

Internal MiMo Multi-Function Antenna

BAT[G]M-7-60[-24-58]

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Internal MiMo 4G/5G Antenna with optional GPS/GNSS & WiFi

- Mount on/under dashboard or other non-metallic surface
- 2x2 MiMo 4G/5G function
- Optional SiSo or 2x2 MiMo WiFi 6e 2.4/5.0-7.2GHz
- Optional GPS/GNSS 26dB gain LNA
- Suitable for M2 & M3 Category Vehicles

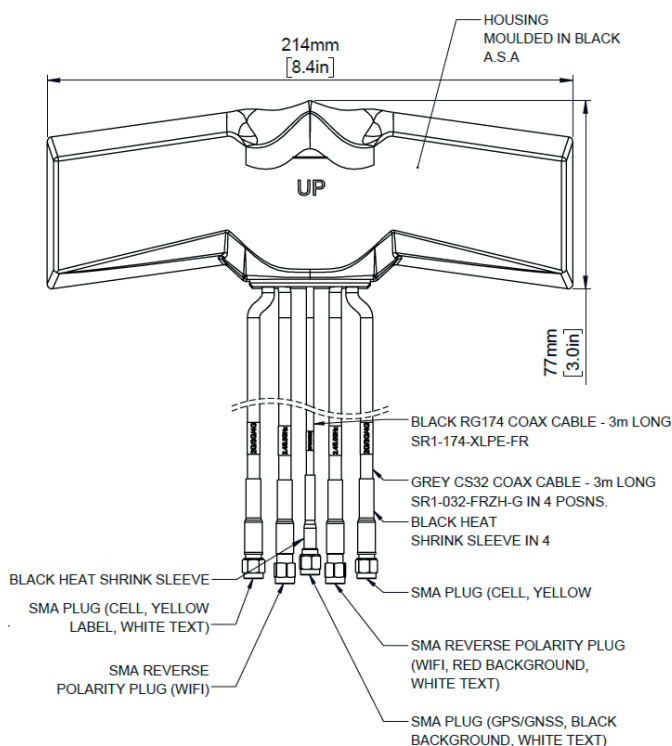
The Panorama BAT is range of internal discrete/covert 'all in one' antennas with 2x2 MiMo 4G / 5G (including Band 71), with option of GPS/GNSS, and dual band SiSo or 2x2 MiMo WiFi 2.4/5.0-7.2GHz, including WiFi 6e.

The 4G/5G antennas cover 617-960/1427-6000MHz and provide isolation and low correlation coefficient values for effective MiMo function. The optional GPS/GNSS antenna features a 26dB gain LNA with advance filtering.

The antenna is designed to be mounted on or under a vehicle dashboard but can be mounted on any non-conductive surface. The BAT range is supplied with low loss cables which are flame retardant and meet the requirements of UN ECE 118 and EN45545-2.

Technical Drawing

BATGM-7-60-24-58 Shown



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Product Data

Part No.					
		BATGM-7-60-24-58	BATGM-7-60-S24-58	BATGM-7-60	BATM-7-60
Electrical Data					
Frequency Range (MHz)	Elements 1&2	617-960/1427-6000			
	Element 3	1562-1612MHz			
	Elements 4 (& 5)	2.4/5.0-7.2GHz			
Peak Gain†	Elements 1&2	2dBi (617-960MHz) / 3dBi (1710-2170MHz) / 6dBi (2500-3800MHz) / 7dBi (4.9-60GHz)			
	Element 4 (& 5)	4dBi (2.4GHz) / 6dBi (5.0GHz) / 4dBi (6.0-7.2GHz)			
Typical VSWR*	Elements 1&2	<2:1			
	Element 4 (&5)	<2.5:1			
Typical Efficiency**	Elements 1&2	>60%			
	Element 4 (&5)	>55% (2.4GHz) >70% (5.0GHz)			
Typical Isolation*	Elements 1&2	<10dB			
	Elements 4&5	<17dB			
Pattern		Omnidirectional			
Impedance		50 Ohms			
Max input power (W)		20			
GPS/GNSS Data					
Frequency Range (MHz)		1559-1612MHz			
LNA Peak Gain		26dB			
Typical Out of Band Rejection		>40dB (+/- 100MHz f)			
Notch filter Rejection @787MHz		23dBm			
Power Requirement		3-5VDC <20ma			
Mechanical Data					
Dimensions (mm)	Length	214 (8.4")			
	Width	77 (3")			
	Height	16.5 (0.65")			
Operating Temp (°C)		-30° / +70°C (-30° / 158°F)			
Material		ASA			
Colour		Black			
Mounting Data					
Fixing		Adhesive pad			
Cable Data	Elements 1&2 (Cell)	Element 3(GPS)	Elements 4&5 (WiFi) [if present]		
Cable Type	CS32 (UN ECE 118 & EN45545-2)	FR RG174 (UN ECE 118 & EN45545-2)	CS32 (UN ECE 118 & EN45545-2)		
Diameter (mm)	5 (0.2")	2.8 (0.1")	5 (0.2")		
Length (m)	3 (10')	3 (10')	3 (10')		
Termination					
BATGM-7-60-24-58	2x SMA Plug (m)	SMA Plug (m)	2x Rev Pol SMA Plug		
BATGM-7-60-S24-58	2x SMA Plug (m)	SMA Plug (m)	1x Rev Pol SMA Plug		
BATGM-7-60	2x SMA Plug (m)	SMA Plug (m)	-		
BATM-7-60	2x SMA Plug (m)	-	-		

† Peak gain derived from CST Microwave Studio for each element fed individually and excludes cable loss.

*Typical Isolation and VSWR measured with 3m(10') of CS32 cable on 3mm plastic sheet.

**Efficiency simulated in CST Microwave Studio and excludes cable loss

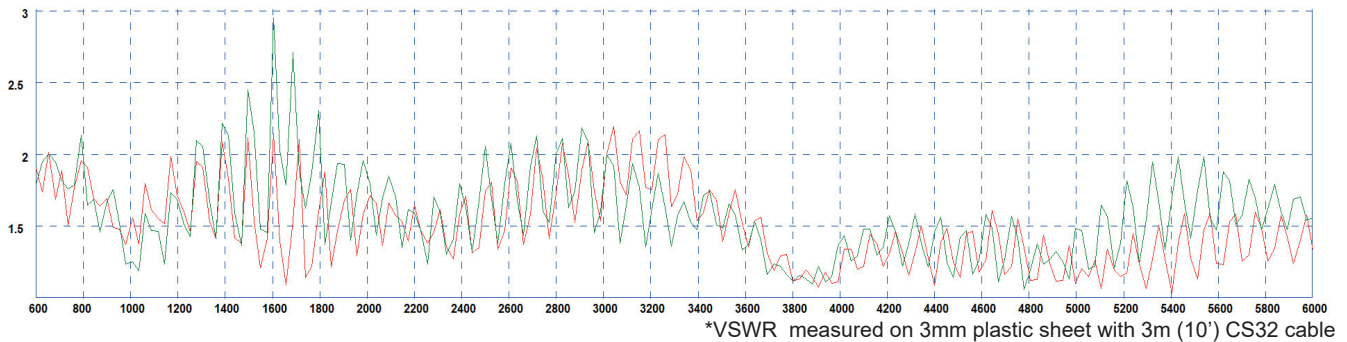
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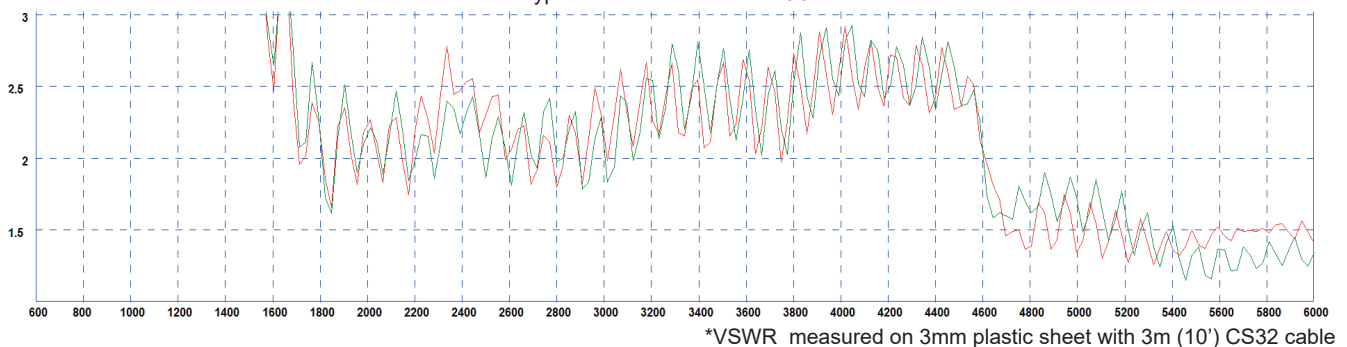
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Electrical Data

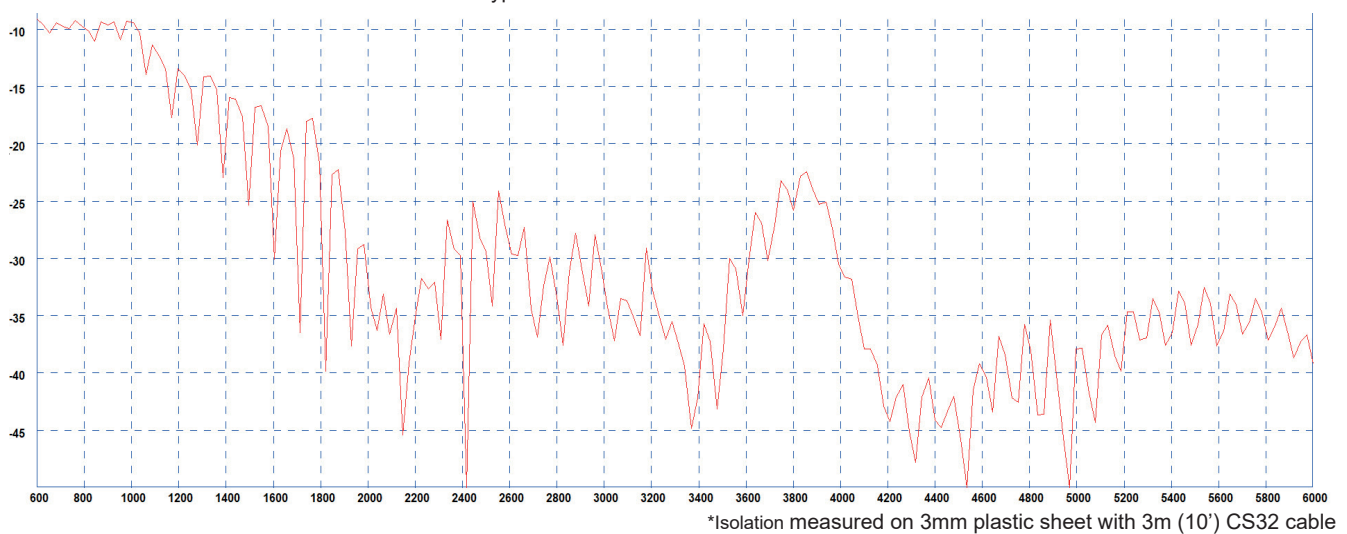
Typical VSWR - Elements 1&2*



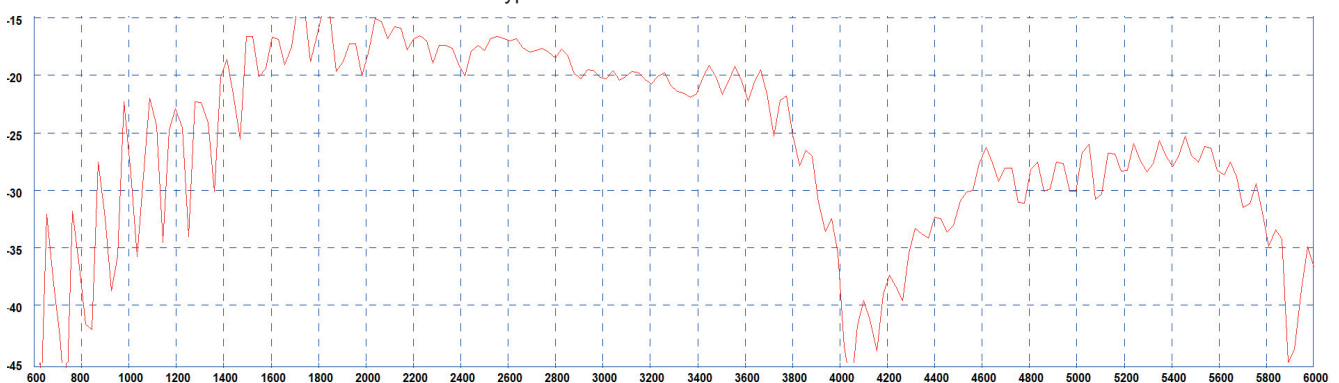
Typical VSWR - Elements 4&5*



Typical Isolation - 4G/5G Elements 1-2 *

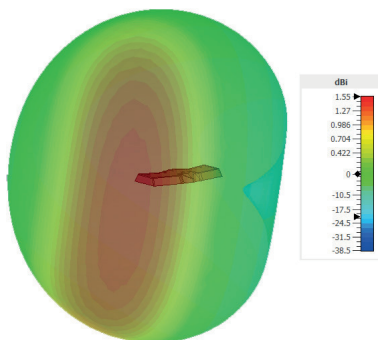


Typical Isolation - WiFi Elements 4-5*

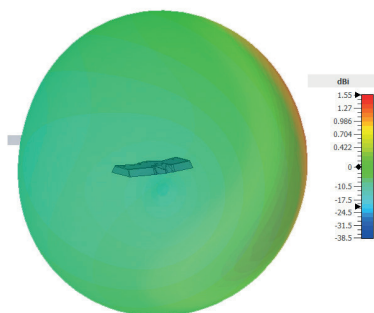


3D Patterns Cell

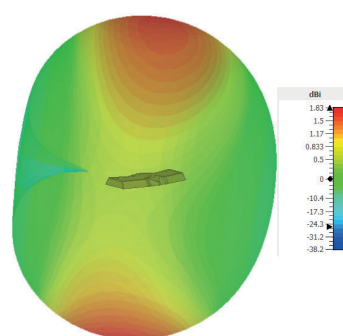
3D Pattern Element 1 (650MHz)



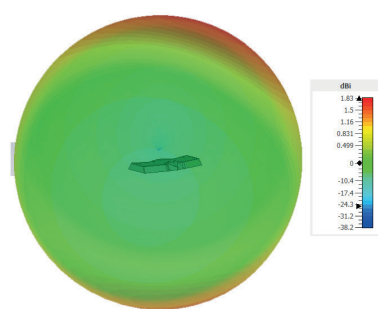
3D Pattern Element 2 (650MHz)



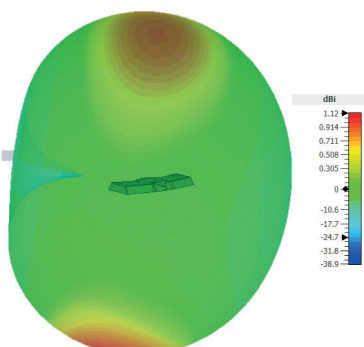
3D Pattern Element 1 (750MHz)



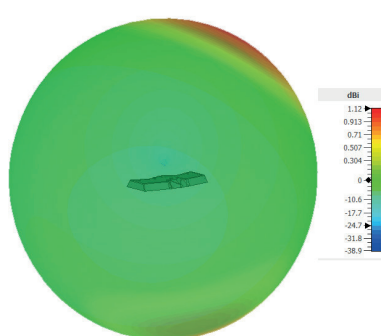
3D Pattern Element 2 (750MHz)



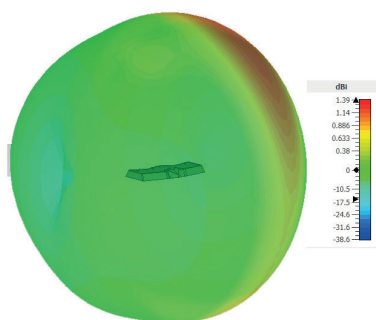
3D Pattern Element 1 (850MHz)



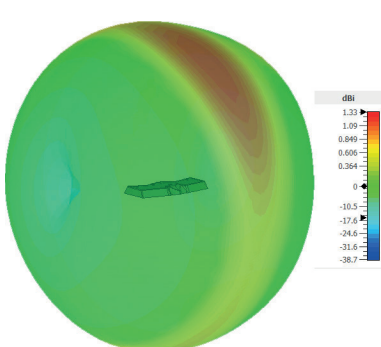
3D Pattern Element 2 (850MHz)



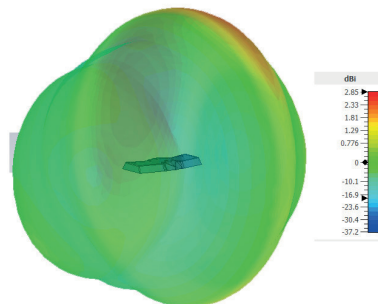
3D Pattern Element 1 (1800MHz)



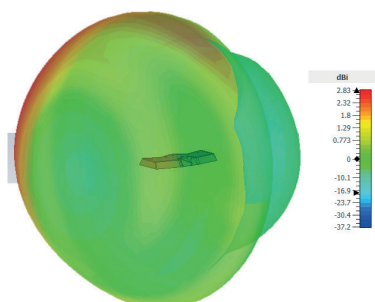
3D Pattern Element 2 (1800MHz)



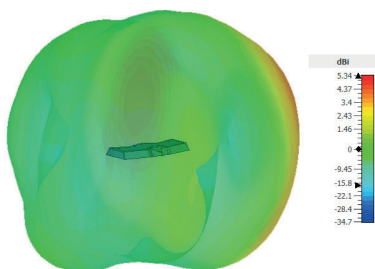
3D Pattern Element 1 (2600MHz)



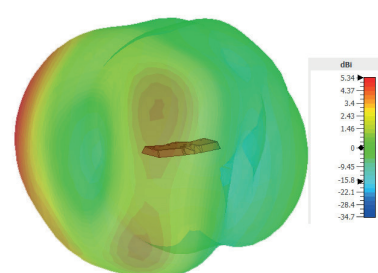
3D Pattern Element 2 (2600MHz)



3D Pattern Element 1 (3500MHz)



3D Pattern Element 2 (3500MHz)



3D patterns derived from CST Microwave Studio in free space for each element fed individually and excludes cable loss.

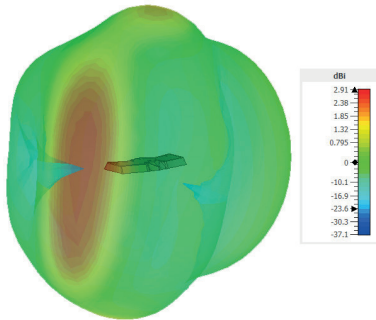
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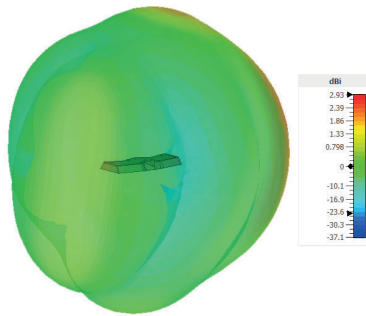
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3D Patterns WiFi

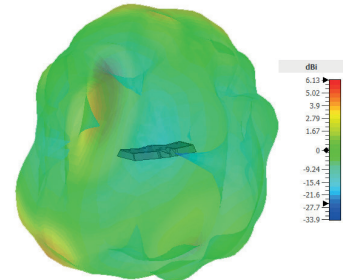
3D Pattern Element 1 (2450MHz)



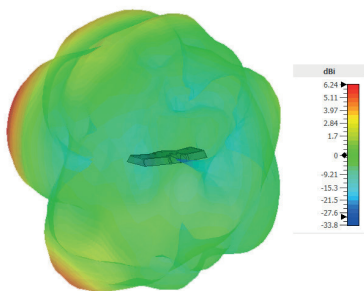
3D Pattern Element 2 (2450MHz)



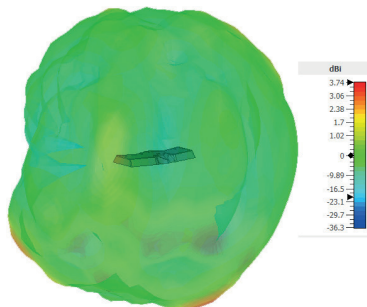
3D Pattern Element 1 (5400MHz)



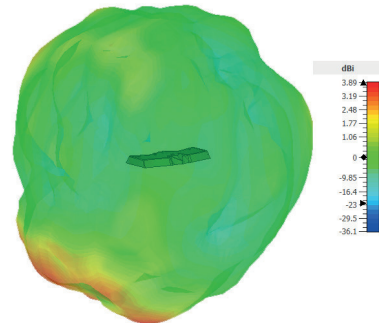
3D Pattern Element 2 (5400MHz)



3D Pattern Element 1 (7100MHz)



3D Pattern Element 2 (7100MHz)



3D patterns derived from CST Microwave Studio in free space for each element fed individually and excludes cable loss.