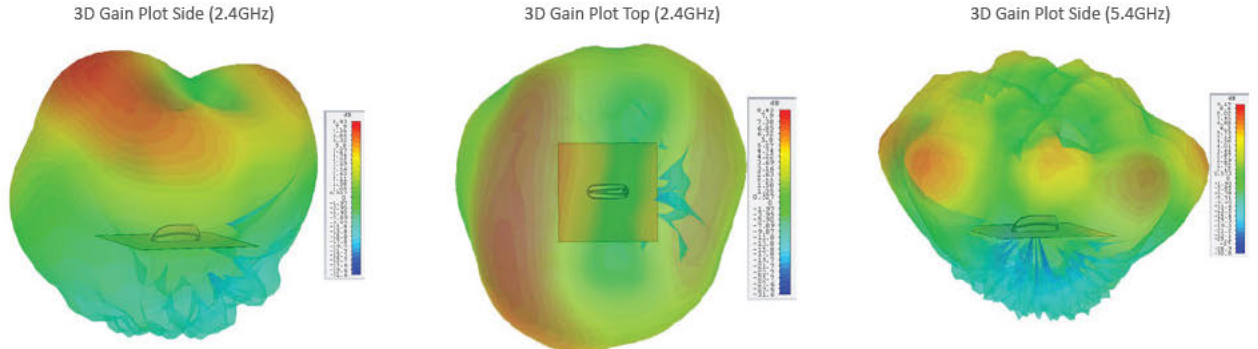


3D Gain Plot Top (3600MHz)



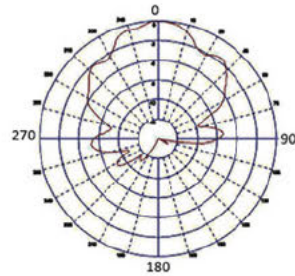
*3D radiation patterns simulated in CST Microwave Studio on a 600x600mm (2' X2') ground plane with both elements fed together.

Typical 3D Radiation Patterns - Wifi Elements 4&5



Typical Radiation Patterns - GPS/GNSS Element 1

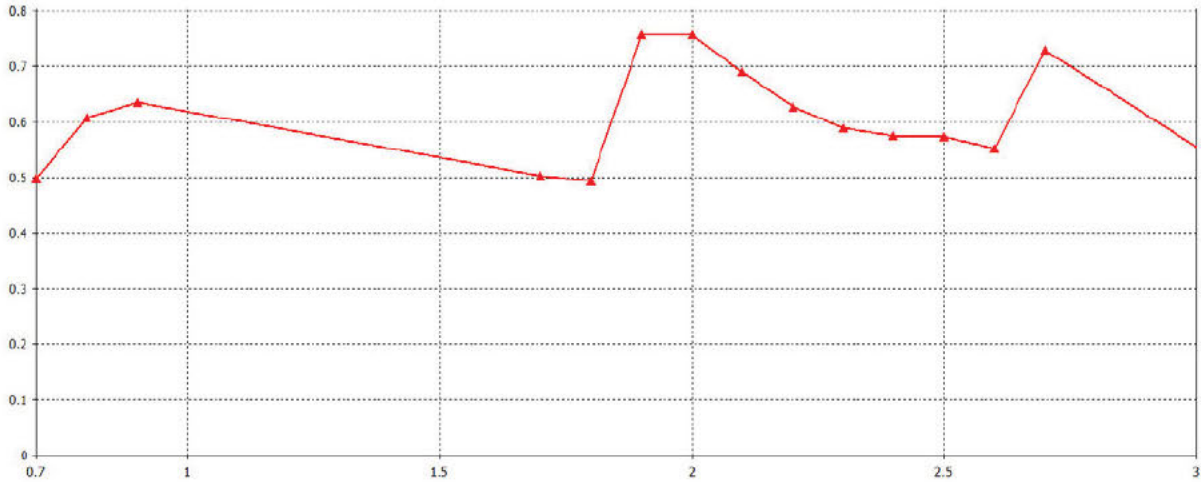
Element 3: Typical E Plane Pattern



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

Typical Total Efficiency

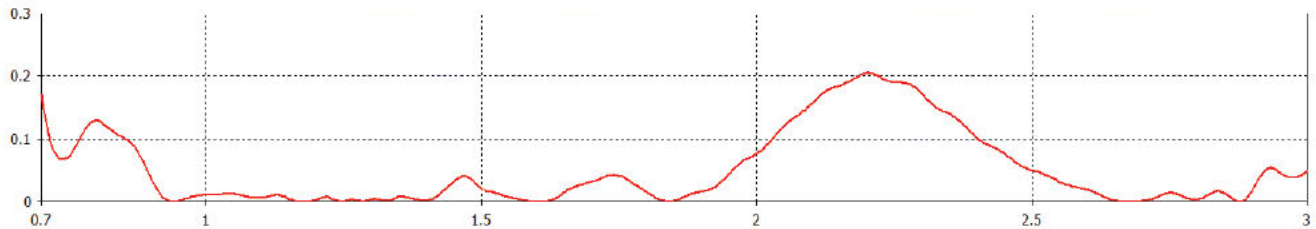
Typical Total Efficiency - Cellular Elements 2&3*



* 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. Copyright © Panorama Antennas Ltd. All rights reserved.