4G/5G LTE MiMo Transit Antenna Range

TRNM[G]-7-60-NJ

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- Standard four hole rail fixing
- 2x2 MiMo 4G/5G LTE / WiFi 2.4/5.0
- Optional Integrated GPS / GNSS / Beidou antenna

The TRNM[G] MiMo antenna series is designed specifically for use on trains, trams and buses underground or overground. Incorporating two elements operating wideband across all frequencies from 698MHz to 6000MHz the TRNM[G] range is versatile and future proof.

The TRNM[G] series supports 2x2 MiMo across 4G/ 5G LTE frequencies from 698MHz to 6000MHz all in one housing. Alternatively the main elements can be used for 2.4/5.0 GHz WLAN.

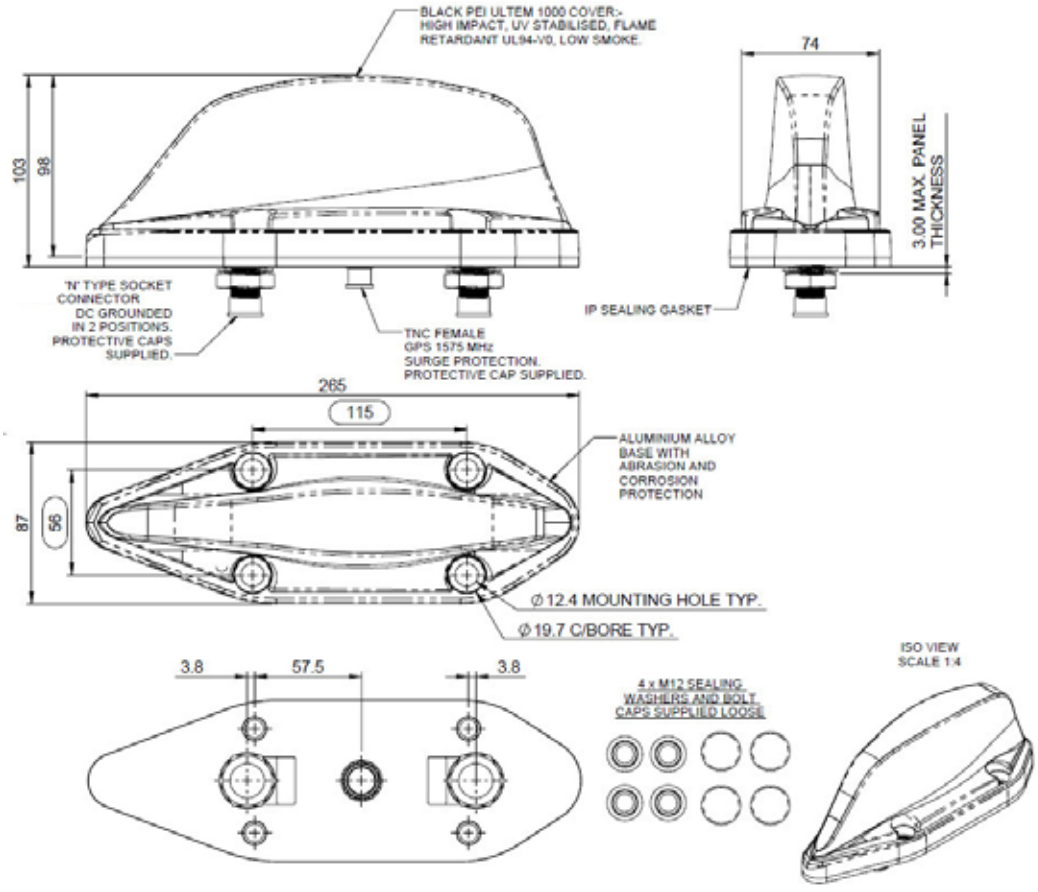
The TRNM[G] has two DC grounded radiating elements, in versions with a GPS module it is protected by a gas discharge surge arrestor.

Housed in a high impact, flame retardant Ultem housing, the TRNM[G] series is weatherproof ensuring that the antenna's performance is never compromised.

The TRNM[G] antenna meets stringent industry standards including EN50155, EN45545-2 (HL 1-3), EN50124-1 (25 KA / 100 MS) and is ingress protected to IP69k when properly installed.

Technical Drawing

TRNMG-7-60-NJ Shown



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PANORAMA ANTENNAS

Product Data

Part No.		TRNM-7-60-NJ	TRNMG-7-60-NJ
Electrical Data			
Frequency Range (MHz)		2x 698-960 / 1427-6000 MHz	
Peak Gain: Isotropic**	698-960MHz	6dBi	
	1427-4200MHz	7dBi	
	4900-6000MHz	10dBi	
Polarisation		Vertical	
Typical VSWR*		< 2.5:1	
Correlation Co-Efficient		<0.1	
Typical Isolation*		<15dB	
Typical Efficiency**		>75%	
Pattern		Omni-directional	
Impedance		50Ω	
Max Input Power (W)		60	
GPS Data			
Frequency Range (MHz)		-	1560-1612
Impedance		-	50Ω
LNA Gain		-	26dB ± 3
Polarisation		-	Rigth Hand Circular
Operating Voltage		-	3-5V DC
Current (Typical)		-	15mA
GPS Antenna EMC Compliance		-	EN 301 489-1 V1.81 & EN 301 489-3 V1.6.1 | EN 50121-3-2:2015
Mechanical Data			
Dimensions (mm)	Height (N/inc pad)	98 (3.86")	
	Width	87 (3.42")	
	Length	265 (10.4")	
Environmental Specification			
Operating Temp (°C)		-40° / +85°C (-40° / +185°F)	
Radome Material		Ultem 1000	
Radome Flame Retardance Rating		V0 (UL 94)	
Base Material		Cast Aluminium (corrosion protected & powder coated)	
Ingress Protection		IP67 (Report No. 98883) or IP69K when installed in accordance with SW3 - 988 (Report No. 103439)	
Approvals Data			
Regulatory Approvals		EN50155 (Dry heat, Cooling, Shock & Vibration), EN45545 - HL3 (flammability), EN50124-1 (Rated Insulation UNm 17.25/27.5 KV | Short Circuit Current 25 Ka 100ms)	
Mounting Data			
Fixing		4 × mounting holes to suit M12 bolts	
Termination Data			
Termination	Comms	2x N (female) - DC grounded	
	GPS	-	TNC (female) - surge protected

** Simulated on a 600 x 600mm (2' x 2') ground plane without cable.

* Measured on a 600 x 600mm (2' x 2') ground plane with 1m (3') of low loss cable

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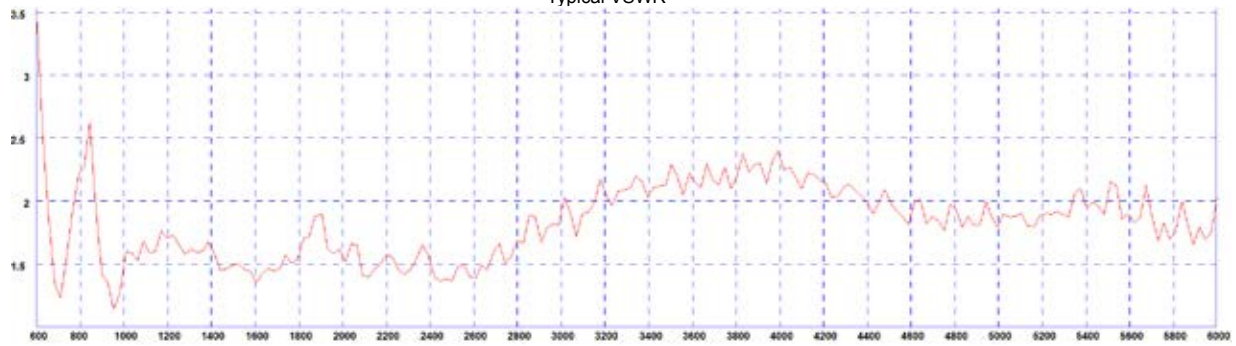
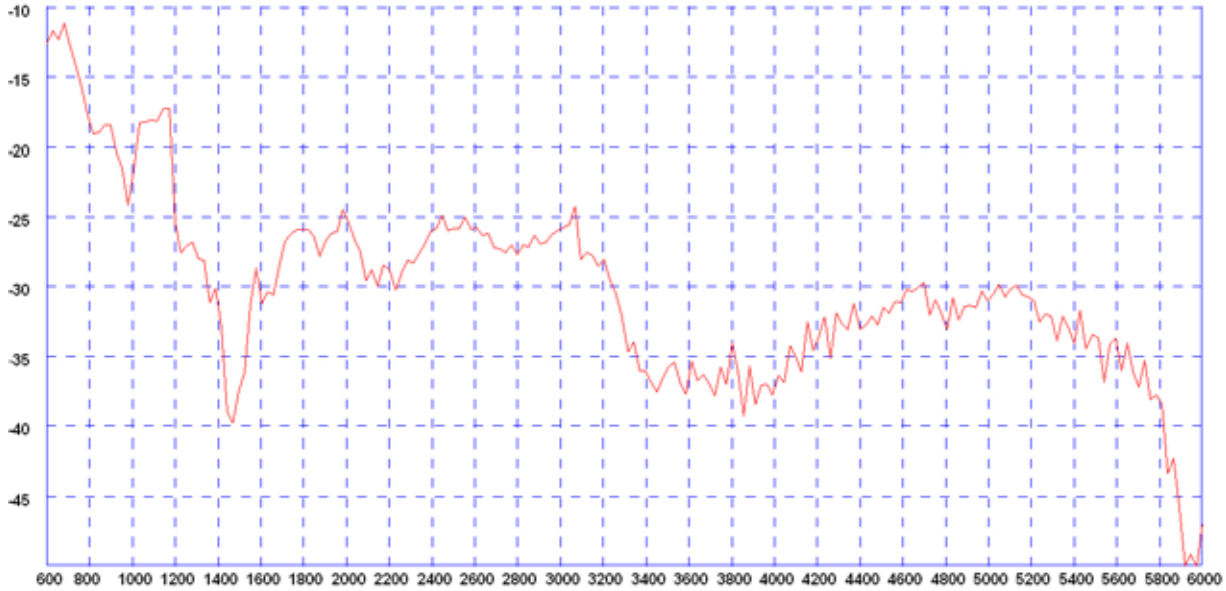
Electrical Data - Cell

Typical VSWR*



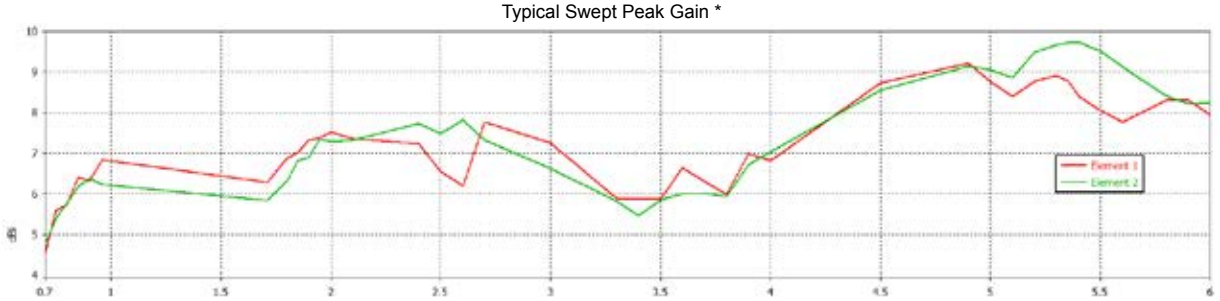
* Measured on a 600 x 600mm (2' x 2') ground plane with 1m (3')of low loss cable

Typical Isolation *



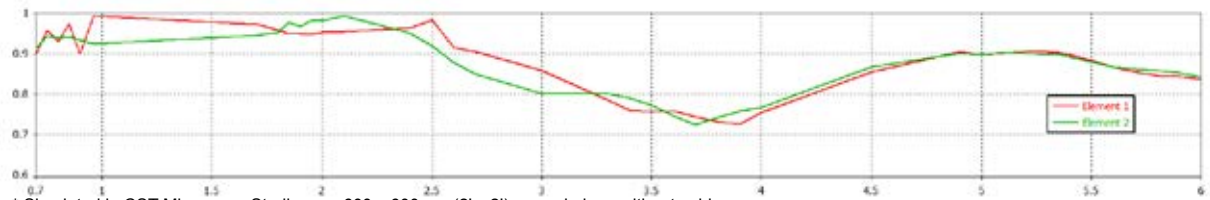
* Measured on a 600 x 600mm (2' x 2') ground plane with 1m (3')of low loss cable

Typical Swept Peak Gain *



* Simulated in CST Microwave Studio on a 600 x 600mm (2' x 2') ground plane without cable

Typical Efficiency*



* Simulated in CST Microwave Studio on a 600 x 600mm (2' x 2') ground plane without cable

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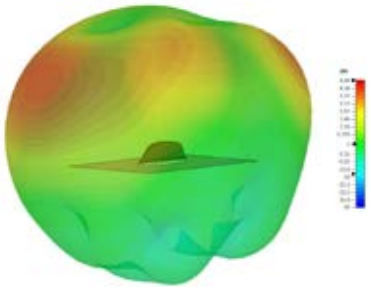
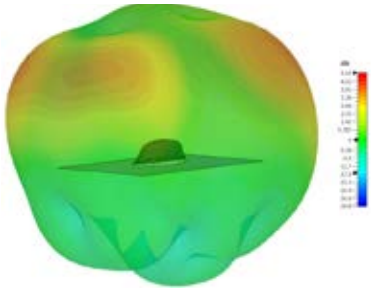
3D Patterns - Cell

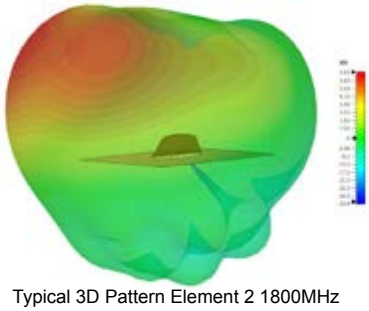
Typical 3D Pattern Element 1 700MHz



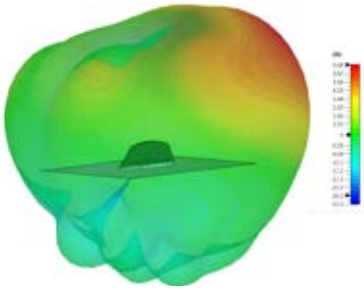
Typical 3D Pattern Element 2 700MHz



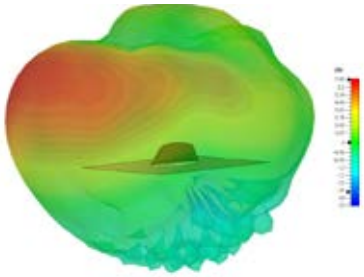
Typical 3D Pattern Element 1 900MHz



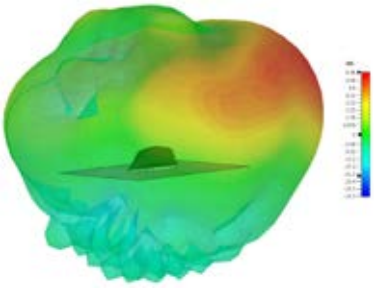
Typical 3D Pattern Element 2 900MHz



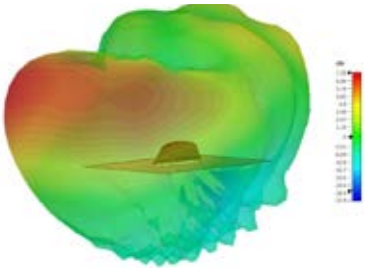
Typical 3D Pattern Element 1 1800MHz



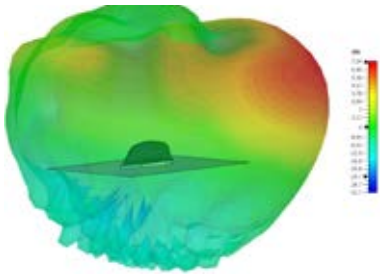
Typical 3D Pattern Element 2 1800MHz



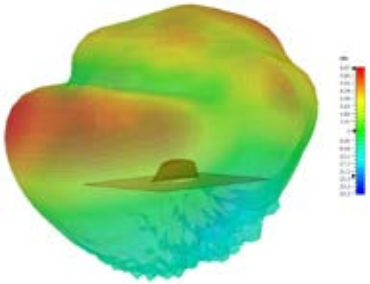
Typical 3D Pattern Element 1 2100MHz



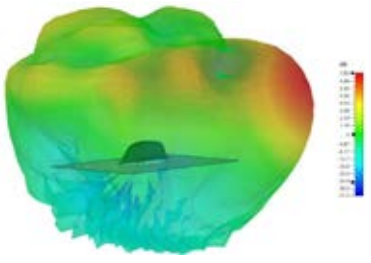
Typical 3D Pattern Element 2 2100MHz



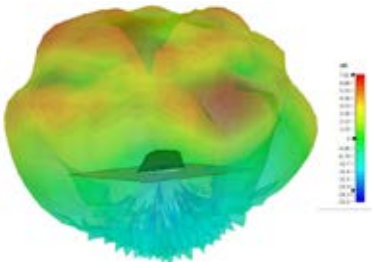
Typical 3D Pattern Element 1 2500MHz



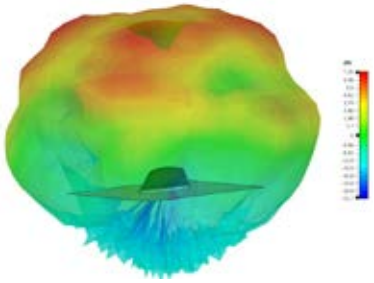
Typical 3D Pattern Element 2 2500MHz



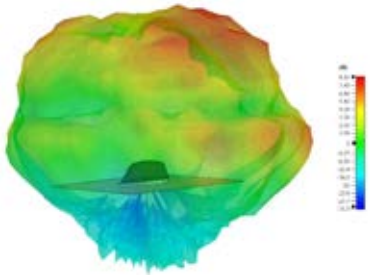
Typical 3D Pattern Element 1 3600MHz



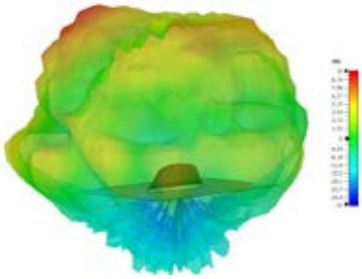
Typical 3D Pattern Element 2 3600MHz



Typical 3D Pattern Element 1 5500MHz

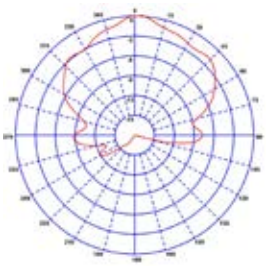


Typical 3D Pattern Element 2 5500MHz



Typical E Plane Pattern - GPS

Typical E-Plane Pattern - (GPS) 1575MHz



3D patterns simulated with each element fed on a 600 x 600 (2' x 2') ground plane without cable

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