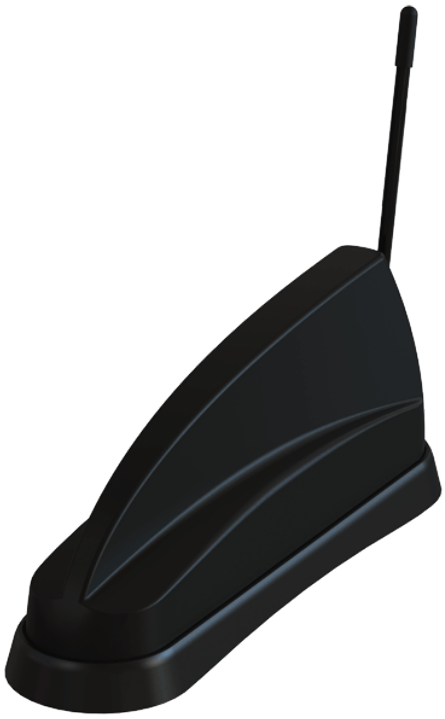
4G/5G Sharkfin MiMo Antenna

GPSD-6-60[-VAR]

PANORAMA ANTENNAS



- OEM style sharkfin with 2x2 MiMo for 4G/5G
- GPS/GNSS and optional up to 4x MiMo WiFi
- Support for external whip

The GPSD 'Sharkee' range has become a byword for industry leading technology in a discrete OEM style shark fin housing. The GPSD-6-60 brings 5G capability to the GPSD family.

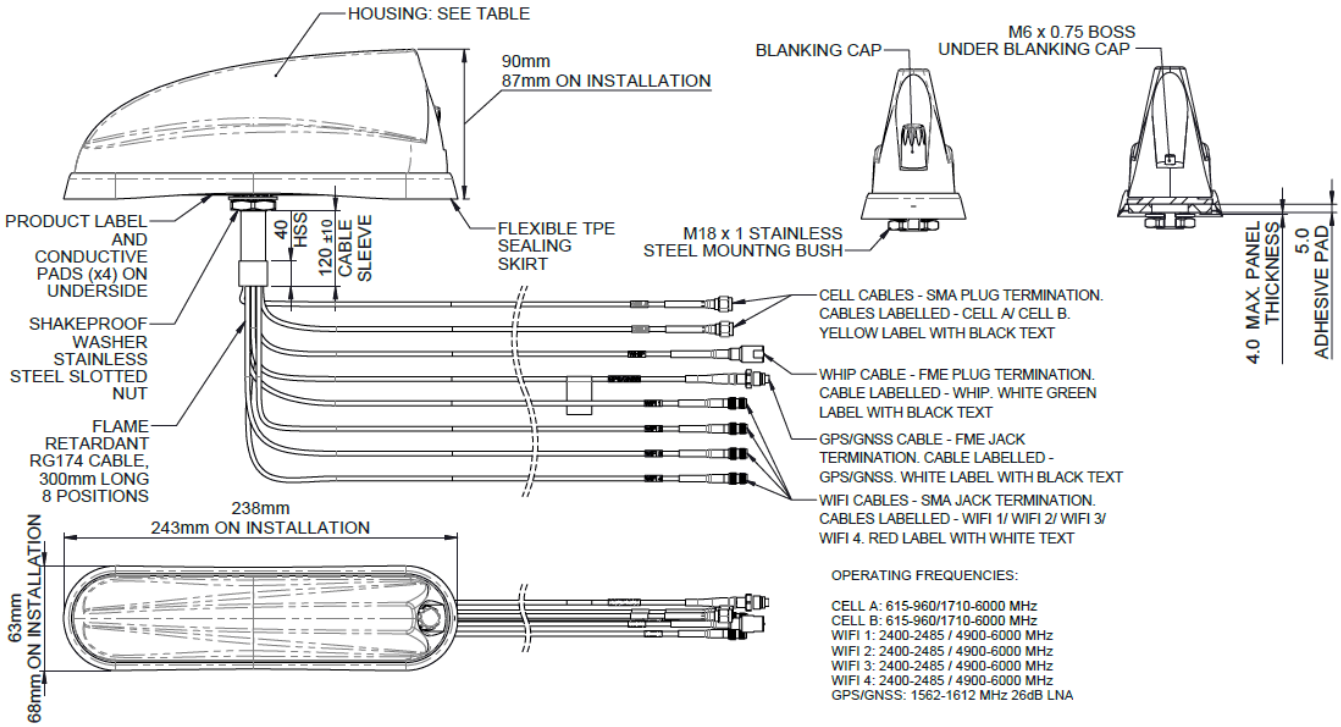
The antenna should be installed on a metal panel when a comms whip is used, but if whip is not required, then it may be fitted on a non-metallic panel and still offer similar performance.

The shark fin housing contains a 2x2 MiMo antenna function for 4G/5G (617-960/1710-6000MHz) and option of 2x2, 3x3 or 4x4 MiMo dual band WiFi, which supports WiFi 6. An active antenna for GPS/GLONASS/Galileo/ BeiDou is included, with 26dB gain LNA and advanced filtering for LTE Band 13/14 operation. 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 cap is supplied for when this is not required.

The GPSD shark fin 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-6-60-QW Shown



Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

4G/5G Sharkfin MiMo Antenna

GPSD-6-60[-VAR]

PANORAMA ANTENNAS

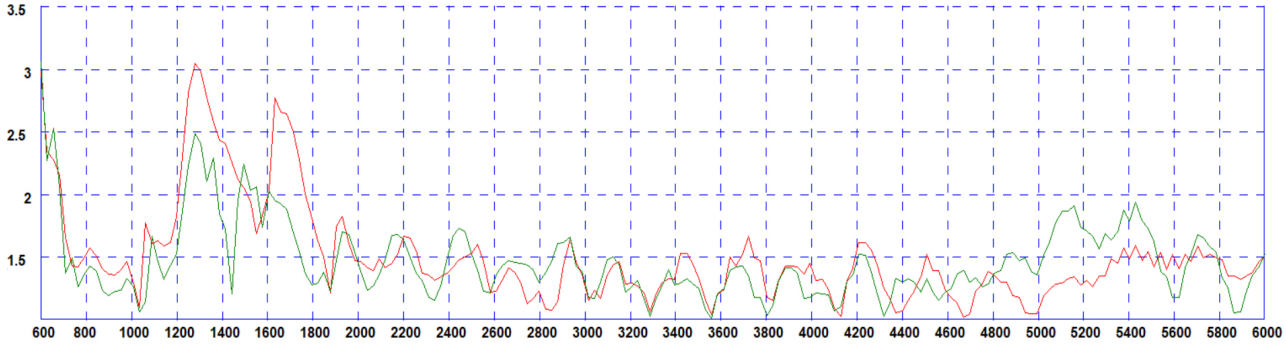
Product Data

Part No.					
		GPSD-6-60-QW	GPSD-6-60-TW	GPSD-6-60-DW	GPSD-6-60
Electrical Data					
Frequency Range (MHz)	Element 1	1562-1612			
	Elements 2 & 3	2x 617-960, 1710-6000			
	Elements 4, 5 6 & 7	4 x 2.4/5.0/7.1GHz	3 x 2.4/5.0/7.1GHz	2 x 2.4/5.0/7.1GHz	-
	Whip	Dependent on selected whip			
Peak gain: Isotropic*	Elements 2 & 3	5dBi (617-960MHz) 8dBi (1710-3800MHz) 9dBi (4900-6000MHz)			
	Elements 4, 5, 6 & 7	5dBi (2396-2485MHz) 11dBi (4900-7200MHz)	5dBi (2396-2485MHz) 11dBi (4900-7200MHz)	5dBi (2396-2485MHz) 11dBi (4900-7200MHz)	- -
Isolation**	4G/5G	>12dB			
	WiFi	> 15dB	> 15dB	> 15dB	-
Typical Efficiency* W/o Cable Loss	Elements 2 & 3	> 40% (617-698Mz) >60% (698-960/1710-6000MHz)			
Correlation Co-efficient	Elements 2 & 3	<0.2			
Polarisation		Vertical			
Pattern		Omni-directional			
Impedance		50Ω			
Max Input Power (W)		Internal elements 10W / main whip 60W			
GPS/GNSS Data					
Frequency Range (MHz)		1562-1612			
VSWR		<2:1 ± 4MHz			
Gain: LNA		26dB			
Polarisation		Right Hand Circular			
Out of Band Rejection		>40dB (+/- 100MHz f) | Notch Filter @787MHz - 23dB			
Operating Voltage		3-5V DC (fed via coax)			
Current		Typical <20mA			
Mechanical Data					
Dimensions (mm) - Installed	Total Height (excl whip)	90 (3.54")			
	Length	243 (9.56")			
	Width	63 (2.48")			
Operating Temp (°C)		-40° / +80°C (-40° / 176°F)			
Material		ASA,Silicone Rubber, Aluminium Alloy			
Colour		Black			
Weight (g)					
Ingress Protection		IP66			
Mounting Info					
Fixing		Panel Mount			
Hole Size (mm)		19 (3/4")			
Cable Data					
Cable Type - All Feeds		FR RG174 (UN ECE R 118 Compliant)			
Dimensions (mm)	Diameter	2.8 (0.11")			
	Length	300 mm (12")			
Termination	Whip	FME (m)			
	GPS/GNSS	FME (f)			
	4G/5G	2 x SMA plug			
	WiFi	4x SMA (f)	3x SMA (f)	2x SMA (f)	-

Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

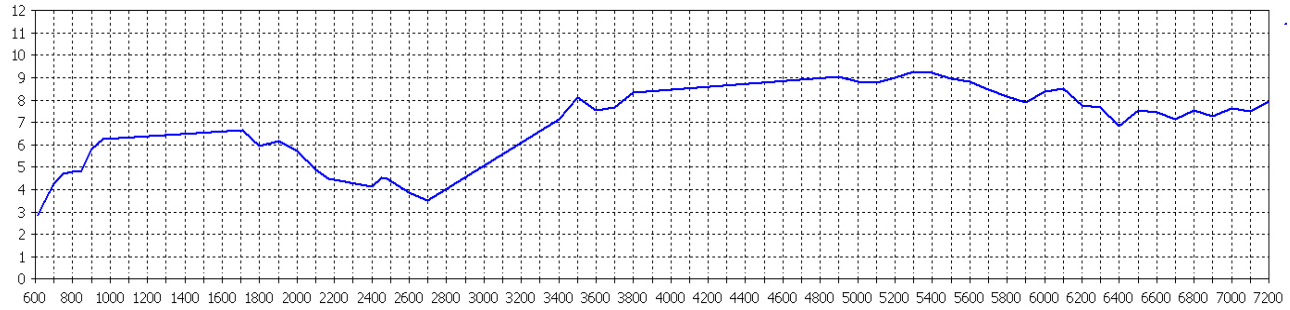
Electrical Data on Ground Plane - Cell

Typical VSWR*



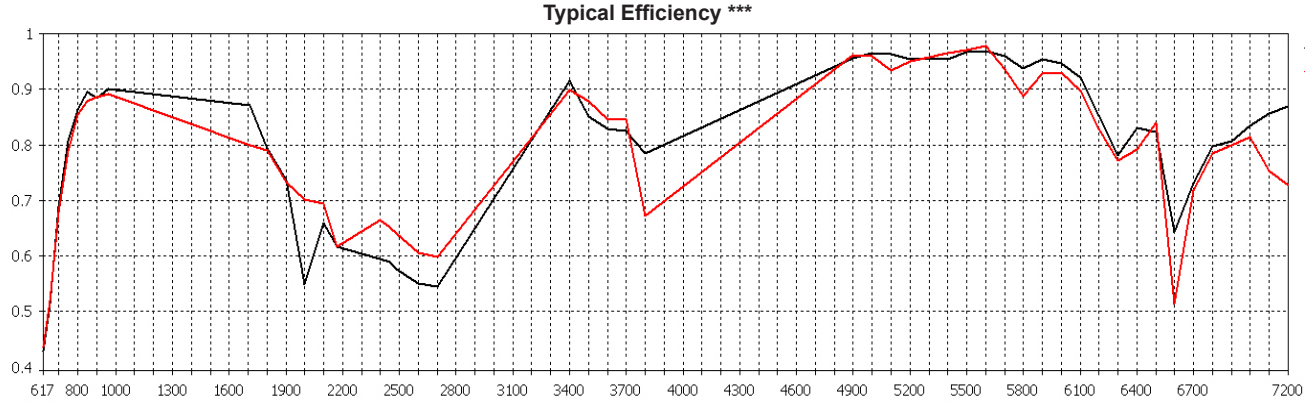
*VSWR elements 1&2 measured on 600x600mm (2'x2') ground plane without additional cable

Typical Swept Peak Gain **



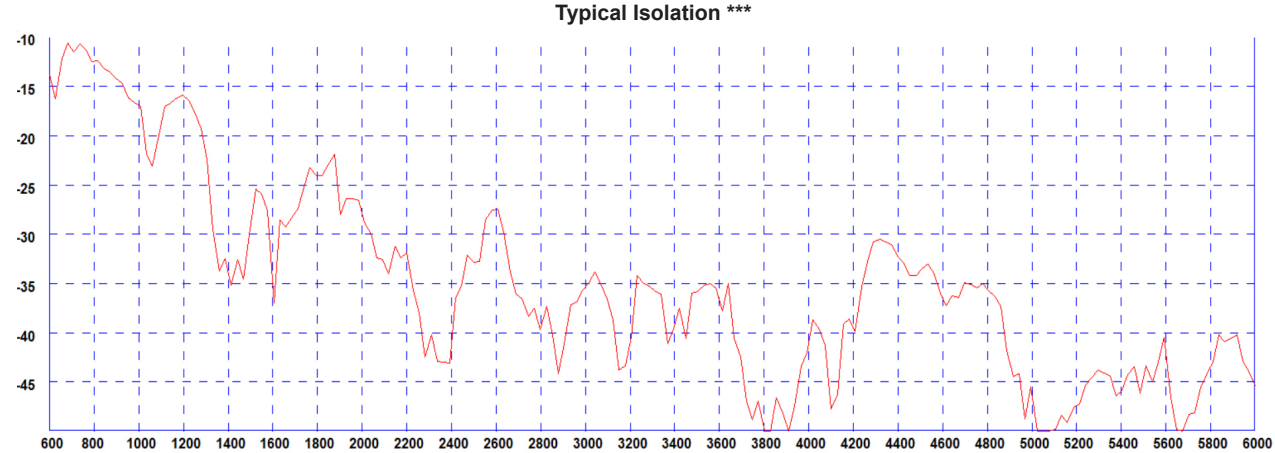
**Swept peak gain simulated in CST Microwave Studio with all elements fed together without cable loss on 600x600mm (2'x2') ground plane

Typical Efficiency ***



***Efficiency simulated in CST Microwave Studio with all elements fed together without cable loss on 600x600mm (2'x2') ground plane

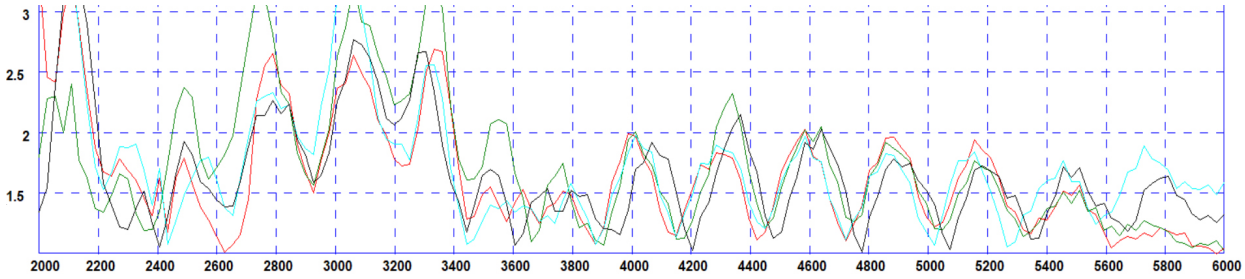
Typical Isolation ***



***Typical isolation measured on a 600x600mm (2'x2') ground plane without cable loss

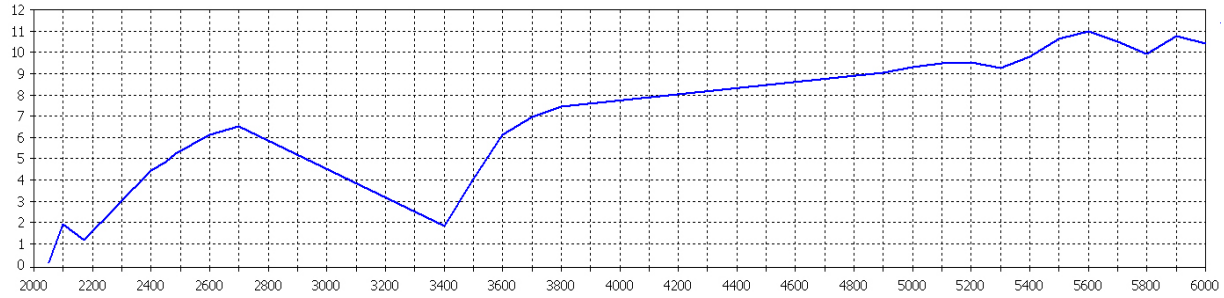
Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

Typical VSWR*



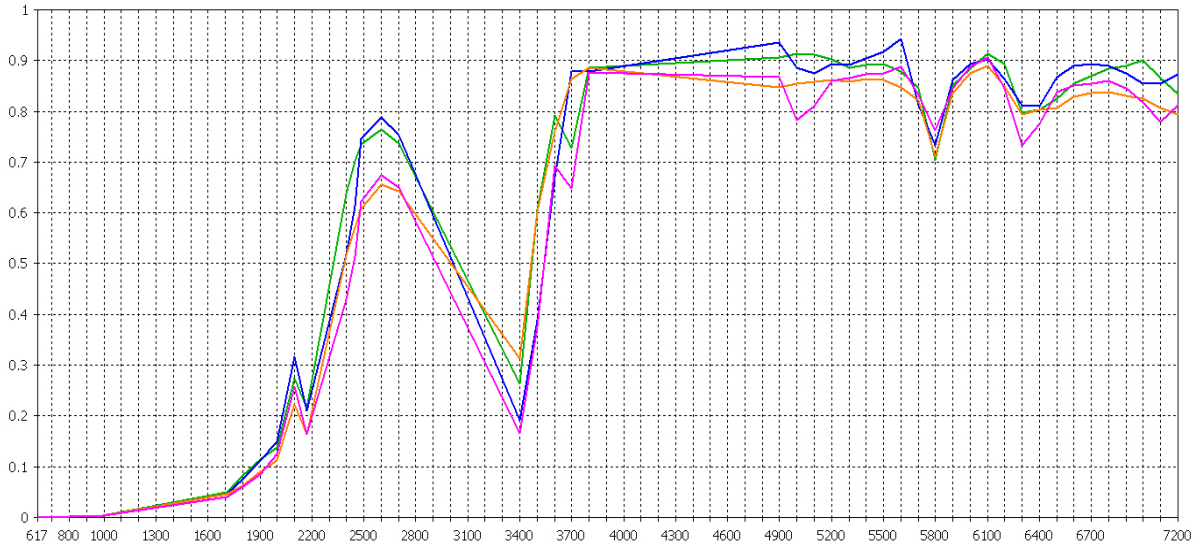
*VSWR elements 1-4 measured on a 600x600 (2'x2') ground plane without additional cable

Typical Swept Peak Gain **



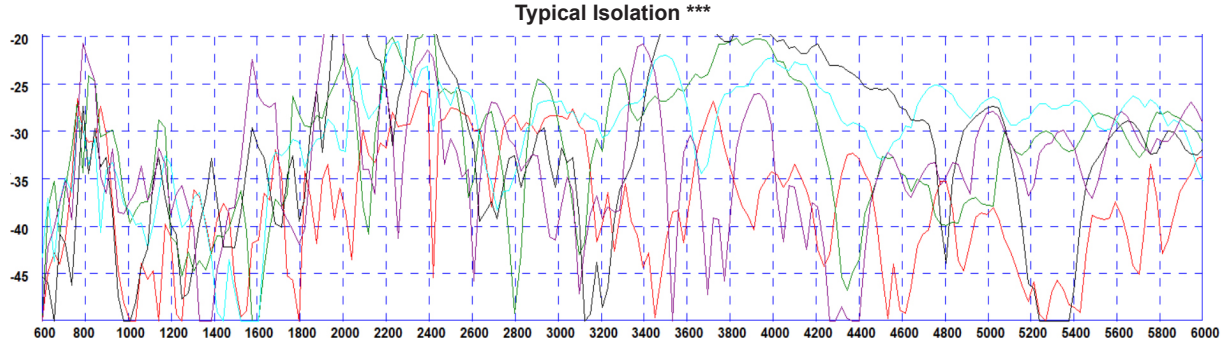
**Swept peak gain simulated in CST Microwave Studio with all elements fed together without cable loss on 600x600mm (2'x2') ground plane

Typical Efficiency ***



***Efficiency simulated in CST Microwave Studio with all elements fed together without cable loss on 600x600mm (2'x2') ground plane

Typical Isolation ***

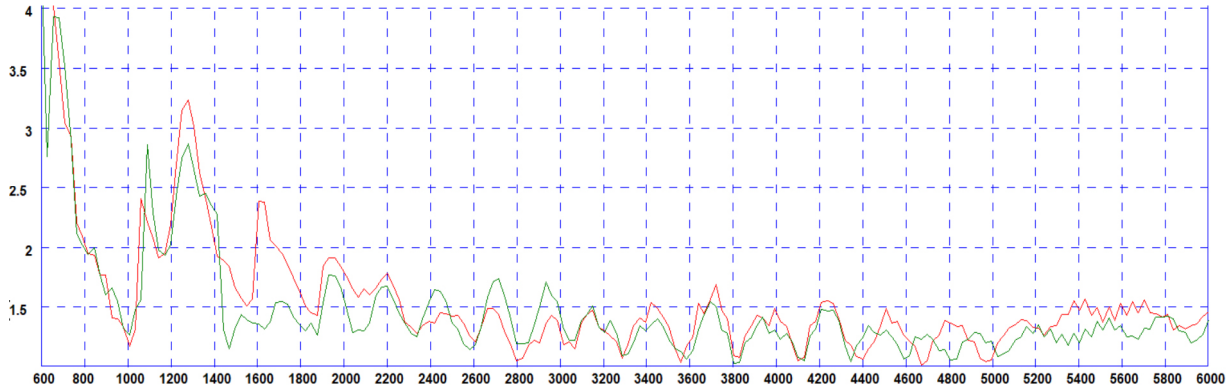


***Typical isolation measured on a 600x600mm (2'x2') ground plane without cable loss

Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

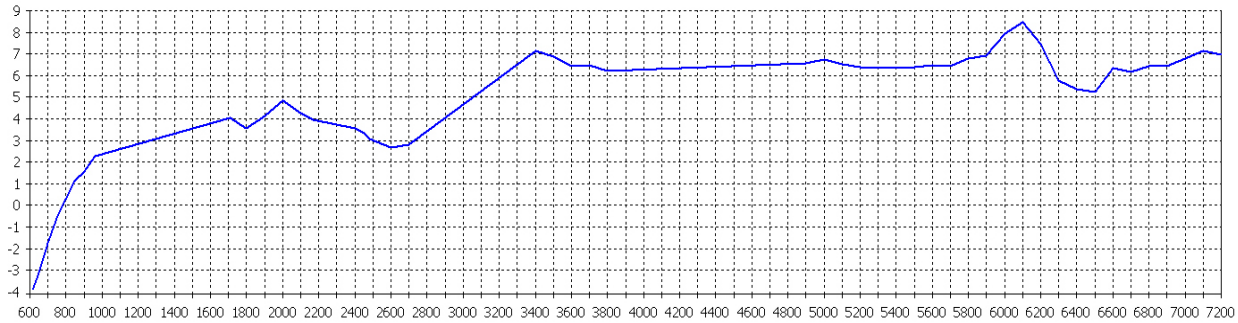
Electrical Data in Free Space - Cell

Typical VSWR*



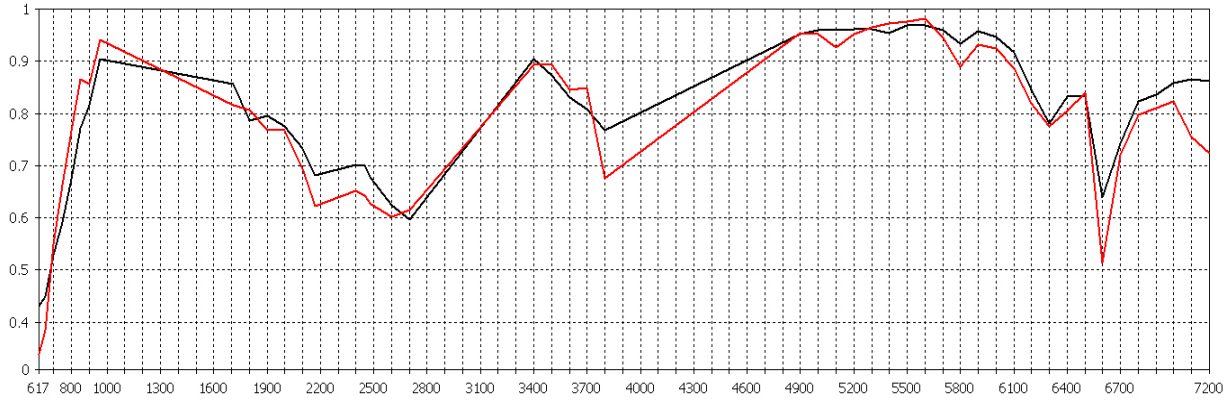
*VSWR elements 1&2 measured in free space without addtional cable

Typical Swept Peak Gain **



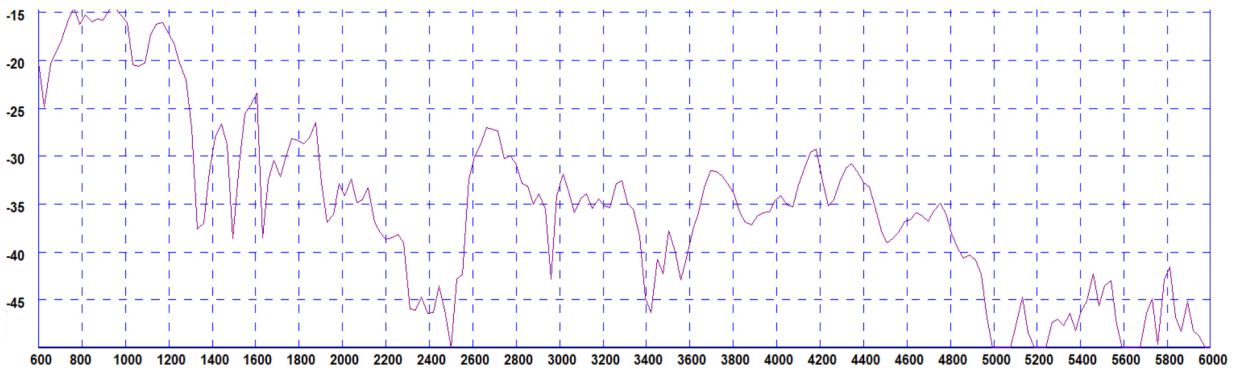
**Swept peak gain simulated in CST Microwave Studio with all elements fed together without cable loss in free space

Typical Efficiency ***



***Efficiency simulated in CST Microwave Studio with all elements fed together without cable loss in free space

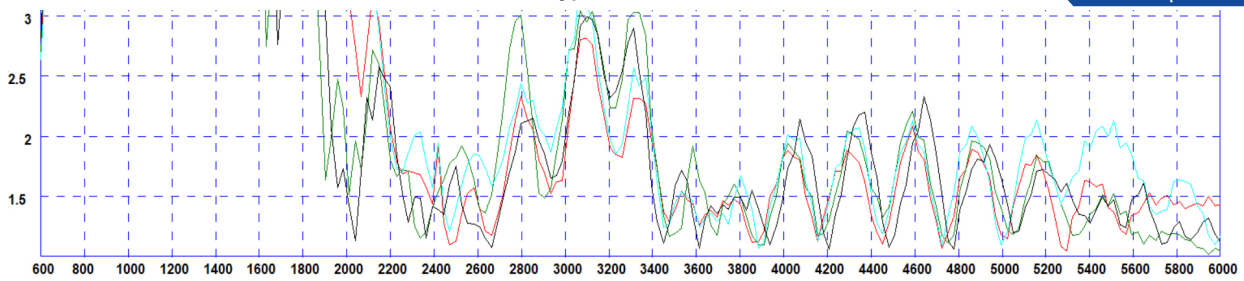
Typical Isolation ***



***Typical isolation measured in free space without additional cable

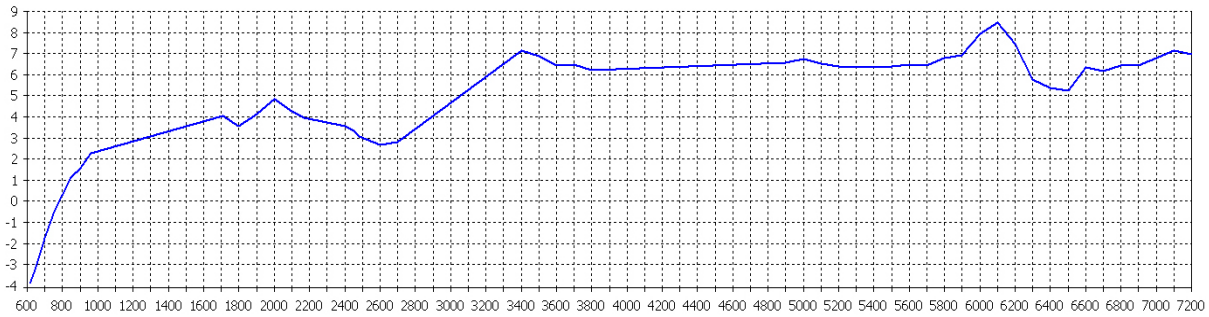
Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

Typical VSWR*



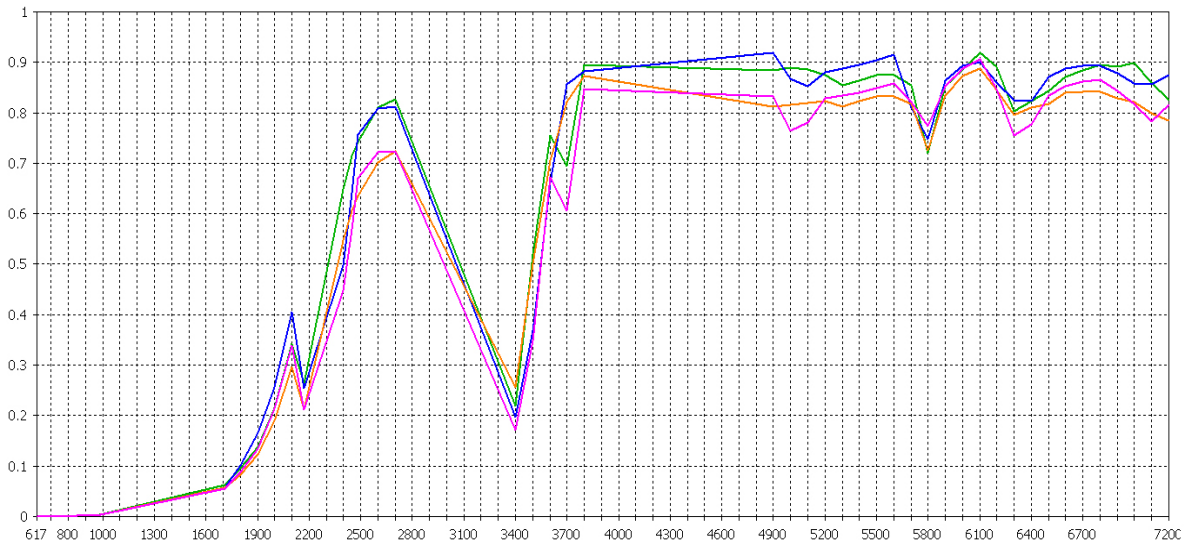
*VSWR elements 1-4 measured in free space without addtional cable

Typical Swept Peak Gain **



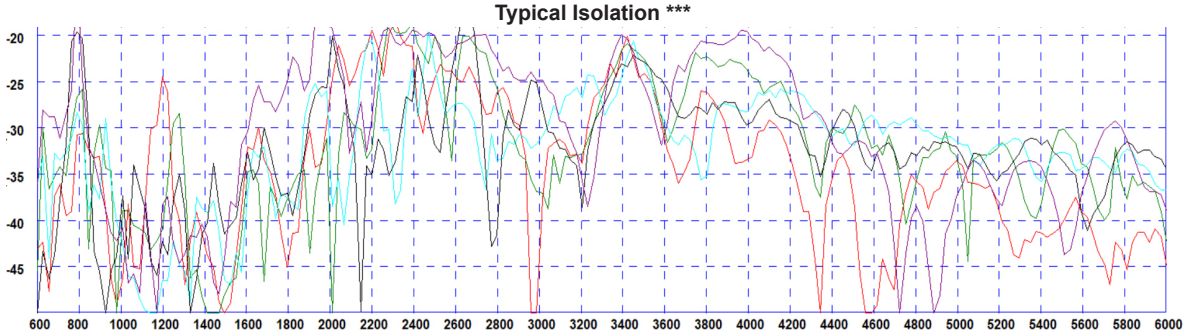
**Swept peak gain simulated in CST Microwave Studio with all elements fed together without cable loss in free space

Typical Efficiency ***



***Efficiency simulated in CST Microwave Studio with all elements fed together without cable loss in free space

Typical Isolation ***

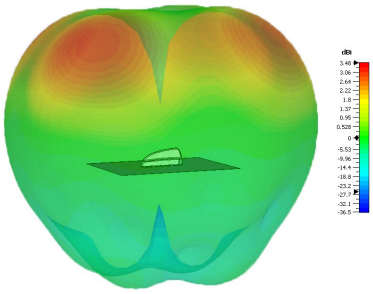


***Typical isolation simulated in CST Microwave Studio without cable loss

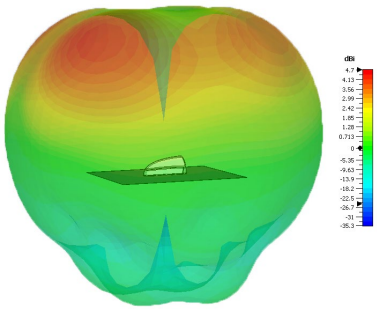
Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

3D Patterns on Ground Plane -Cell

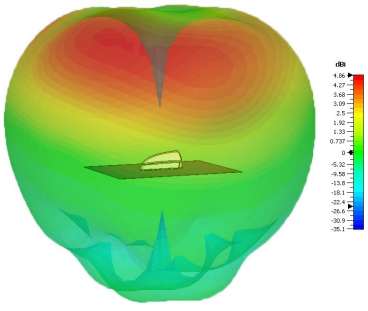
3D Pattern All Elements (650MHz)



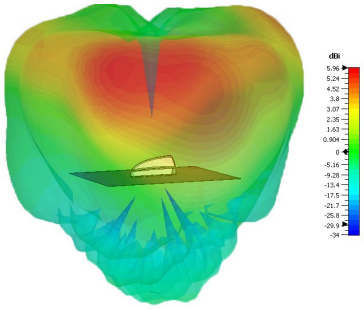
3D Pattern All Elements (750MHz)



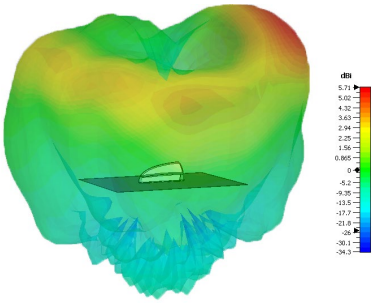
3D Pattern All Elements (850MHz)



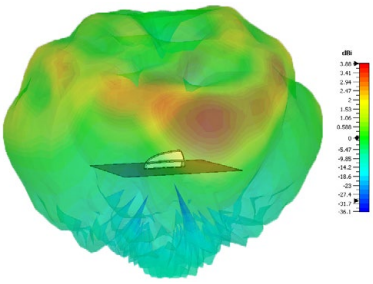
3D Pattern All Elements (1800MHz)



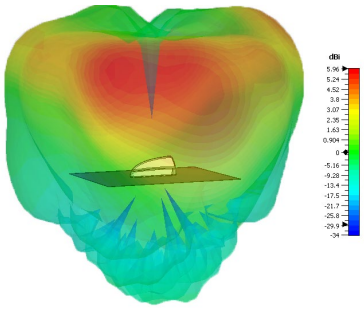
3D Pattern All Elements (2000MHz)



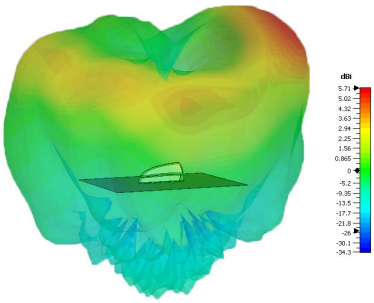
3D Pattern All Elements (2600MHz)



3D Pattern All Elements (3600MHz)

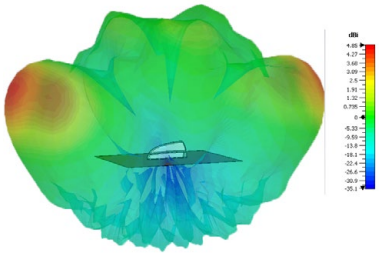


3D Pattern All Elements (5400MHz)

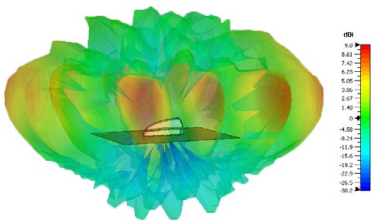


3D Patterns on Ground Plane -WIFI

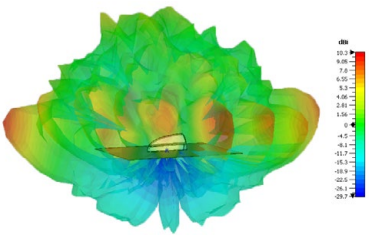
3D Pattern All WiFi Elements (2450MHz)



3D Pattern All WiFi Elements (5400MHz)



3D Pattern All WiFi Elements (7100MHz)



3D patterns all simulated in CST Microwave Studio with all elements of same type fed together excluding cable loss

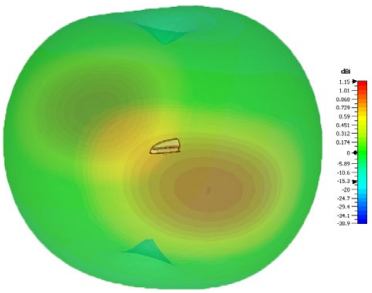
Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com

Electrical Data -in Free Space - Cell

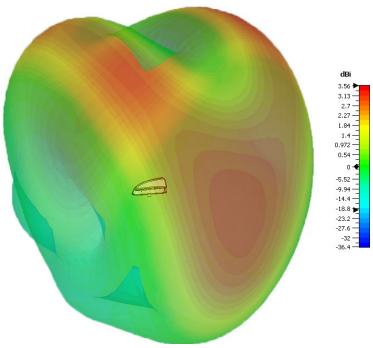
3D Pattern All Elements (650MHz)

3D Pattern All Elements (750MHz)

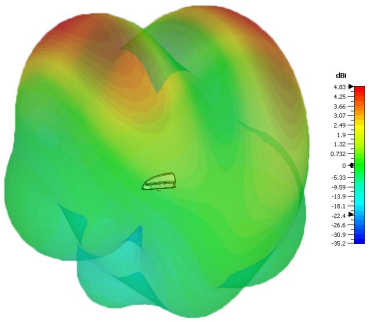
3D Pattern All Elements (850MHz)



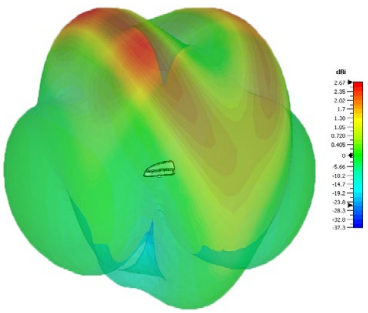
3D Pattern All Elements (1800MHz)



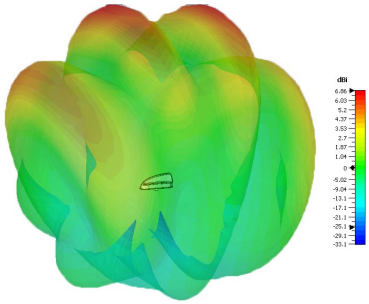
3D Pattern All Elements (2000MHz)



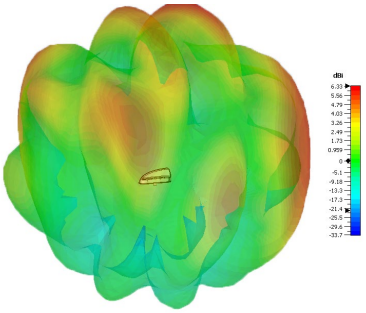
3D Pattern All Elements (2600MHz)



3D Pattern All Elements (3600MHz)

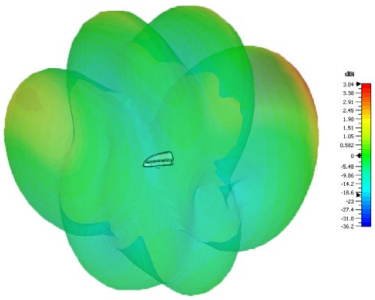


3D Pattern All Elements (5400MHz)

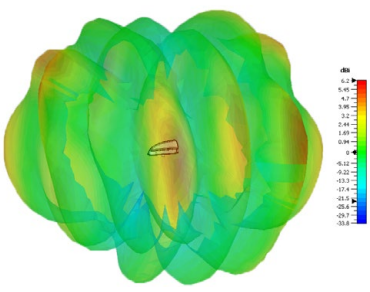


Electrical Data -in Free Space - WiFi

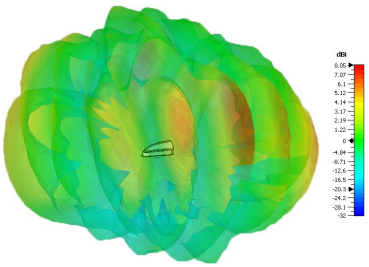
3D Pattern All WiFi Elements (2450MHz)



3D Pattern All WiFi Elements (5400MHz)



3D Pattern All WiFi Elements (7100MHz)



3D patterns all simulated in CST Microwave Studio with all elements of same type fed together excluding cable loss

Panorama Antennas Ltd
Frogmore, London, SW18 1HF, United Kingdom
T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477
E: sales@panorama-antennas.com
W: www.panorama-antennas.com