MiMo 4G/5G Omni Antenna

BS[G]M-6-60

- 2x2 MiMo 4G/5G antenna solution
- Wall, rail or mast mount
- Optional GPS/GNSS - 26dB LNA
- Integrated coaxial cables

The BS[G]M-6-60 antenna is a MiMo omni-directional broad band antenna range for 4G/5G devices. It covers 617-960/1427-6000MHz and is suitable for external or internal installation.

The mounting bracket enables simple walll mounting using the supplied screws and wall plugs and mast/rail mounting using the supplied clamps.

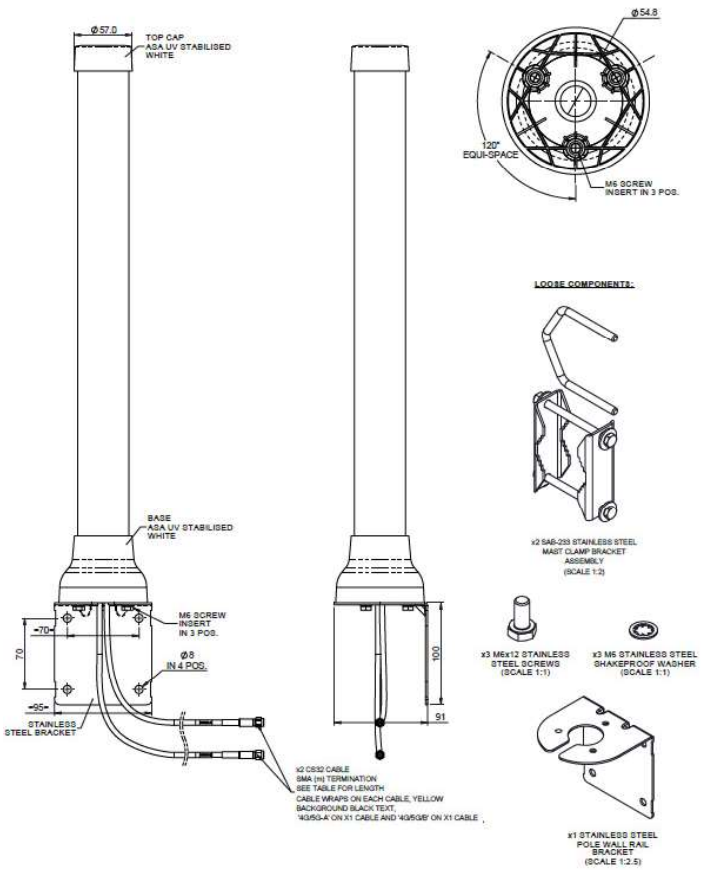
The omni-directional radiation pattern allows easy placement of the antenna in an elevated position, without requiring directional alignment.

The BSGM type is supplied with an integrated GPS/GNSS module with 26dB LNA gain and advanced filtering to combat noise.

This antenna is an ideal solution for IoT use in industrial and domestic environments for cellular modems/routers and Machine to Machine (M2M) wireless connectivity applications. The weather and corrosion resistant design also makes the antenna suitable for certain marine and costal applications.

Technical Drawing

BSM-6-60-5SP Shown



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PANORAMA ANTENNAS

Product Data

Part No.					
		BSGM-6-60-5SP	BSGM-6-60-05NJ	BSM-6-60-5SP	BSM-6-60-05NJ
Electrical Data					
Frequency Range (MHz)	Elements 1&2	617-960 / 1427-6000			
	Element 3	1559-1612		-	
Operational Band	Elements 1&2	2G/3G/4G/5G			
	Element 3	GPS-GNSS		-	
Peak Realised Gain: Isotropic* Elements 1 & 2	617-960MHz	3dBi			
	1427-2700 MHz	6dBi			
	3400-4200MHz	5dBi			
	4.9-6000Mhz	5dBi			
Typical VSWR**		<2.5:1			
Nominal Radiated Efficiency*		> 60%			
Correlation Co-efficient		< 0.1			
Polarisation		Vertical			
Pattern		Omni-directional			
Impedance		50Ω			
Max Input Power (W)		10			
GPS/GNSS Data					
Frequency Range (MHz)		1559-1612		-	
Typical VSWR		<2.5:1		-	
LNA Gain		26dB (+/-3)		-	
Polarisation		RHCP		-	
Operating Voltage		3-5 VDC <20ma		-	
Mechanical Data					
Dimensions (mm)	Height Excl Brkt	540 (21.25”)			
	Diameter	86 (3.38”)			
Operating Temp (°C)		-40° / +85°C (-40° / 185°F)			
Material		ASA, Stainless Steel			
Material Approvals		Radome ASA Material - UL 746C F2, UL 94-HB			
Colour		White & Natural			
Ingress Protection		IP67			
Mounting Data					
Fixing		Wall,Mast or Rail Mount			
Mounting Screw Diameter (mm)		4 (0.16”)			
Max Mast / Rail Diameter (mm)		50 (1.96”)			
Cable Data					
4G/5G Cables	Type	CS32 (EN45545-2 & UN ECE R118 Compliant)			
	Diameter (mm)	5 (0.19”)			
	Length (m)	5 (17’)	0.5 (1’ 6”)	5 (17’)	0.5 (1’ 6”)
	Termination	SMA (m)	N(f)	SMA (m)	N(f)
GPS/GNSS Cables	Type	CS29 FR (EN45545-2 & UN ECE R118 Compliant)		-	
	Diameter (mm)	5 (0.19”)		-	
	Length (m)	5 (17’)	0.5 (1’ 6”)	-	
	Termination	SMA (m)	N(f)	-	

* Peak gain and efficiency simulated in CST microwave studio in free space excluding cable loss ** Typical VSWR measured with 0.5m of cable in free space.

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Part No.					
		BSGM-6-60-5FKJ	BSGM-6-60-5NP	BSM-6-60-5FKJ	BSM-6-60-5NP
Electrical Data					
Frequency Range (MHz)	Elements 1&2	617-960 / 1427-6000			
	Element 3	1559-1612		-	
Operational Band	Elements 1&2	2G/3G/4G/5G			
	Element 3	GPS-GNSS		-	
Peak Realised Gain: Isotropic* Elements 1 & 2	617-960MHz	3dBi			
	1427-2700 MHz	6dBi			
	3400-4200MHz	5dBi			
	4.9-6000Mhz	5dBi			
Typical VSWR**		<2.5:1			
Nominal Radiated Efficiency*		> 60%			
Correlation Co-efficient		<0.1			
Polarisation		Vertical			
Pattern		Omni-directional			
Impedance		50Ω			
Max Input Power (W)		10			
GPS/GNSS Data					
Frequency Range (MHz)		1559-1612		-	
Typical VSWR		<2.5:1		-	
LNA Gain		26dB (+/-3)		-	
Polarisation		RHCP		-	
Operating Voltage		3-5 VDC <20ma		-	
Mechanical Data					
Dimensions (mm)	Height Excl Brkt	540 (21.25”)			
	Diameter	86 (3.38”)			
Operating Temp (°C)		-40° / +85°C (-40° / 185°F)			
Material		ASA, Stainless Steel			
Material Approvals		Radome ASA Material - UL 746C F2, UL 94-HB			
Colour		White & Natural			
Ingress Protection		IP67			
Mounting Data					
Fixing		Wall,Mast or Rail Mount			
Mounting Screw Diameter (mm)		4 (0.16”)			
Max Mast / Rail Diameter (mm)		50 (1.96”)			
Cable Data					
4G/5G Cables	Type	CS32 (EN45545-2 & UN ECE R118 Compliant)			
	Diameter (mm)	5 (0.19”)			
	Length (m)	5 (17’)	5 (17’)	5 (17’)	5 (17’)
	Termination	Fakra D Jack	N(m)	Fakra D Jack	N(m)
GPS/GNSS Cables	Type	CS29 FR (EN45545-2 & UN ECE R118 Compliant)		-	
	Diameter (mm)	5 (0.19”)		-	
	Length (m)	5 (17’)	5 (17’)	-	
	Termination	Fakra C Jack	N(m)	-	

* Peak gain and efficiency simulated in CST microwave studio in free space excluding cable loss ** Typical VSWR measured with 0.5m of cable in free space.

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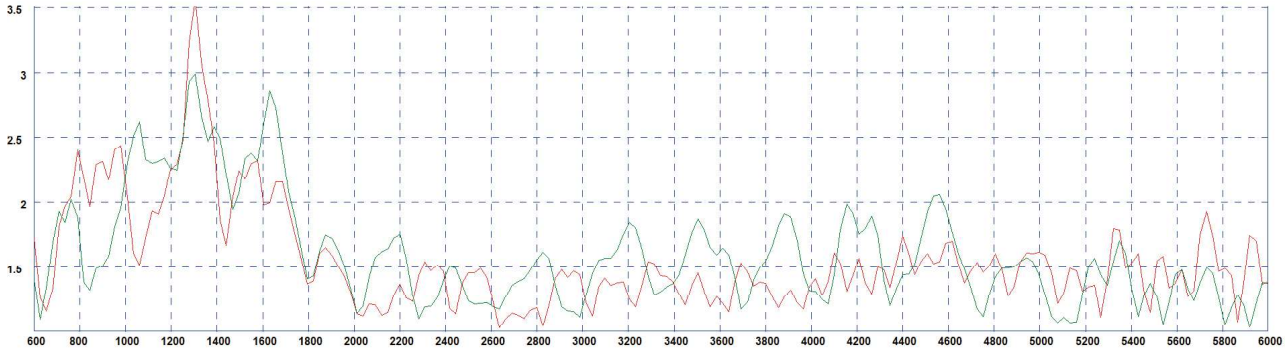
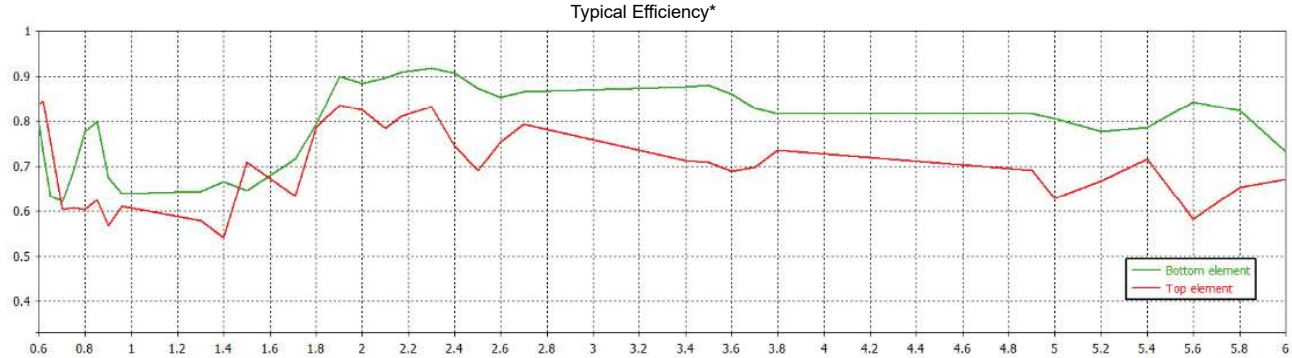
Electrical Data

Typical VSWR*



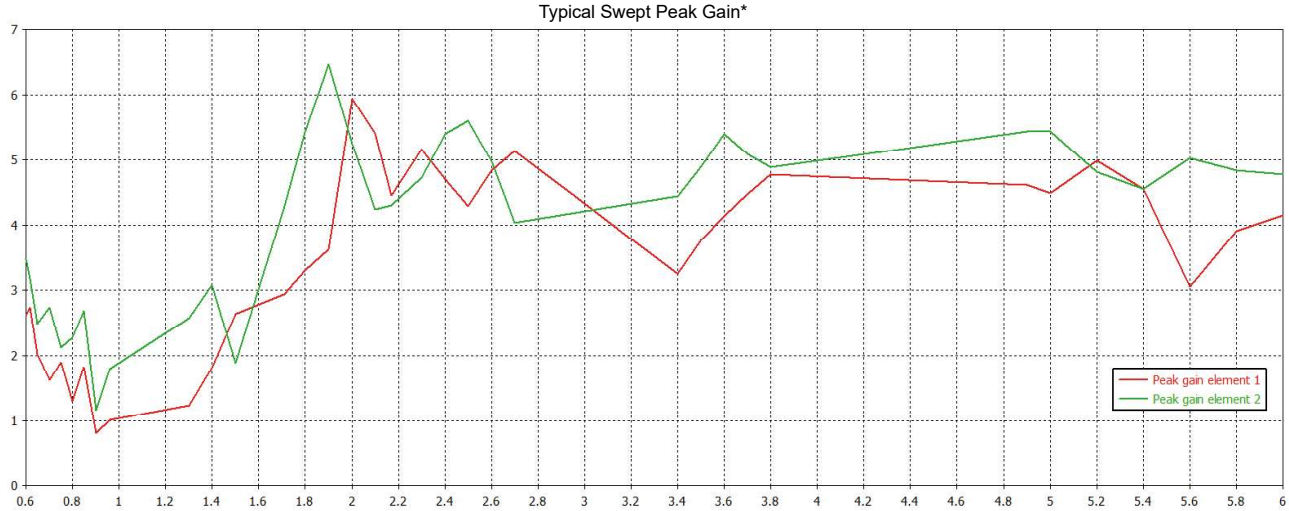
*Red Plot =VSWR top element measured on supplied bracket with 5m (16') of CS32 cable. Green Plot = VSWR bottom element measured on supplied bracket with 0.5m (1.5') of CS32 cable.

Typical Efficiency*



*Red Plot =Efficiency top element measured on supplied bracket without cable. Green Plot = Efficiency bottom element measured on supplied bracket without cable.

Typical Swept Peak Gain*



*Red Plot =Peak gain top element measured on supplied bracket without cable. Green Plot = Peak gain bottom element measured on supplied bracket without-cable.

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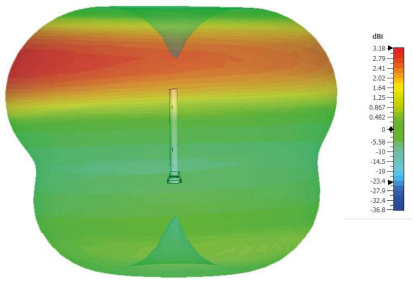
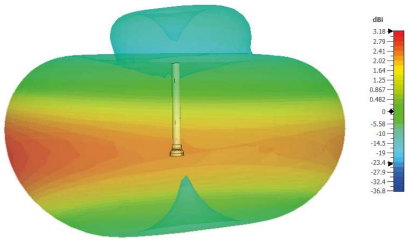
3D Patterns - 4G/5G

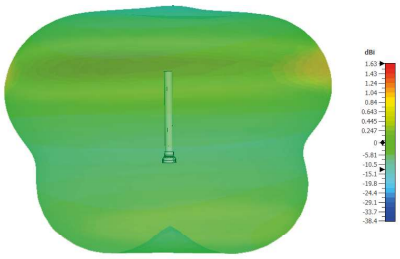
3D Plot Top Element (600 MHz)



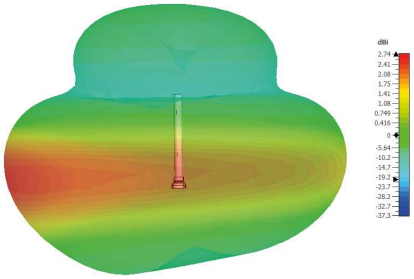
3D Plot Bottom Element (600MHz)



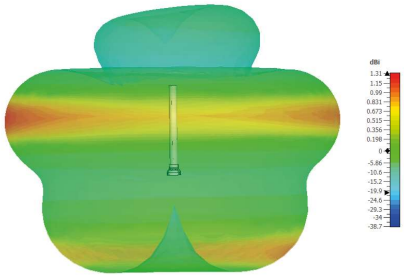
3D Plot Top Element (700MHz)



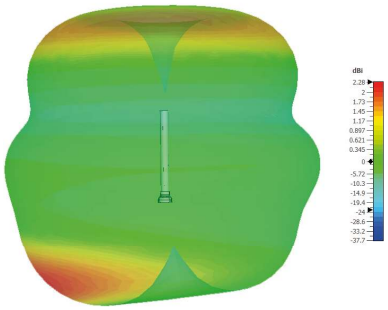
3D Plot Bottom Element (700MHz)



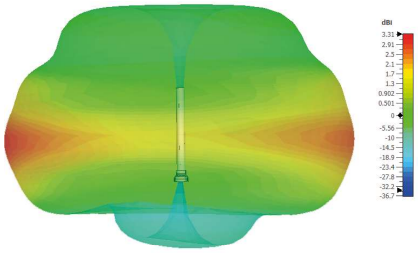
3D Plot Top Element (900MHz)



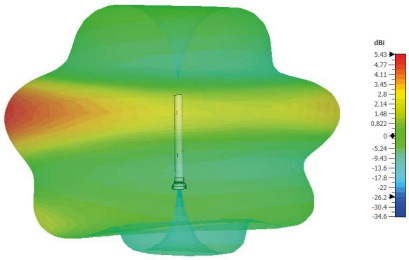
3D Plot Bottom Element (900MHz)



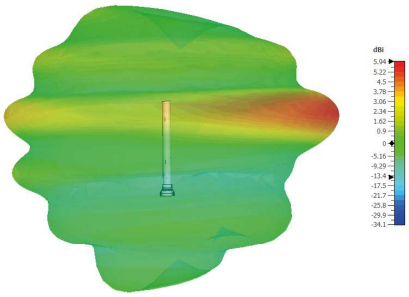
3D Plot Top Element (1800MHz)



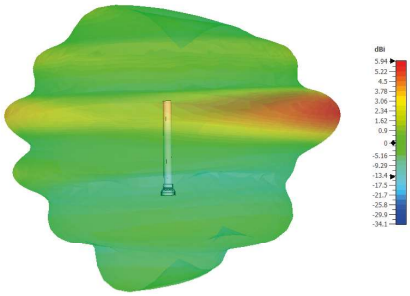
3D Plot Bottom Element (1800MHz)



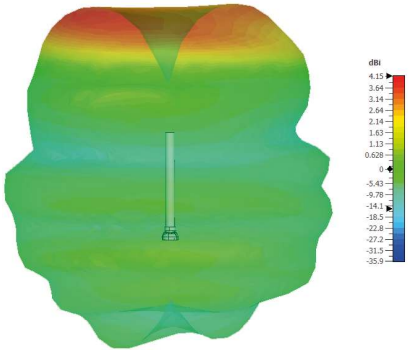
3D Plot Top Element (2000MHz)



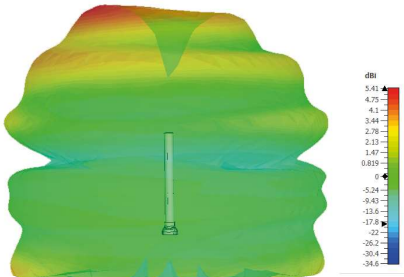
3D Plot Bottom Element (2000 MHz)



3D Plot Top Element (3600MHz)



3D Plot Bottom Element (3600MHz)



All measurements simulated in CST Microwave Studio without cable