

### DWMM8[X]-6-60-[X]

- 2x 4x4 MiMo 4G/5G Omni-Directional Antenna
- Mast, Wall or Desk Mount
- Optional L1 or L1/L5 GPS/GNSS
- Integral FRZH Rated Coaxial Cables

The DWMM8[X]-6-60-[X] antenna provides a 2x 4x4 MiMo omnidirectional antenna solution for global 4G/5G networks covering 617-6000MHz. It features eight separately fed ultra-wideband elements in a single housing and is suitable for a wide range of fixed-site branch office and enterprise failover applications using dual modems.

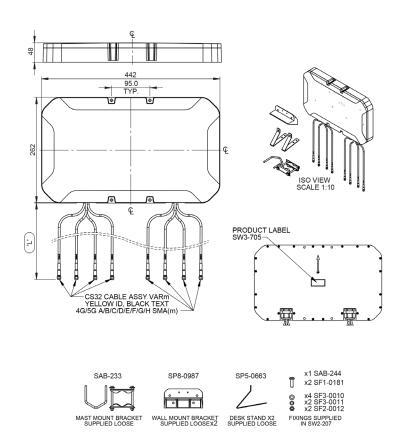
The mounting bracket enables mast mounting using the supplied clamp assembly or it can be wall-mounted using the supplied screws and wall plugs. The antenna can be fitted directly to non-conductive panels or internal walls and mounting feet are supplied to allow it to be stood on a desk or window sill.

The omni-directional radiation pattern allows easy placement of the antenna without consideration of directional alignment and makes it ideal where access to multiple network sites is required. The DWMM8G version incorporates an integral GPS/GNSS antenna with 26dB or 30dB / 26dB LNA gain and advanced filtering for resilient operation.

The antenna has integral flame retardant coaxial cables, which eliminate or reduce exposed connector joints and simplify installation. Versions with SMA plugs offer direct connection to many routers while those with N Jacks allow connection of longer cables runs of low loss cable.

**Technical Drawing** 

DWMM8-6-60-VARSP Shown



# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna



DWMM8[X]-6-60-[X]

**Product Data** 

Part No.							
		DWMM8-6-60-05NJ	DWMM8-6-60-5SP				
Electrical Data							
Frequency Range (MHz) Elements 1-8		8x 617-96	60 / 1427-6000				
Operational Band Elements 1-8		4	4G/5G				
Typical VSWR*		<2.5:1					
Typical Peak Gain - Elements 1-8 (dBi)**	617-960MHz		5.3				
	1427-6000MHz	8.1					
Typical Efficiency***	617-960MHz	68%					
Typical Elliciency	1427-6000MHz	76%					
Correlation Co-efficient			< 0.1				
Polarisation		+/-45	5 degrees				
Pattern		F	Hybrid				
Impedance			50Ω				
Max Input Power (W)			10				
Mechanical Data							
	Length	442	2 (17.4")				
Dimensions (mm)	Height Excl Brkt	262 (10.3")					
	Depth	48 (1.9")					
Operating Temp (°C)		-40° / +85°C ( -40° / 185°F )					
Radome Material		ASA - UL 746C F1, UL 94-HB					
Colour		White					
Ingress Protection		IP66					
Typical Wind Load @ 4	45 m/s (N) †	470					
Mounting Data							
Fixing		Wall, Mast, Rail or Panel Mount					
Max Mast Diameter (mm)		50	(1.96")				
Cable Data							
	Туре	CS32 (EN45545-2 Compliant - meets CPR Dca s2 d1 a1 )					
4G/5G Cables	Diameter (mm)	5 (0.19")					
	Length (m)	0.5 (1' 6")	5 (16' 4")				
	Termination	8x N(f)	8x SMA (m)				

<sup>\*</sup> Typical VSWR as measured across 95% of relevant bands in free space with 0.5m (1.6') of CS32 cable.

\*\* Typical Peak gain as measured in free space with 0.5m (1.6') of CS32 cable.

\*\*\*Typical efficiency represents average efficiency across stated bands as measured in free space with 0.5m (1.6') of CS32 cable.

<sup>†</sup> When installed in correctly in full accordance with the installation instructions

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Electrical Da	ata						
Part No.							
		DWMM8G-6-60-05NJ	DWMM8G-6-60-5SP				
Electrical Data							
Frequency	Elements 1-8	8x 617-960 /	1427-6000				
Range (MHz)	Element 9	1x 1559	1x 1559-1612				
Operational	Elements 1-8	2G/3G/	2G/3G/4G/5G				
Band	Element 9						
Typical VSWR'	•	<2.	5:1				
Typical Peak Gain -		5.	5.3				
Elements 1-8 (dBi)**		8.	1				
Typical Efficien	CV***	68	%				
тургоат Епісістісу		76					
Correlation Co-	-efficient	< 0					
Polarisation		+/-45 d	egrees				
Pattern		Hyb	prid				
Impedance		50	50Ω				
Max Input Pow	,	10	10				
GPS/GNSS Da	ıta						
Frequency Range (MHz)		1559-	1559-1612				
Typical VSWR		<2.	<2.5:1				
LNA Gain		26dB	26dB (+/-3)				
Polarisation		RH	RHCP				
Operating Volta	age	3-5 VDC	3-5 VDC <20ma				
Mechanical Data							
Dimensions	Length	442 (1	17.4")				
Dimensions (mm)	Height Excl Brkt	262 (1					
	Depth	48 (1	48 (1.9")				
Operating Tem	• • •	,	-40° / +85°C ( -40° / 185°F )				
Radome Mater	ial		ASA - UL 746C F1, UL 94-HB				
Colour			White				
Ingress Protect			IP66				
	oad @ 45 m/s (N) †	47	70				
Mounting Data							
Fixing			Wall, Mast, Rail or Panel Mount				
Max Mast Diameter (mm)		50 (1	50 (1.96")				
Cable Data	Tura	0000 (5)\455.45.00	marks CDD Decree 2 14 - 4 2				
	Type	CS32 (EN45545-2 Compliant	•				
4G/5G Cables	Diameter (mm)	5 (0.	,				
	Length (m)	0.5 (1' 6")	5 (16' 4")				
	Termination	8x N(f)	8x SMA (m)				
	Type	CS29 FR (EN455					
GPS/GNSS Cables	Diameter (mm)	5 (0.					
Janies	Length (m)	0.5 (1' 6")	5 (16' 4")				
	Termination	1x N(f)	1x SMA (m)				

 $<sup>^{\</sup>star}$  Typical VSWR as measured across 95% of relevant bands in free space with 0.5m (1.6') of CS32 cable.

<sup>\*\*</sup> Typical Peak gain as measured in free space with 0.5m (1.6') of CS32 cable. † When installed in correctly in full accordance with the installation instructions

<sup>\*\*</sup>Typical efficiency represents average efficiency across stated bands as measured in free space with 0.5m (1.6') of CS32 cable.

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# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna



DWMM8[X]-6-60-[X]

**Electrical Data** 

Part No.						
		DWMM85G-6-60-05NJ	DWMM85G-6-60-5SP			
Electrical Data						
requency	Elements 1-8	8x 617-960 / 1	1427-6000			
Range (MHz)	Element 9	1x 1164-1189 /	1x 1164-1189 / 1559-1612			
Operational	Elements 1-8	2G/3G/40	G/5G			
Band	Element 9	GPS/GN	GPS/GNSS			
ypical VSWR*		<2.5:	1			
ypical Peak G	ain - 617-960MHz	5.3	5.3			
Elements 1-8 (dE	IBi)** 1427-6000MHz	8.1				
Typical Efficiency	617-960MHz	68%				
	1427-6000MHz	76%				
orrelation Co-	efficient	< 0.1	1			
Polarisation		+/-45 deg	grees			
attern		Hybri	d			
mpedance		50Ω				
lax Input Powe	er (W)	10				
PS/GNSS Dat	ta					
Frequency Range (MHz)		1164-1189 / 1	1164-1189 / 1559-1612			
Typical VSWR		<2.5:1				
_NA Gain		30dB / 26dB (+/-7.5)				
Polarisation		RHCP				
Operating Voltage		3-5v 36ma Typical				
echanical Dat	a					
	Length	442 (17.4")				
imensions nm)	Height Excl Brkt	262 (10	1.3")			
···· <i>·</i>	Depth	48 (1.9	9")			
Operating Temp (°C)		-40° / +85°C ( -4	-40° / +85°C ( -40° / 185°F )			
adome Materi	al	ASA - UL 746C F	ASA - UL 746C F1, UL 94-HB			
olour		White	White			
ngress Protecti	on	IP66	IP66			
ypical Wind Lo	oad @ 45 m/s (N) †	470				
lounting Data						
ixing		Wall, Mast, Rail o	Wall, Mast, Rail or Panel Mount			
lax Mast Diam	eter (mm)	50 (1.9	50 (1.96")			
able Data						
	Туре	CS32 (EN45545-2 Compliant -	meets CPR Dca s2 d1 a1 )			
G/5G Cables	Diameter (mm)	5 (0.19	9")			
C/JC Capies	Length (m)	0.5 (1' 6")	5 (16' 4")			
	Termination	8x N(f)	8x SMA (m)			
	Туре	CS29 FR (EN4554	5-2 Compliant)			
SPS/GNSS	Diameter (mm)	5 (0.19	5 (0.19")			
Cables	Length (m)	0.5 (1' 6")	5 (16' 4")			
	Termination	1x N(f)	1x SMA (m)			

<sup>\*</sup> Typical VSWR as measured across 95% of relevant bands in free space with 0.5m (1.6') of CS32 cable.

<sup>\*\*</sup> Typical Peak gain as measured in free space with 0.5m (1.6') of CS32 cable. † When installed in correctly in full accordance with the installation instructions \*\*\*Typical efficiency represents average efficiency across stated bands as measured in free space with 0.5m (1.6') of CS32 cable.

<sup>&</sup>quot;Typical efficiency represents average eff 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

## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS



DWMM8[X]-6-60-[X]

Electrical Data Cell -

Free Space Measurement Conditions	4G/5G Anter	nas			
DWMM8[X]-6-60-[X] measured in free space with 0.5m (1.64') of CS32 Cable	Frequency Range (MHz)	LTE / NR Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	047.000	74 405	Cell A	3.1	56
	617-698	71, 105	Cell B	3.6	63
	8		Cell C	4.0	65
			Cell D	2.2	52
	000 700		Cell A	3.4	63
	699-798	12,13, 14 17,28	Cell B	4.3	65
			Cell C	4.0	70
			Cell D	3.3	59
			Cell A	3.4	67
	807- 862	5,19,20,26,27	Cell B	4.3	76
			Cell C	4.6	77
			Cell D	4.8	69
			Cell A	5.1	75
	880-960	8	Cell B	4.4	78
			Cell C	4.6	76
A A A A A A A A A A A A A A A A A A A			Cell D	5.1	75
		11, 21, 74,75,76	Cell A	4.3	79
	1427-1518		Cell B	4.6	76
			Cell C	5.0	78
			Cell D	4.5	79
			Cell A	3.9	75
	1710-1920	2,3,4,9,25,35,39,66	Cell B	5.9	70
			Cell C	4.8	72
			Cell D	5.2	72
			Cell A	4.8	82
	1920-2170	1,23	Cell B	6.6	78
		30,40	Cell C	5.0	79
			Cell D	5.2	80
			Cell A	4.9	87
	2300-2400		Cell B	6.0	86
			Cell C	4.5	86
			Cell D	6.2	84
			Cell A	5.3	85
	2496-2690	7,38,41	Cell B	5.7	85
			Cell C	5.6	85
			Cell D	6.0	82
			Cell A	4.7	71
	3300-4200	22,42,43,48,77,78	Cell B	8.1	78
			Cell C	6.0	79
			Cell D	6.1	75
	4400-5000	79	Cell A	3.7	67
			Cell B	5.9	71
			Cell C	4.5	73
			Cell D	4.8	69
			Cell A	5.6	78
	5000-6000	96, 102, 104			71
			Cell B	6.8	
			Cell C	5.2	70
			Cell D	5.0	69

### 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna



DWMM8[X]-6-60-[X]

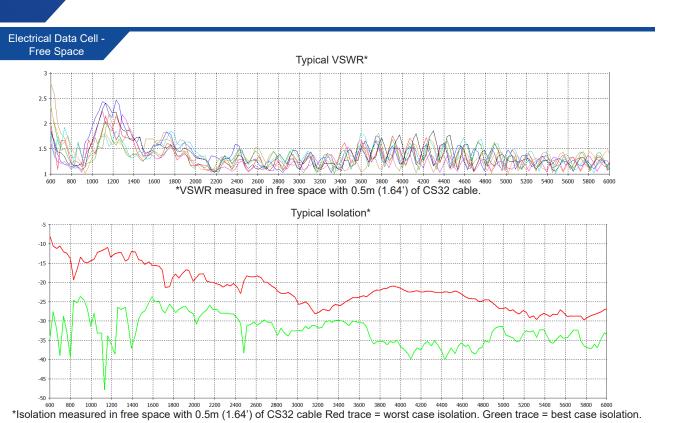
Electrical Data Cell - Free Space

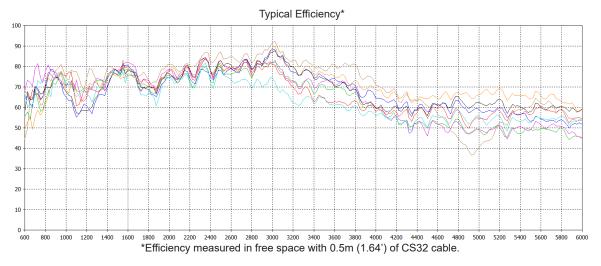
					Free Space
Measurement Conditions	4G/5G Antennas				
DWMM8[X]-6-60-[X] measured in free space with 0.5m (1.64') of CS32 Cable	Frequency Range (MHz)	LTE / NR Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	617-698	71, 105	Cell E	2.8	56
	017-030		Cell F	2.0	62
			Cell G	2.5	54
Harry John W. L. Stranger	699-798		Cell H	3.4	62
A STATE OF THE STA			Cell E	3.2	61
	699-796	12,13, 14 17,28	Cell F	3.1	70
			Cell G	3.0	61
			Cell H	4.4	67
	807- 862	5 40 00 00 07	Cell E	3.9	67
///ASSES	007-002	5,19,20,26,27	Cell F	4.7	77
			Cell G	4.2	70
CORNEL TOWN			Cell H	4.7	75
The state of the s	990.060		Cell E	4.8	70
CALL LAND	880-960	8	Cell F	3.6	79
AND THE RESERVE OF THE PARTY OF			Cell G	4.5	74
AL MAN			Cell H	5.3	77
THE STATE OF THE S	4407.4540	11, 21, 74,75,76	Cell E	4.3	79
	1427-1518		Cell F	4.1	79
			Cell G	4.5	80
			Cell H	4.6	77
	.=		Cell E	4.9	70
	1710-1920	2,3,4,9,25,35,39,66	Cell F	4.5	72
			Cell G	4.3	72
			Cell H	5.8	71
	1920-2170	1,23	Cell E	5.9	78
			Cell F	5.2	80
			Cell G	4.7	80
			Cell H	6.2	79
	2300-2400	30,40	Cell E	5.1	83
			Cell F	5.3	87
			Cell G	4.5	84
			Cell H	5.4	85
	2406 2600	7 20 44	Cell E	5.8	82
	2496-2690	7,38,41	Cell F	6.2	88
			Cell G	4.5	81
			Cell H	6.1	86
	2200 4200	0-4200 22,42,43,48,77,78	Cell E	5.2	67
	3300-4200		Cell F	5.3	79
			Cell G	5.1	73
			Cell H	6.8	75
	4400-5000	.00-5000 79	Cell E	7.3	62
	7700-0000		Cell F	5.3	71
			Cell G	3.1	59
			Cell H	4.6	58
	5000 6000	96, 102, 104	Cell E	7.1	66
	3000-0000		Cell F	5.9	72
			Cell G	3.7	56
			Cell H	6.0	66

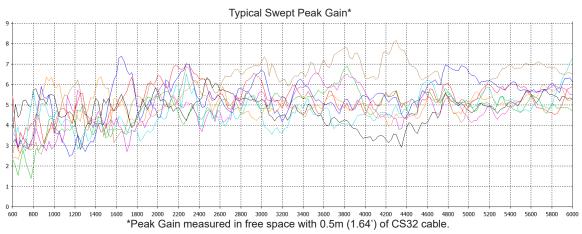
### 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS



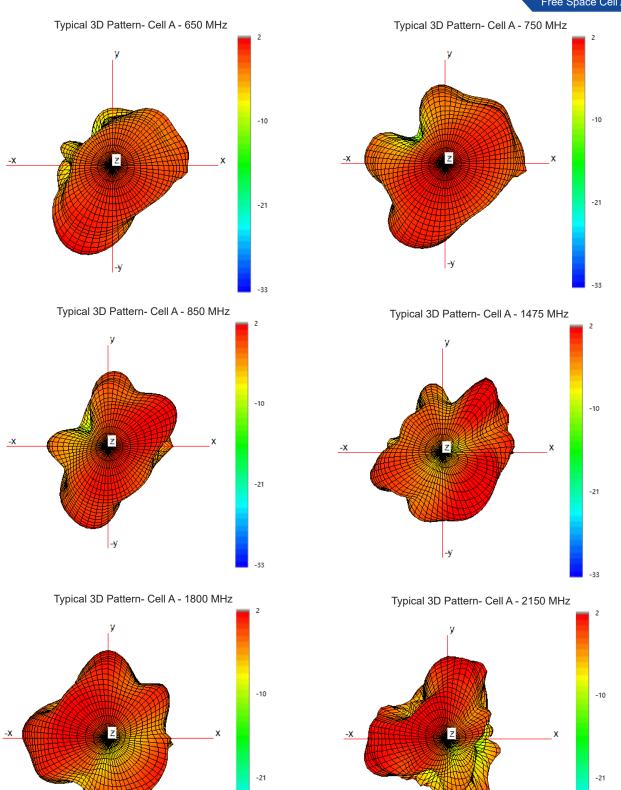
DWMM8[X]-6-60-[X]







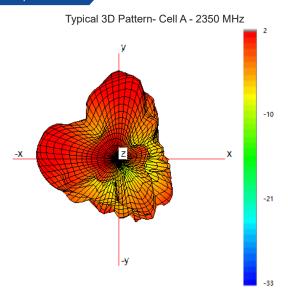


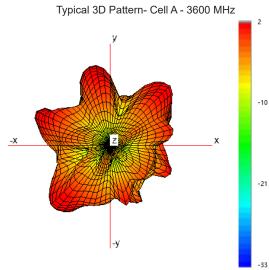


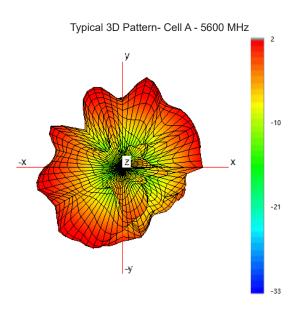
## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

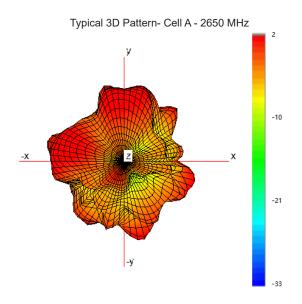
DWMM8[X]-6-60-[X]

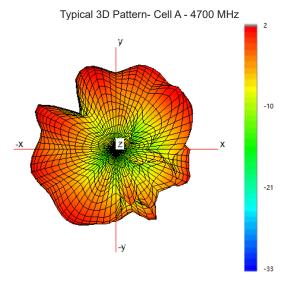
3D Pattern Data in Free Space Cell A





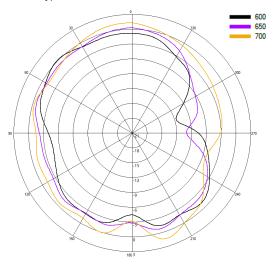




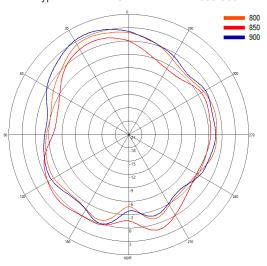


2D Pattern Data in Free Space Cell A - H Plane

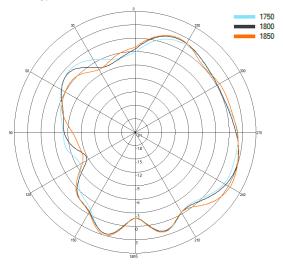
Typical H Plane- Cell A - Patterns- 600-700MHz



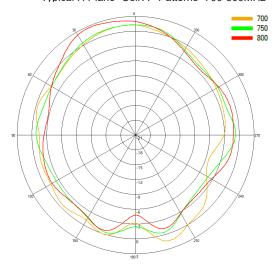
Typical H Plane- Cell A - Patterns- 800-900MHz



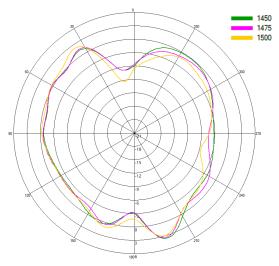
Typical H Plane- Cell A- Patterns- 1750-1850 MHz



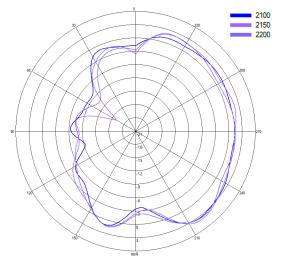
Typical H Plane- Cell A - Patterns- 700-800MHz



Typical H Plane- Cell A- Patterns- 1450-1500 MHz

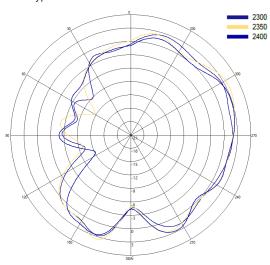


Typical H Plane- Cell A- Patterns- 2100-2200 MHz

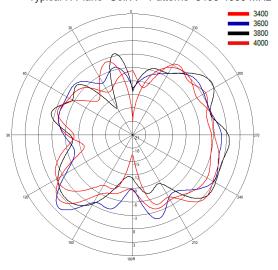


### 2D Pattern Data in Free Space Cell A - H Plane

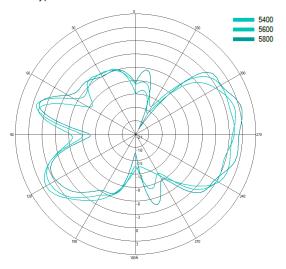
Typical H Plane- Cell A - Patterns- 2300-2400 MHz



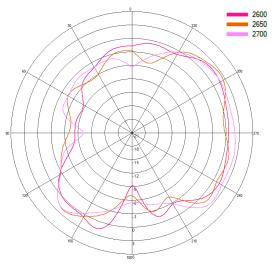
Typical H Plane- Cell A - Patterns- 3400-4000 MHz



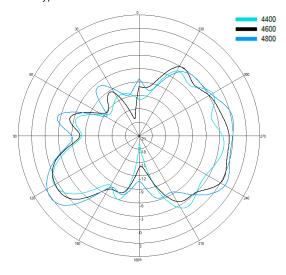
Typical H Plane- Cell A - Patterns- 5400-5800 MHz



Typical H Plane- Cell A - Patterns- 2600-2700 MHz

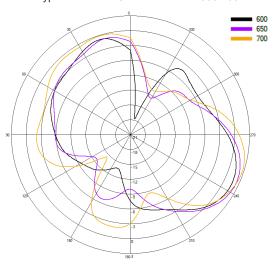


Typical H Plane- Cell A - Patterns- 4400-4800 MHz

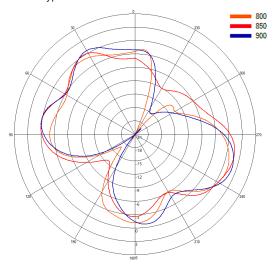


2D Pattern Data in Free Space Cell A - E Plane

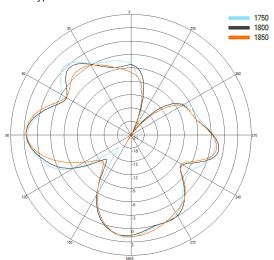
Typical E Plane- Cell A - Patterns- 600-700MHz



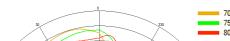
Typical E Plane- Cell A - Patterns- 800-900MHz



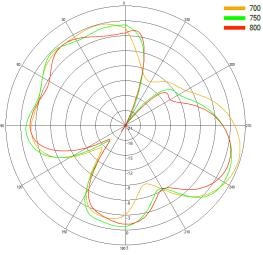
Typical E Plane- Cell A- Patterns- 1750-1850 MHz



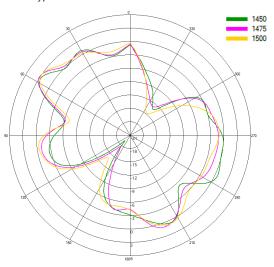
Panorama Antennas Ltd Frogmore, London, SW18 1HF, United Kingdom T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477 E: sales@panorama-antennas.com W: www.panorama-antennas.com



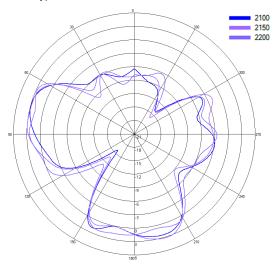
Typical E Plane- Cell A - Patterns- 700-800MHz



Typical E Plane- Cell A- Patterns- 1450-1500 MHz

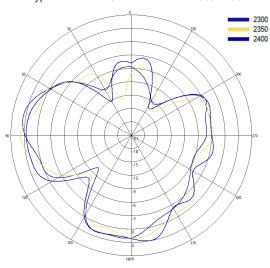


Typical E Plane- Cell A- Patterns- 2100-2200 MHz

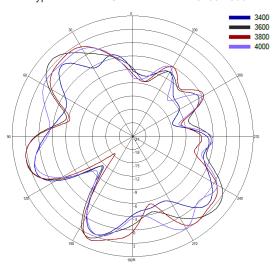


2D Pattern Data in Free Space Cell A - E Plane

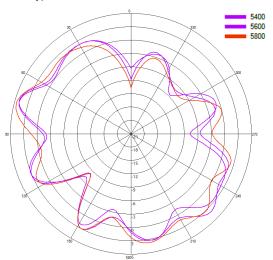
Typical E Plane- Cell A - Patterns- 2300-2400 MHz



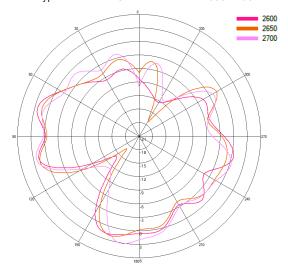
Typical E Plane- Cell A - Patterns- 3400-4000 MHz



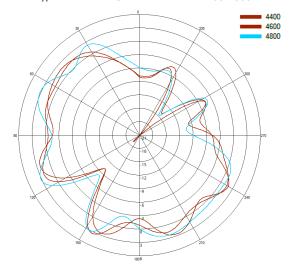
Typical E Plane- Cell A - Patterns- 5400-5800 MHz

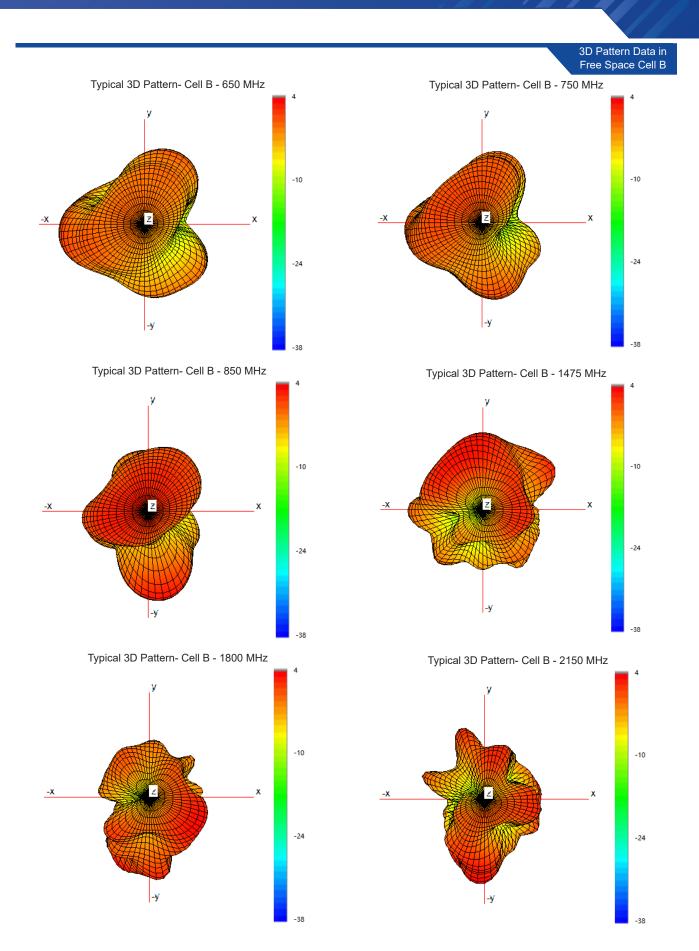


Typical E Plane- Cell A - Patterns- 2600-2700 MHz



Typical E Plane- Cell A - Patterns- 4400-4800 MHz



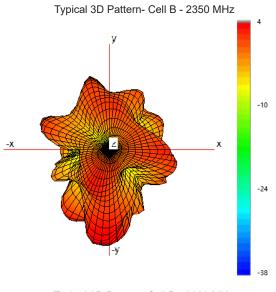


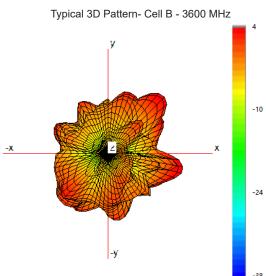
## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

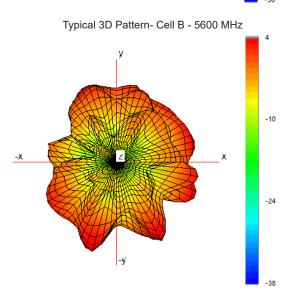


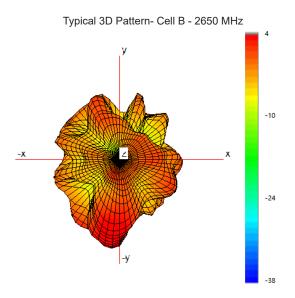
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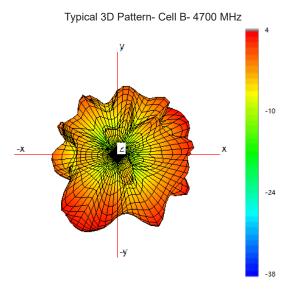
### 3D Pattern Data in Free Space Cell B





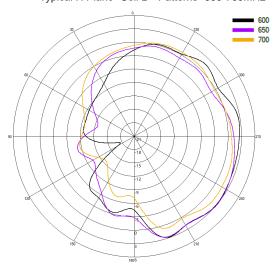




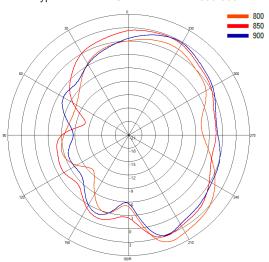


2D Pattern Data in Free Space Cell B - H Plane

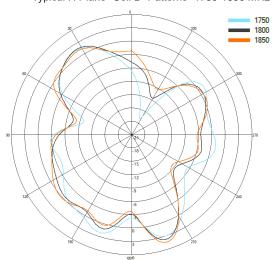
Typical H Plane- Cell B - Patterns- 600-700MHz



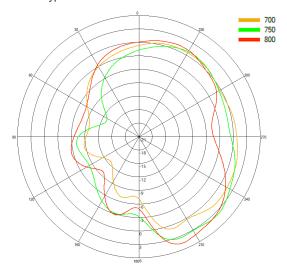
Typical H Plane- Cell B - Patterns- 800-900MHz



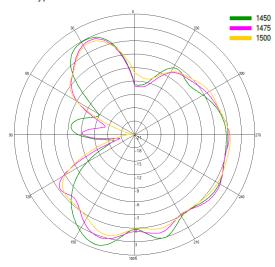
Typical H Plane- Cell B- Patterns- 1750-1850 MHz



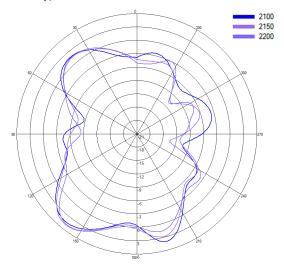
Typical H Plane- Cell B - Patterns- 700-800MHz



Typical H Plane- Cell B- Patterns- 1450-1500 MHz

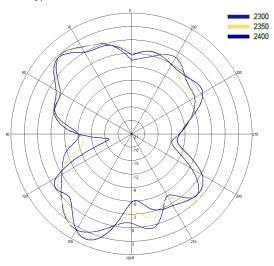


Typical H Plane- Cell B- Patterns- 2100-2200 MHz

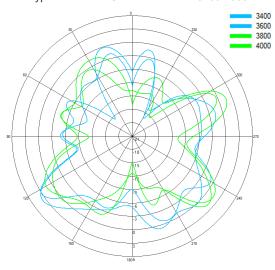


### 2D Pattern Data in Free Space Cell B - H Plane

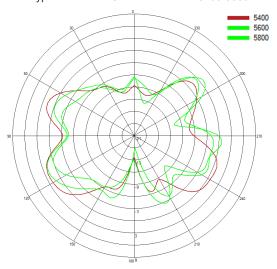
Typical H Plane- Cell B - Patterns- 2300-2400 MHz



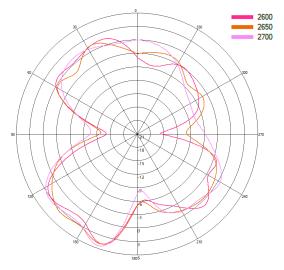
Typical H Plane- Cell B - Patterns- 3400-4000 MHz



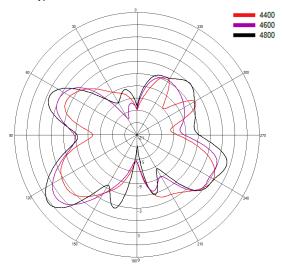
Typical H Plane- Cell B - Patterns- 5400-5800 MHz



Typical H Plane- Cell B - Patterns- 2600-2700 MHz

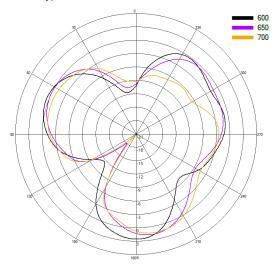


Typical H Plane- Cell B - Patterns- 4400-4800 MHz

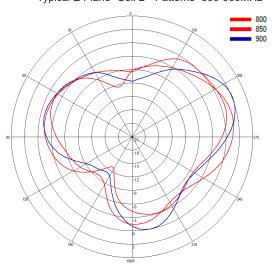


2D Pattern Data in Free Space Cell B - E Plane

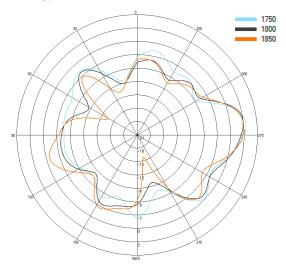
Typical E Plane- Cell B - Patterns- 600-700MHz



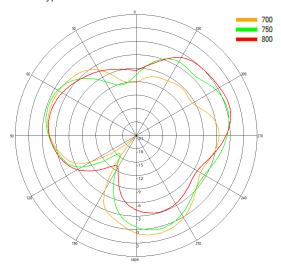
Typical E Plane- Cell B - Patterns- 800-900MHz



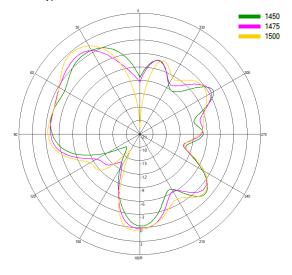
Typical E Plane- Cell B- Patterns- 1750-1850 MHz



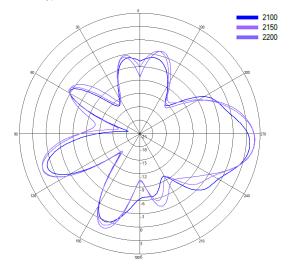
Typical E Plane- Cell B - Patterns- 700-800MHz



Typical E Plane- Cell B- Patterns- 1450-1500 MHz

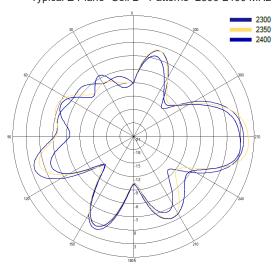


Typical E Plane- Cell B- Patterns- 2100-2200 MHz

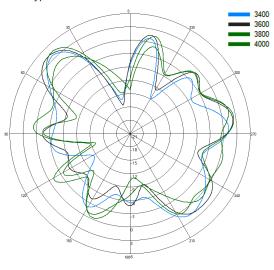


### 2D Pattern Data in Free Space Cell B - E Plane

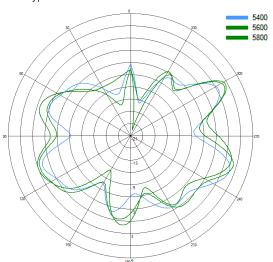
Typical E Plane- Cell B - Patterns- 2300-2400 MHz



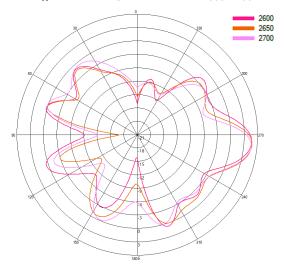
Typical E Plane- Cell B - Patterns- 3400-4000 MHz



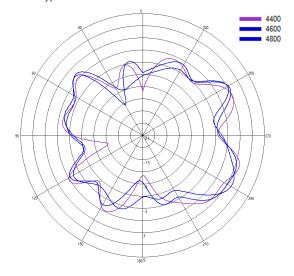
Typical E Plane- Cell B - Patterns- 5400-5800 MHz



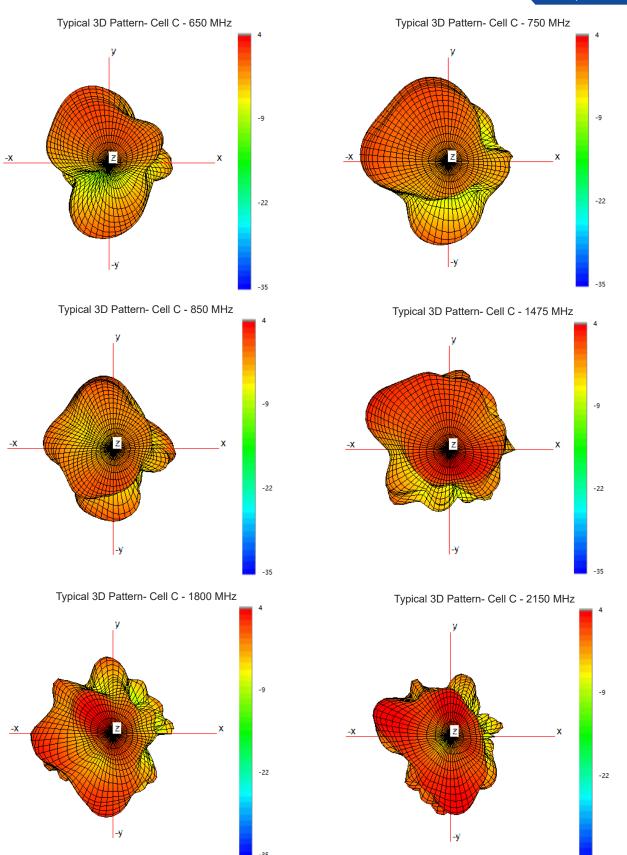
Typical E Plane- Cell B - Patterns- 2600-2700 MHz



Typical E Plane- Cell B - Patterns- 4400-4800 MHz



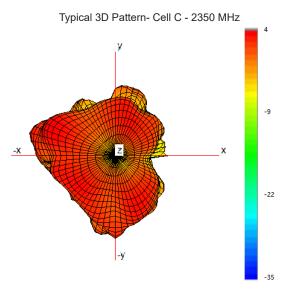
3D Pattern Data in Free Space Cell C

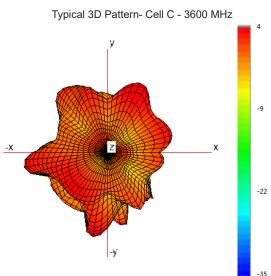


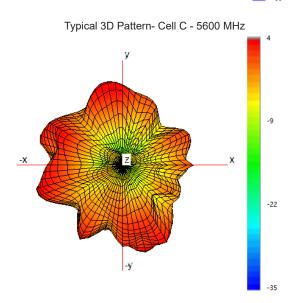
## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

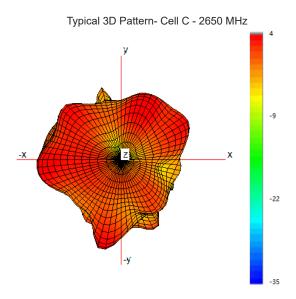
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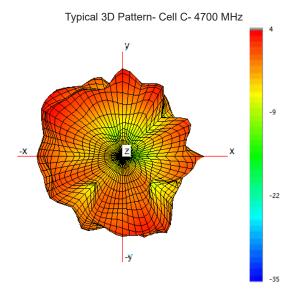
### 3D Pattern Data in Free Space Cell C





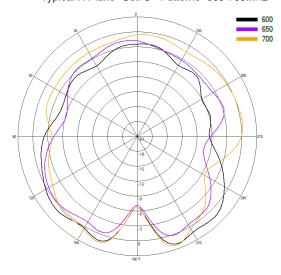




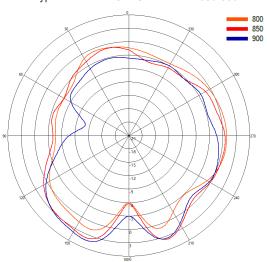


2D Pattern Data in Free Space Cell C - H Plane

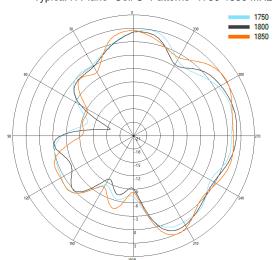
Typical H Plane- Cell C - Patterns- 600-700MHz



Typical H Plane- Cell C - Patterns- 800-900MHz

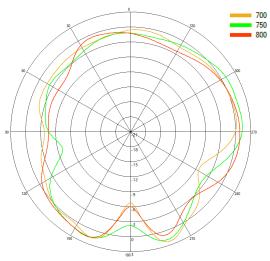


Typical H Plane- Cell C- Patterns- 1750-1850 MHz

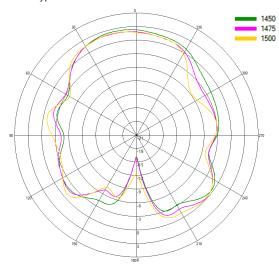


Panorama Antennas Ltd Frogmore, London, SW18 1HF, United Kingdom T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477 E: sales@panorama-antennas.com W: www.panorama-antennas.com

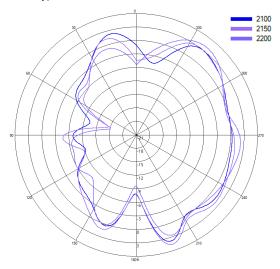
Typical H Plane- Cell C - Patterns- 700-800MHz



Typical H Plane- Cell C- Patterns- 1450-1500 MHz

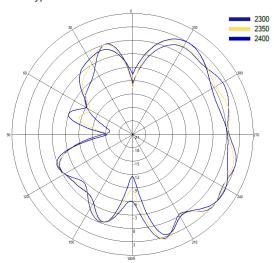


Typical H Plane- Cell C- Patterns- 2100-2200 MHz

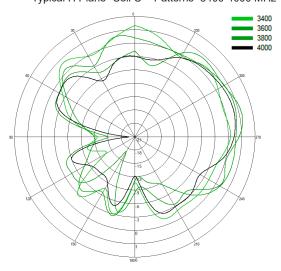


### 2D Pattern Data in Free Space Cell C - H Plane

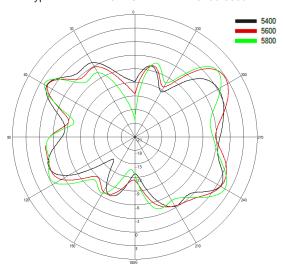
Typical H Plane- Cell C - Patterns- 2300-2400 MHz



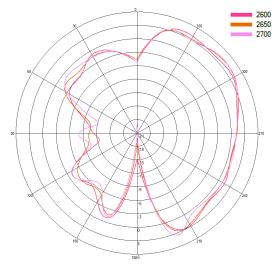
Typical H Plane- Cell C - Patterns- 3400-4000 MHz



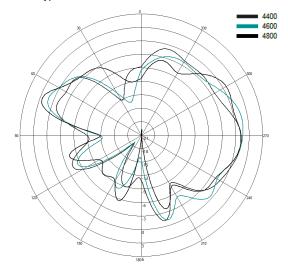
Typical H Plane- Cell C - Patterns- 5400-5800 MHz



Typical H Plane- Cell C - Patterns- 2600-2700 MHz

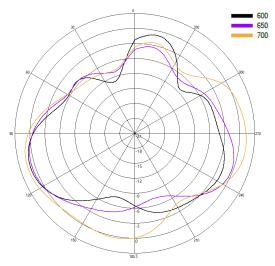


Typical H Plane- Cell C - Patterns- 4400-4800 MHz

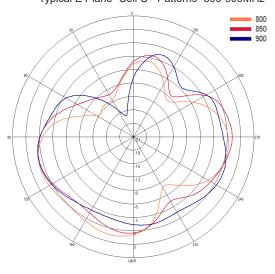


2D Pattern Data in Free Space Cell C - E Plane

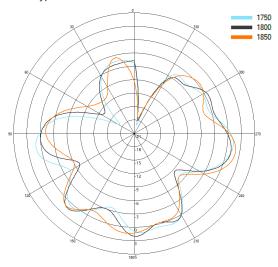
Typical E Plane- Cell C - Patterns- 600-700MHz



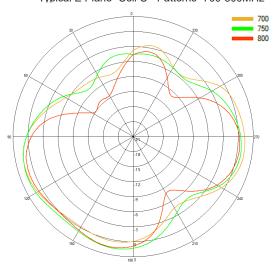
Typical E Plane- Cell C - Patterns- 800-900MHz



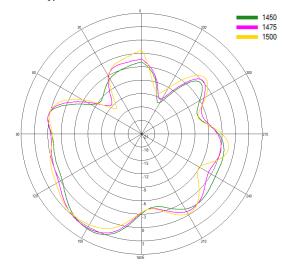
Typical E Plane- Cell C- Patterns- 1750-1850 MHz



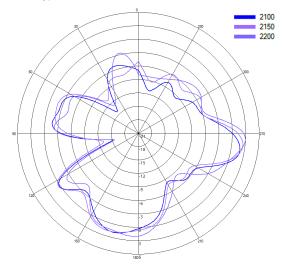
Typical E Plane- Cell C - Patterns- 700-800MHz



Typical E Plane- Cell C- Patterns- 1450-1500 MHz

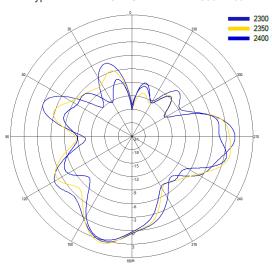


Typical E Plane- Cell C- Patterns- 2100-2200 MHz

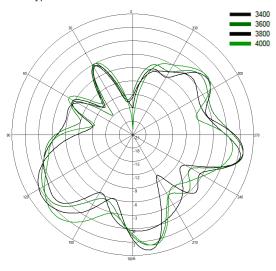


2D Pattern Data in Free Space Cell C - E Plane

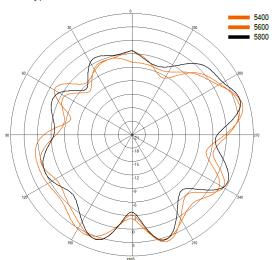
Typical E Plane- Cell C - Patterns- 2300-2400 MHz



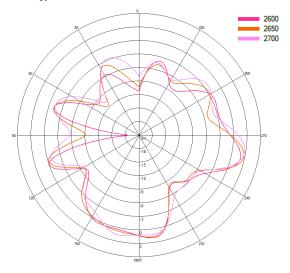
Typical E Plane- Cell C - Patterns- 3400-4000 MHz



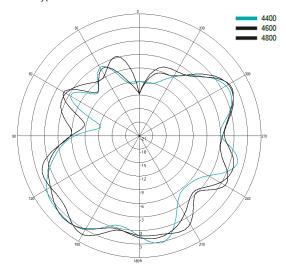
Typical E Plane- Cell C - Patterns- 5400-5800 MHz

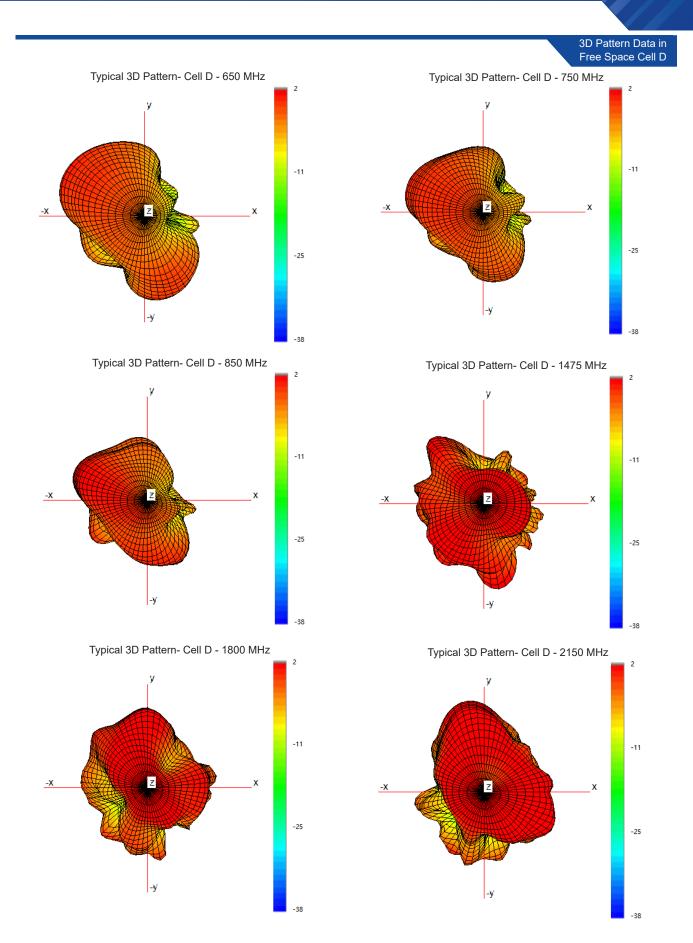


Typical E Plane- Cell C - Patterns- 2600-2700 MHz



Typical E Plane- Cell C - Patterns- 4400-4800 MHz



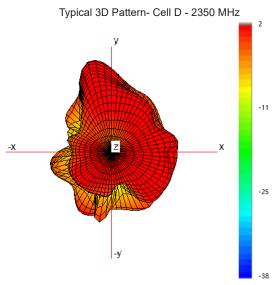


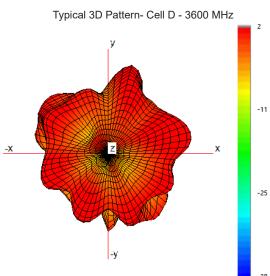
## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

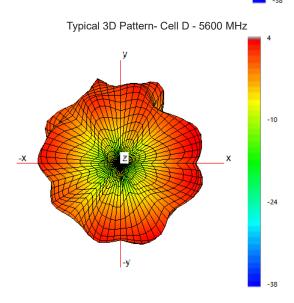


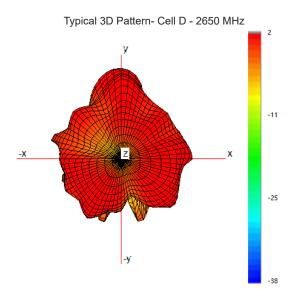
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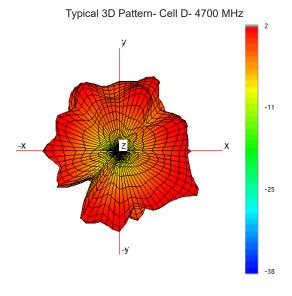
### 3D Pattern Data in Free Space Cell D





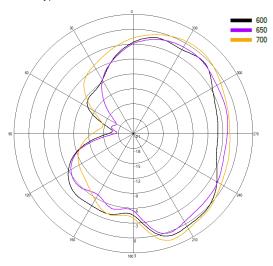




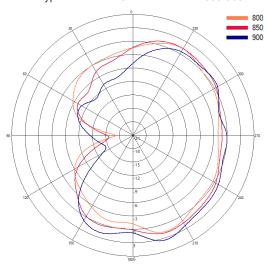


2D Pattern Data in Free Space Cell D - H Plane

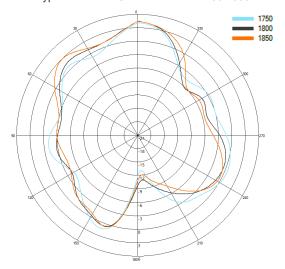
Typical H Plane- Cell D - Patterns- 600-700MHz



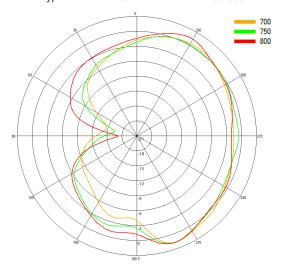
Typical H Plane- Cell D - Patterns- 800-900MHz



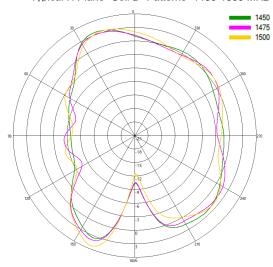
Typical H Plane- Cell D- Patterns- 1750-1850 MHz



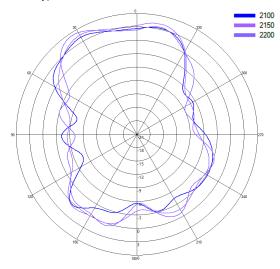
Typical H Plane- Cell D - Patterns- 700-800MHz



Typical H Plane- Cell D- Patterns- 1450-1500 MHz

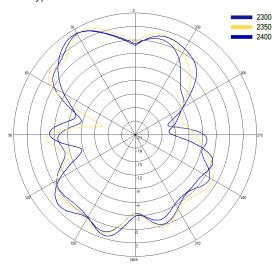


Typical H Plane- Cell D- Patterns- 2100-2200 MHz

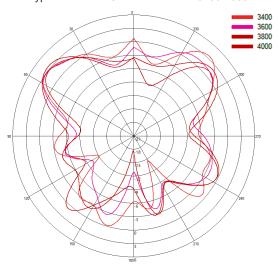


### 2D Pattern Data in Free Space Cell D - H Plane

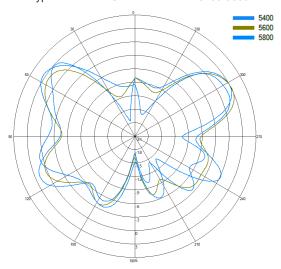
Typical H Plane- Cell D - Patterns- 2300-2400 MHz



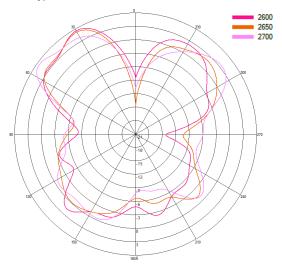
Typical H Plane- Cell D - Patterns- 3400-4000 MHz



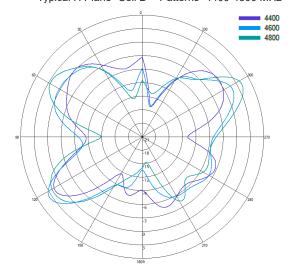
Typical H Plane- Cell D - Patterns- 5400-5800 MHz



Typical H Plane- Cell D - Patterns- 2600-2700 MHz

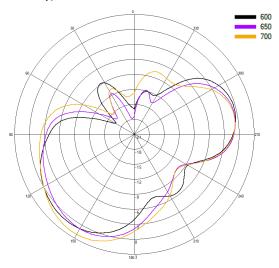


Typical H Plane- Cell D - Patterns- 4400-4800 MHz

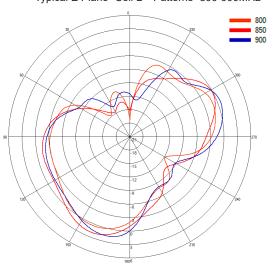


2D Pattern Data in Free Space Cell D - E Plane

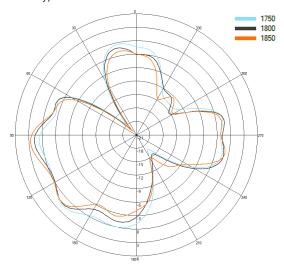
Typical E Plane- Cell D - Patterns- 600-700MHz



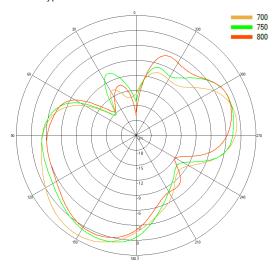
Typical E Plane- Cell D - Patterns- 800-900MHz



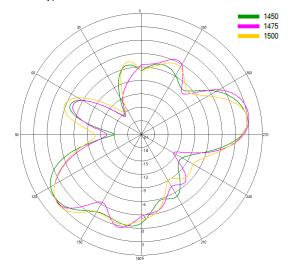
Typical E Plane- Cell D- Patterns- 1750-1850 MHz



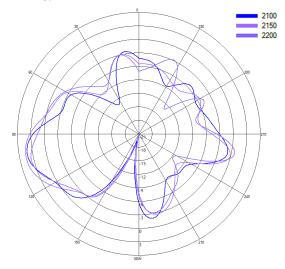
Typical E Plane- Cell D - Patterns- 700-800MHz



Typical E Plane- Cell D- Patterns- 1450-1500 MHz

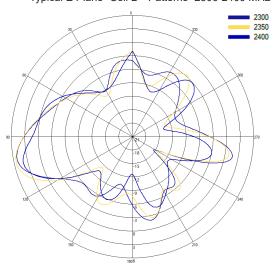


Typical E Plane- Cell D- Patterns- 2100-2200 MHz

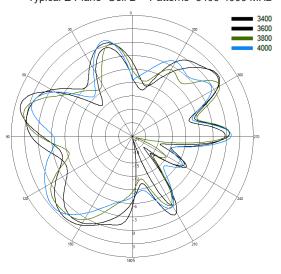


### 2D Pattern Data in Free Space Cell D - E Plane

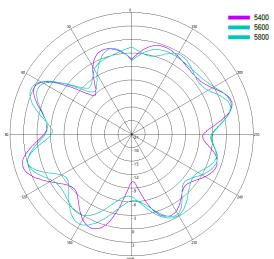
Typical E Plane- Cell D - Patterns- 2300-2400 MHz



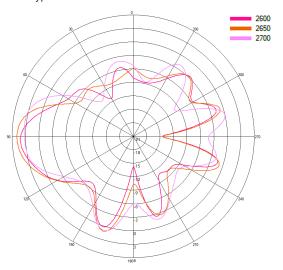
Typical E Plane- Cell D - Patterns- 3400-4000 MHz



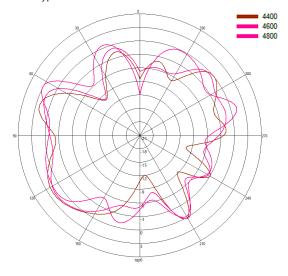
Typical E Plane- Cell D - Patterns- 5400-5800 MHz

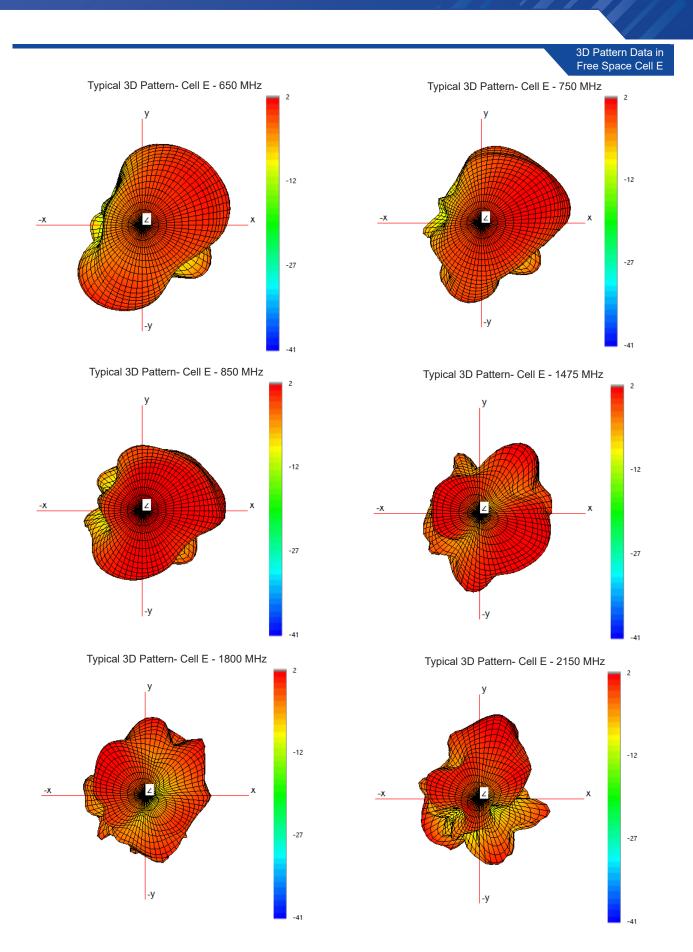


Typical E Plane- Cell D - Patterns- 2600-2700 MHz



Typical E Plane- Cell D - Patterns- 4400-4800 MHz



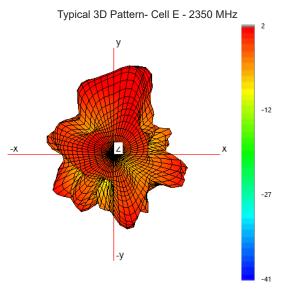


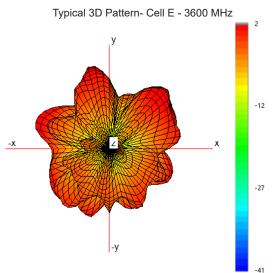
## 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

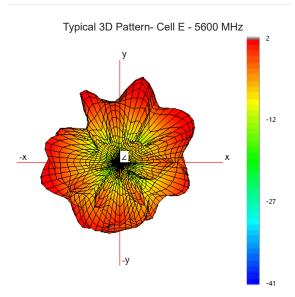


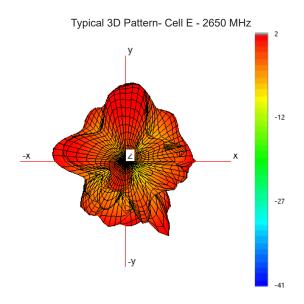
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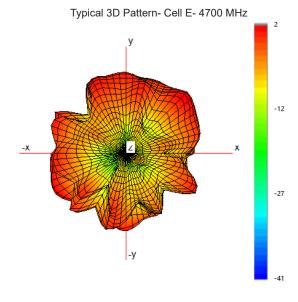
### 3D Pattern Data in Free Space Cell E





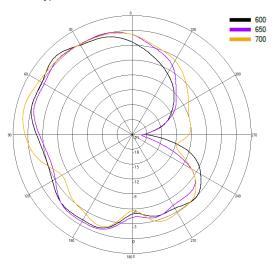




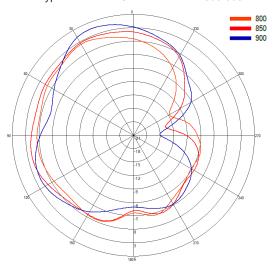


2D Pattern Data in Free Space Cell E - H Plane

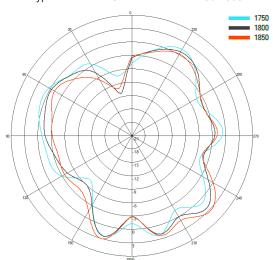
Typical H Plane- Cell E - Patterns- 600-700MHz



Typical H Plane- Cell E - Patterns- 800-900MHz

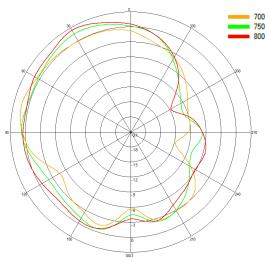


Typical H Plane- Cell E- Patterns- 1750-1850 MHz

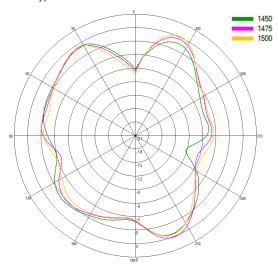


Panorama Antennas Ltd Frogmore, London, SW18 1HF, United Kingdom T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477 E: sales@panorama-antennas.com W: www.panorama-antennas.com

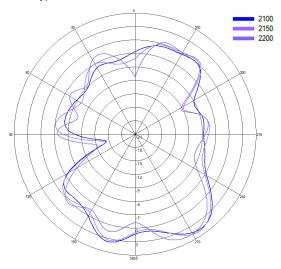
Typical H Plane- Cell E - Patterns- 700-800MHz



Typical H Plane- Cell E- Patterns- 1450-1500 MHz

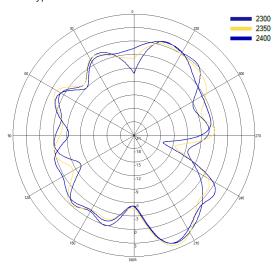


Typical H Plane- Cell E- Patterns- 2100-2200 MHz

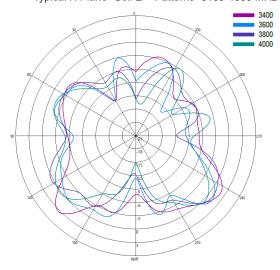


### 2D Pattern Data in Free Space Cell E - H Plane

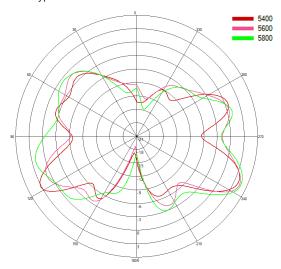
Typical H Plane- Cell E - Patterns- 2300-2400 MHz



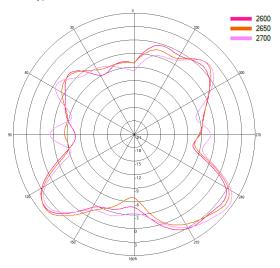
Typical H Plane- Cell E - Patterns- 3400-4000 MHz



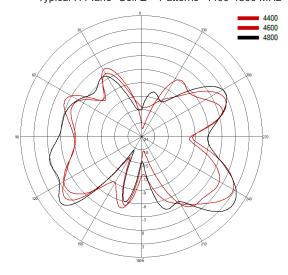
Typical H Plane- Cell E - Patterns- 5400-5800 MHz



Typical H Plane- Cell E - Patterns- 2600-2700 MHz

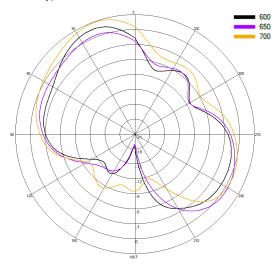


Typical H Plane- Cell E - Patterns- 4400-4800 MHz

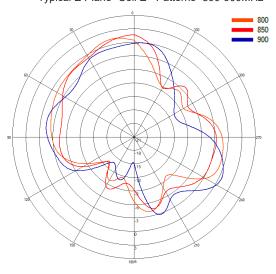


2D Pattern Data in Free Space Cell E - E Plane

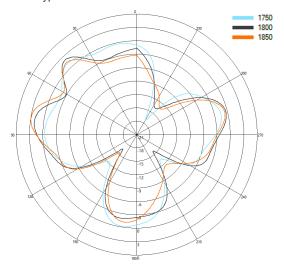
Typical E Plane- Cell E - Patterns- 600-700MHz



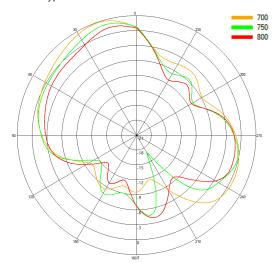
Typical E Plane- Cell E - Patterns- 800-900MHz



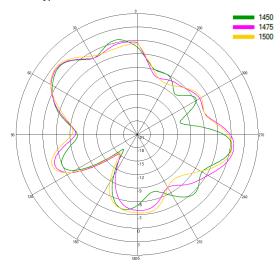
Typical E Plane- Cell E- Patterns- 1750-1850 MHz



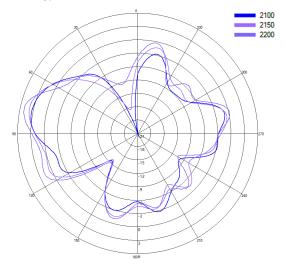
Typical E Plane- Cell E - Patterns- 700-800MHz



Typical E Plane- Cell E- Patterns- 1450-1500 MHz

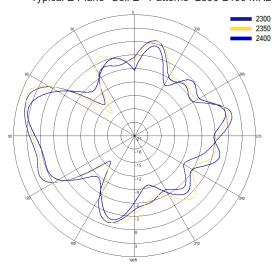


Typical E Plane- Cell E- Patterns- 2100-2200 MHz

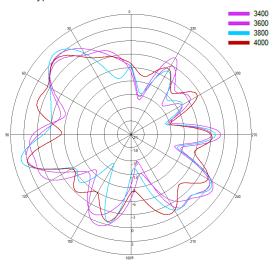


### 2D Pattern Data in Free Space Cell E - E Plane

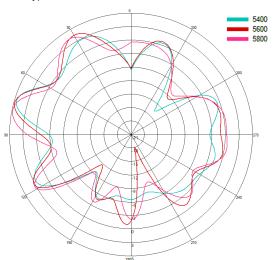
Typical E Plane- Cell E - Patterns- 2300-2400 MHz



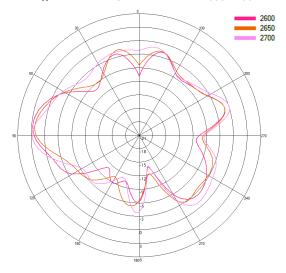
Typical E Plane- Cell E - Patterns- 3400-4000 MHz



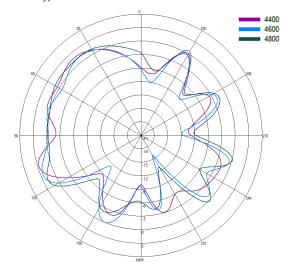
Typical E Plane- Cell E - Patterns- 5400-5800 MHz

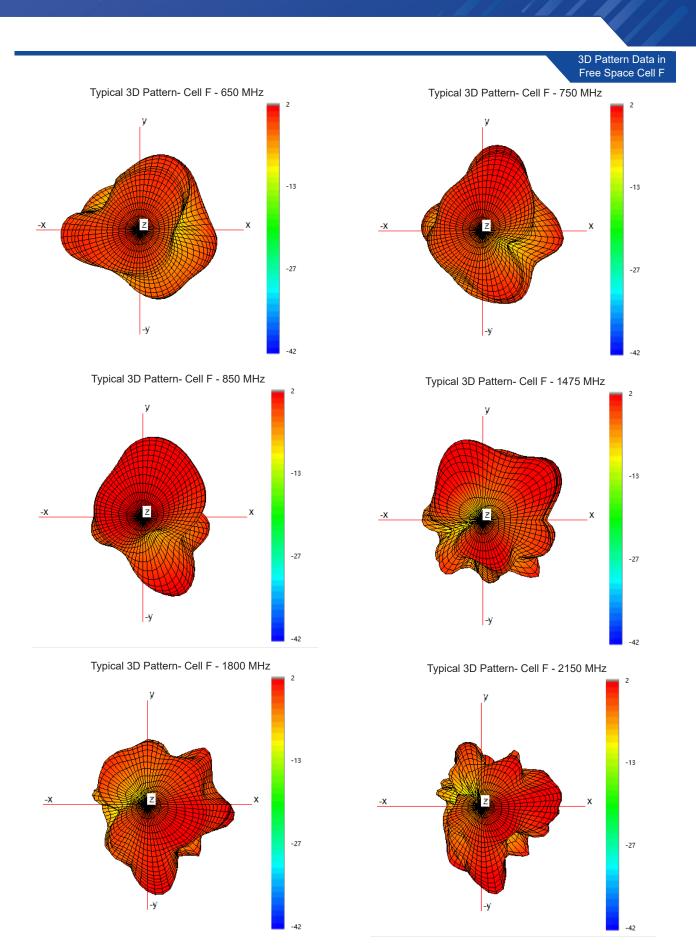


Typical E Plane- Cell E - Patterns- 2600-2700 MHz



Typical E Plane- Cell E - Patterns- 4400-4800 MHz



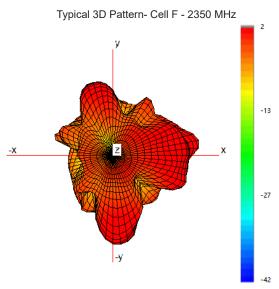


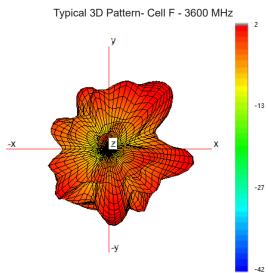
# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

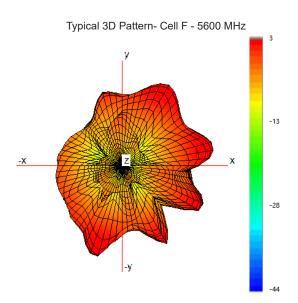


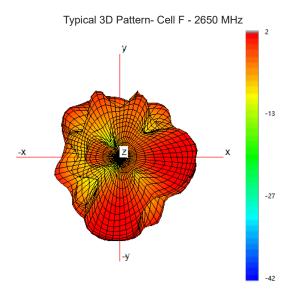
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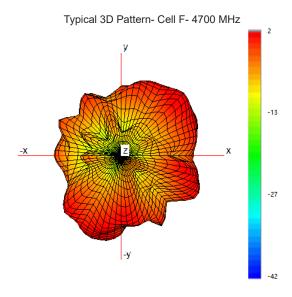
### 3D Pattern Data in Free Space Cell F





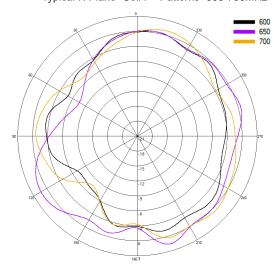




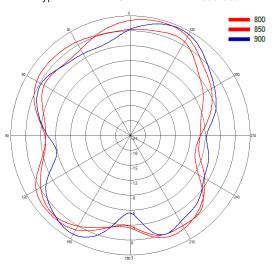


2D Pattern Data in Free Space Cell F - H Plane

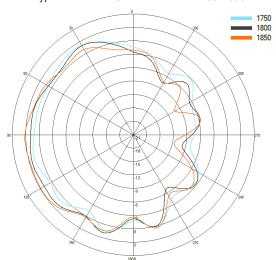
Typical H Plane- Cell F - Patterns- 600-700MHz



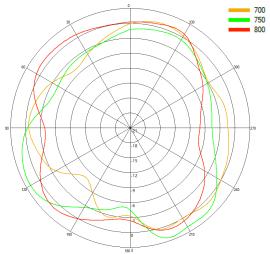
Typical H Plane- Cell F - Patterns- 800-900MHz



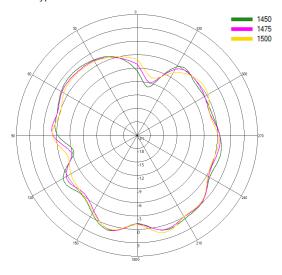
Typical H Plane- Cell F- Patterns- 1750-1850 MHz



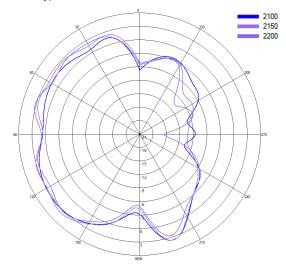
Typical H Plane- Cell F - Patterns- 700-800MHz



Typical H Plane- Cell F- Patterns- 1450-1500 MHz

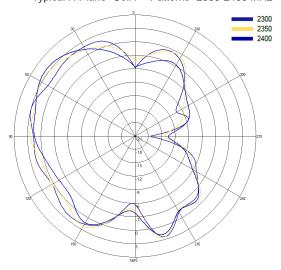


Typical H Plane- Cell F - Patterns- 2100-2200 MHz

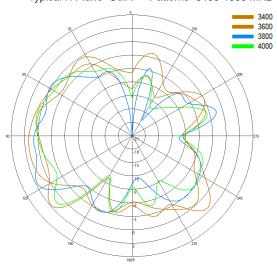


## 2D Pattern Data in Free Space Cell F - H Plane

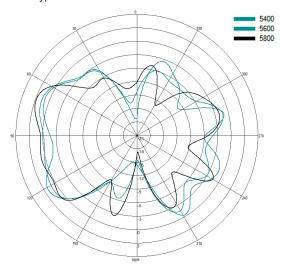
Typical H Plane- Cell F - Patterns- 2300-2400 MHz



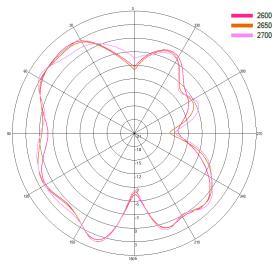
Typical H Plane- Cell F - Patterns- 3400-4000 MHz



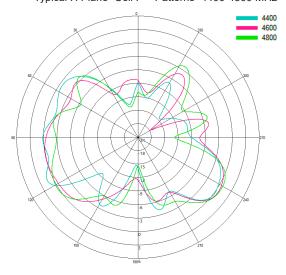
Typical H Plane- Cell F - Patterns- 5400-5800 MHz



Typical H Plane- Cell F - Patterns- 2600-2700 MHz

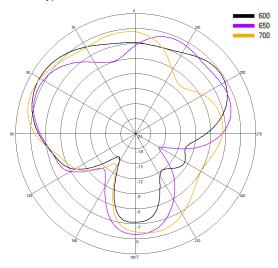


Typical H Plane- Cell F - Patterns- 4400-4800 MHz

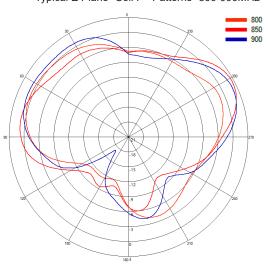


2D Pattern Data in Free Space Cell F - E Plane

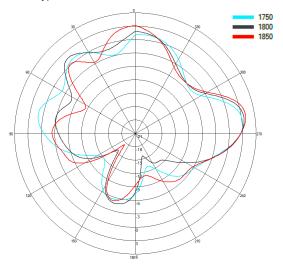
Typical E Plane- Cell F - Patterns- 600-700MHz



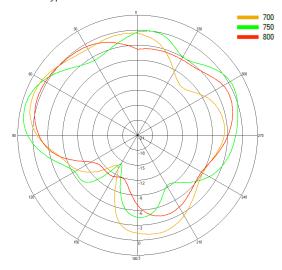
Typical E Plane- Cell F - Patterns- 800-900MHz



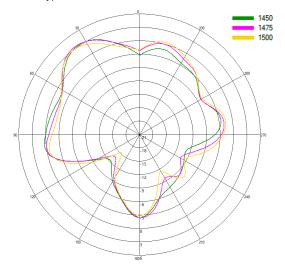
Typical E Plane- Cell F- Patterns- 1750-1850 MHz



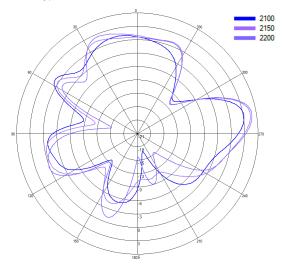
Typical E Plane- Cell F - Patterns- 700-800MHz



Typical E Plane- Cell F- Patterns- 1450-1500 MHz

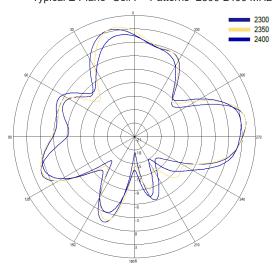


Typical E Plane- Cell F- Patterns- 2100-2200 MHz

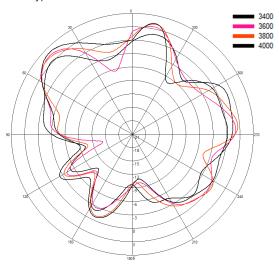


2D Pattern Data in Free Space Cell F - E Plane

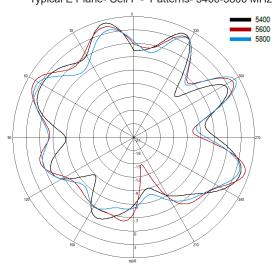
Typical E Plane- Cell F - Patterns- 2300-2400 MHz



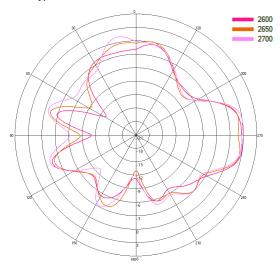
Typical E Plane- Cell F - Patterns- 3400-4000 MHz



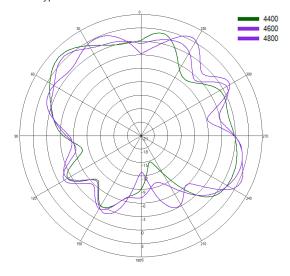
Typical E Plane- Cell F - Patterns- 5400-5800 MHz

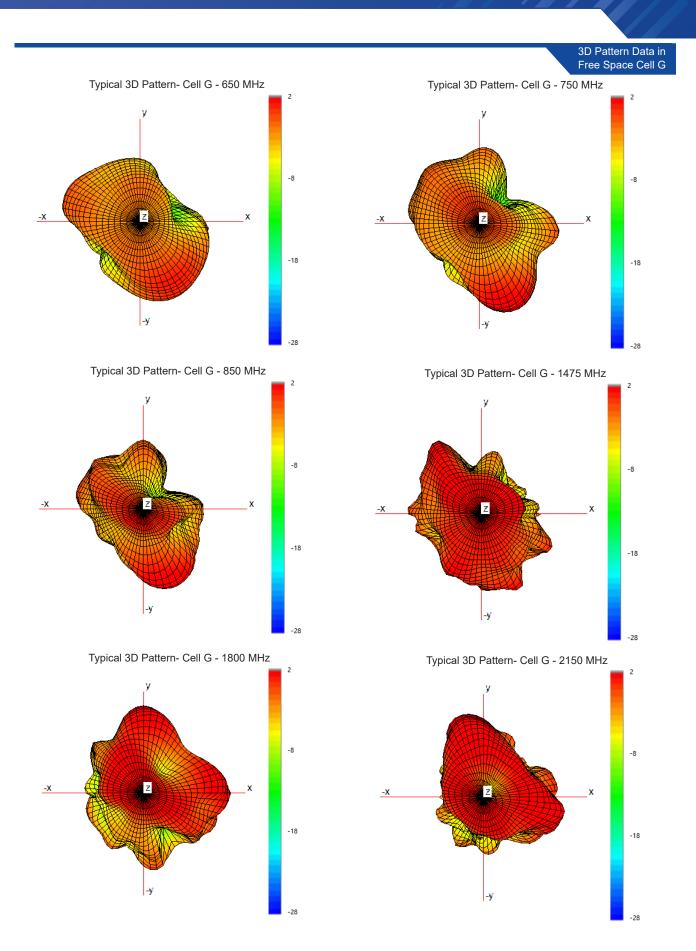


Typical E Plane- Cell F - Patterns- 2600-2700 MHz



Typical E Plane- Cell F - Patterns- 4400-4800 MHz



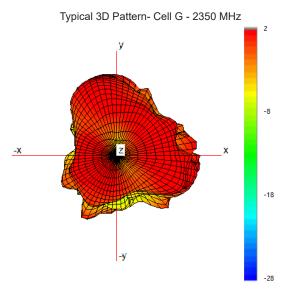


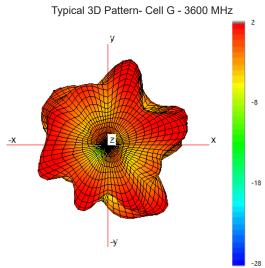
# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

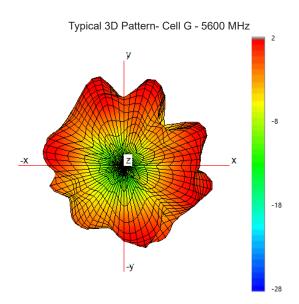


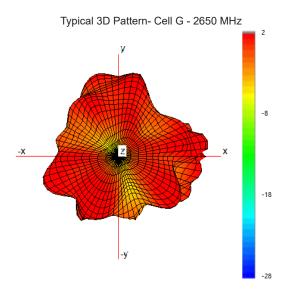
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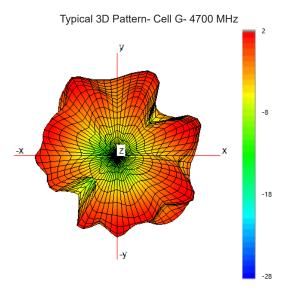
3D Pattern Data in Free Space Cell G





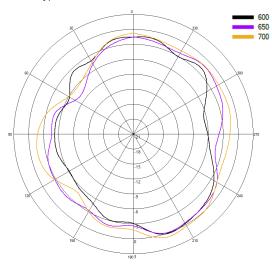




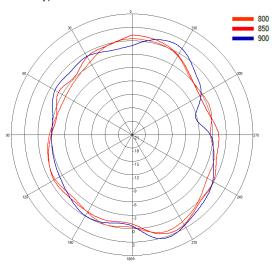


2D Pattern Data in Free Space Cell G - H Plane

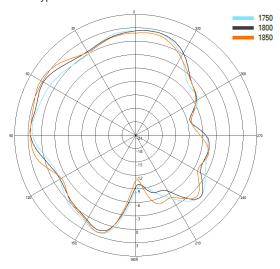
Typical H Plane- Cell G - Patterns- 600-700MHz



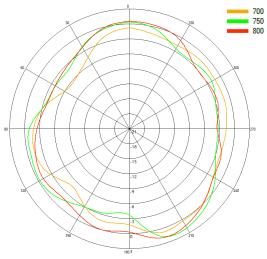
Typical H Plane- Cell G - Patterns- 800-900MHz



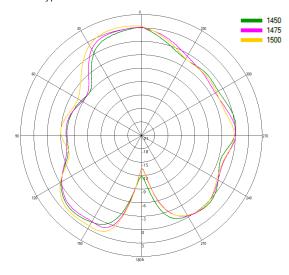
Typical H Plane- Cell G- Patterns- 1750-1850 MHz



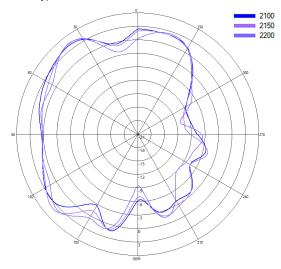
Typical H Plane- Cell G - Patterns- 700-800MHz



Typical H Plane- Cell G- Patterns- 1450-1500 MHz

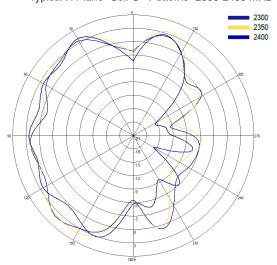


Typical H Plane- Cell G - Patterns- 2100-2200 MHz

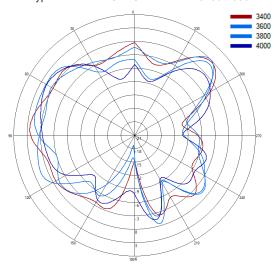


## 2D Pattern Data in Free Space Cell G - H Plane

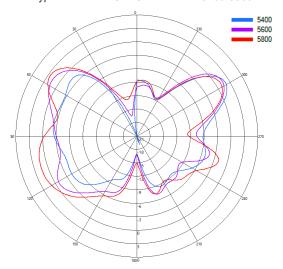
Typical H Plane- Cell G - Patterns- 2300-2400 MHz



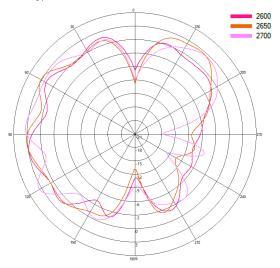
Typical H Plane- Cell G - Patterns- 3400-4000 MHz



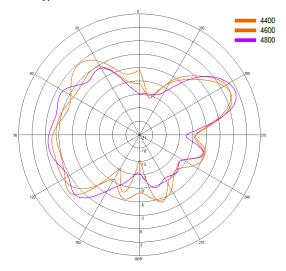
Typical H Plane- Cell G - Patterns- 5400-5800 MHz



Typical H Plane- Cell G - Patterns- 2600-2700 MHz

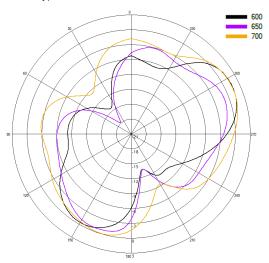


Typical H Plane- Cell G - Patterns- 4400-4800 MHz

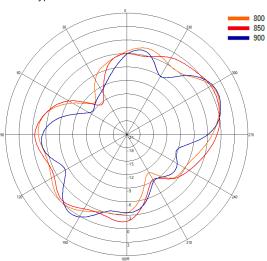


2D Pattern Data in Free Space Cell G - E Plane

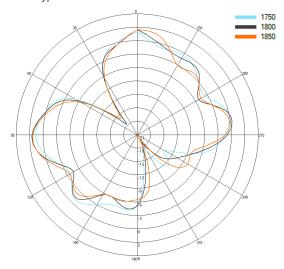
Typical E Plane- Cell G - Patterns- 600-700MHz



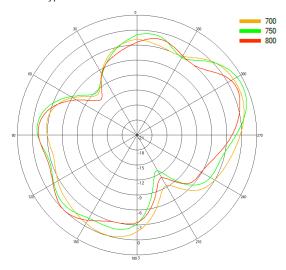
Typical E Plane- Cell G - Patterns- 800-900MHz



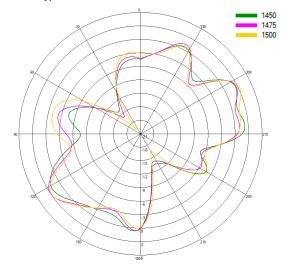
Typical E Plane- Cell G- Patterns- 1750-1850 MHz



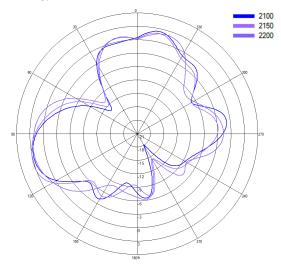
Typical E Plane- Cell G - Patterns- 700-800MHz



Typical E Plane- Cell G- Patterns- 1450-1500 MHz

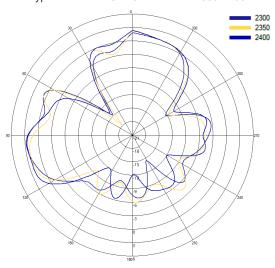


Typical E Plane- Cell G- Patterns- 2100-2200 MHz

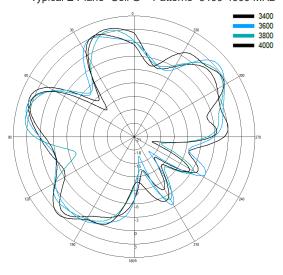


2D Pattern Data in Free Space Cell G - E Plane

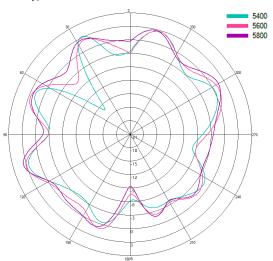
Typical E Plane- Cell G - Patterns- 2300-2400 MHz



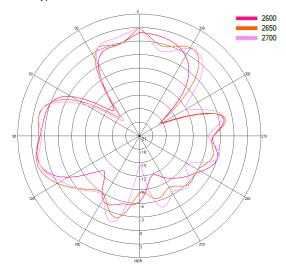
Typical E Plane- Cell G - Patterns- 3400-4000 MHz



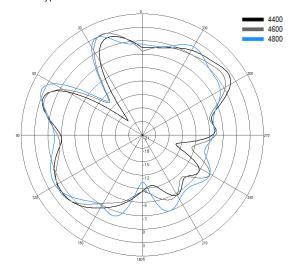
Typical E Plane- Cell G - Patterns- 5400-5800 MHz

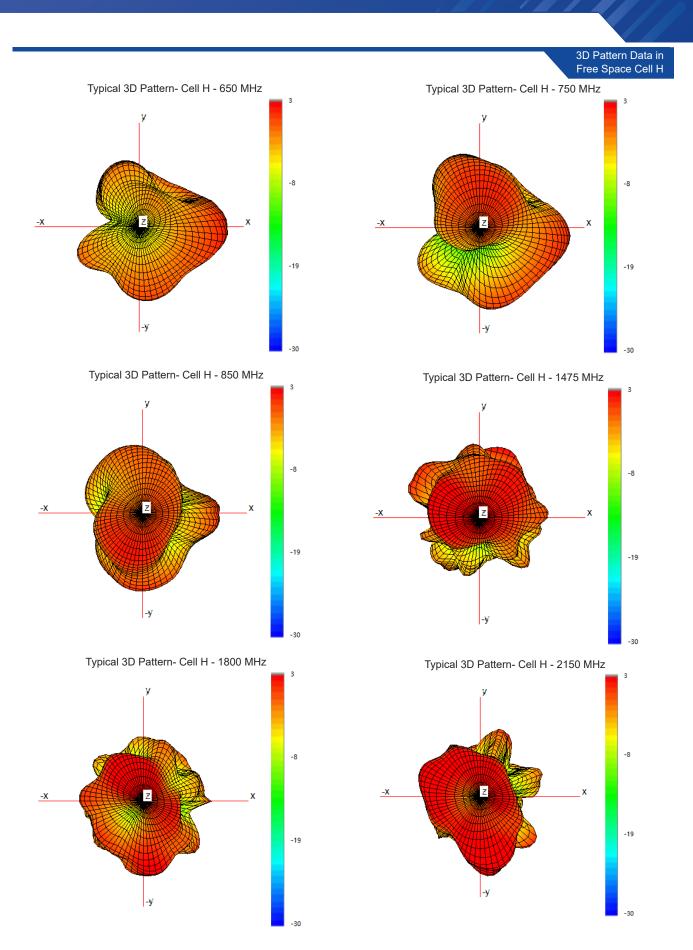


Typical E Plane- Cell G - Patterns- 2600-2700 MHz



Typical E Plane- Cell G - Patterns- 4400-4800 MHz

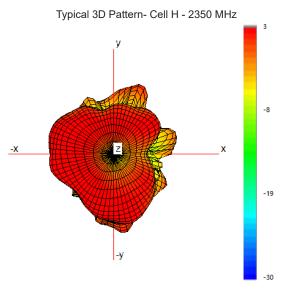


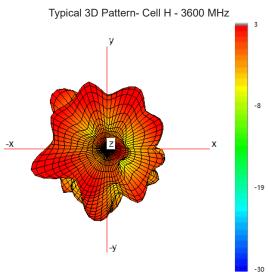


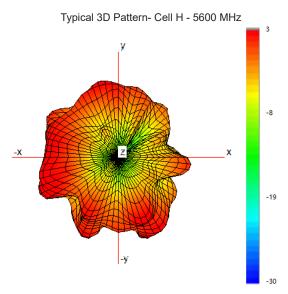
# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

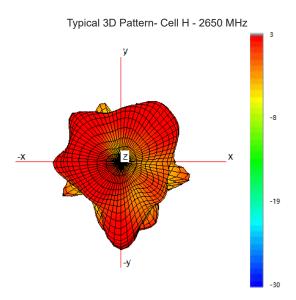
DWMM8[X]-6-60-[X]

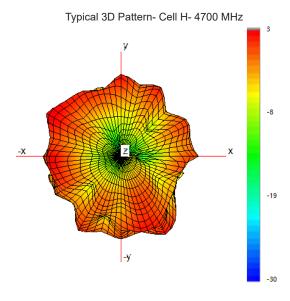
3D Pattern Data in Free Space Cell H





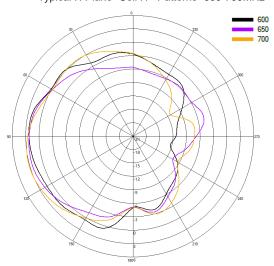




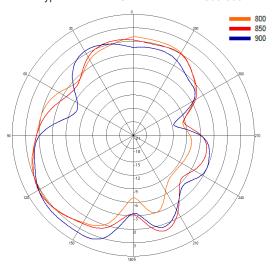


2D Pattern Data in Free Space Cell H - H Plane

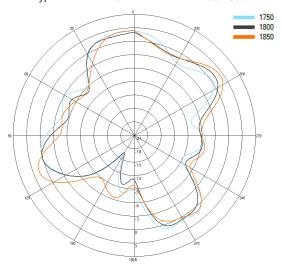
Typical H Plane- Cell H - Patterns- 600-700MHz



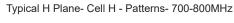
Typical H Plane- Cell H - Patterns- 800-900MHz

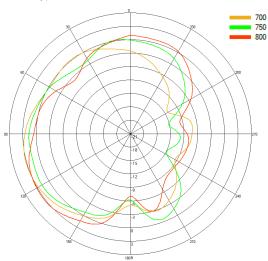


Typical H Plane- Cell H- Patterns- 1750-1850 MHz

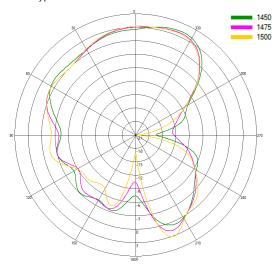


Panorama Antennas Ltd Frogmore, London, SW18 1HF, United Kingdom T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477 E: sales@panorama-antennas.com W: www.panorama-antennas.com

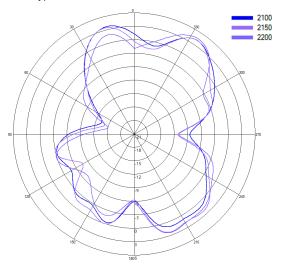




Typical H Plane- Cell H- Patterns- 1450-1500 MHz

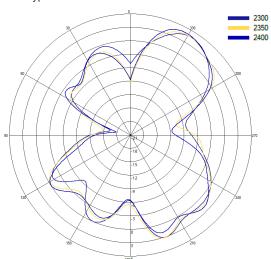


Typical H Plane- Cell H - Patterns- 2100-2200 MHz

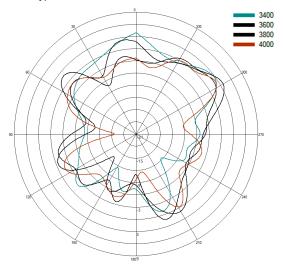


## 2D Pattern Data in Free Space Cell H - H Plane

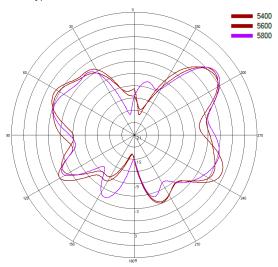
Typical H Plane- Cell H - Patterns- 2300-2400 MHz



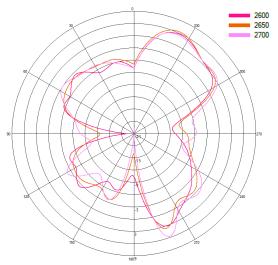
Typical H Plane- Cell H - Patterns- 3400-4000 MHz



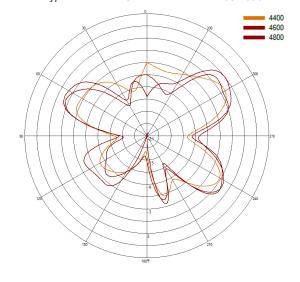
Typical H Plane- Cell H - Patterns- 5400-5800 MHz



Typical H Plane- Cell H - Patterns- 2600-2700 MHz

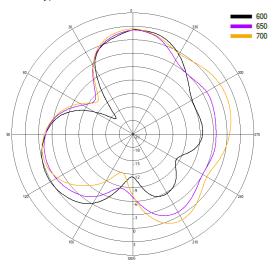


Typical H Plane- Cell H - Patterns- 4400-4800 MHz

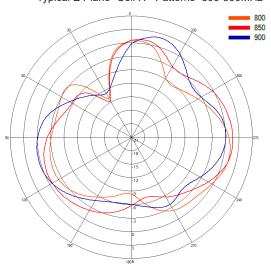


2D Pattern Data in Free Space Cell H - E Plane

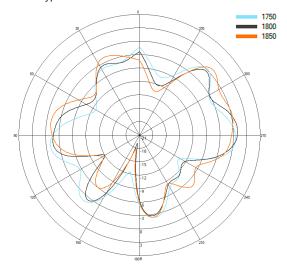
Typical E Plane- Cell H - Patterns- 600-700MHz



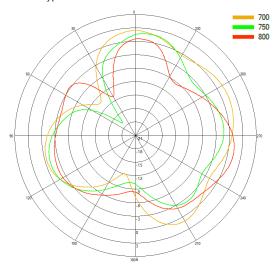
Typical E Plane- Cell H - Patterns- 800-900MHz



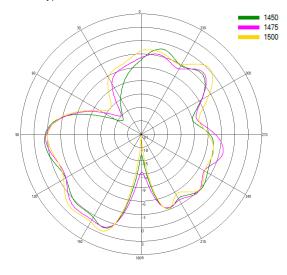
Typical E Plane- Cell H- Patterns- 1750-1850 MHz



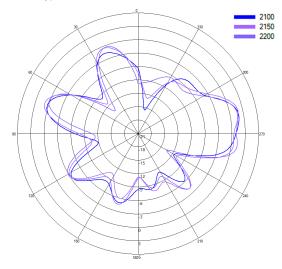
Typical E Plane- Cell H - Patterns- 700-800MHz



Typical E Plane- Cell H- Patterns- 1450-1500 MHz

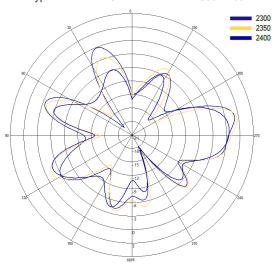


Typical E Plane- Cell H- Patterns- 2100-2200 MHz

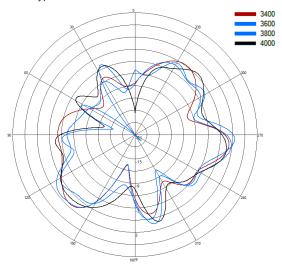


2D Pattern Data in Free Space Cell H - E Plane

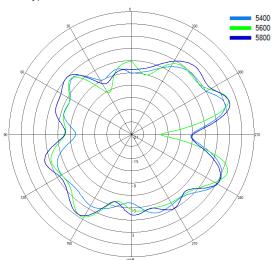
Typical E Plane- Cell H - Patterns- 2300-2400 MHz



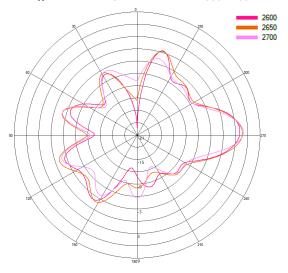
Typical E Plane- Cell H - Patterns- 3400-4000 MHz



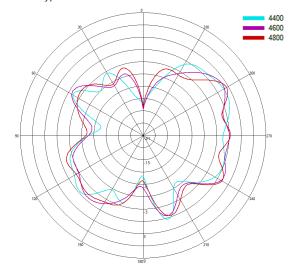
Typical E Plane- Cell H - Patterns- 5400-5800 MHz



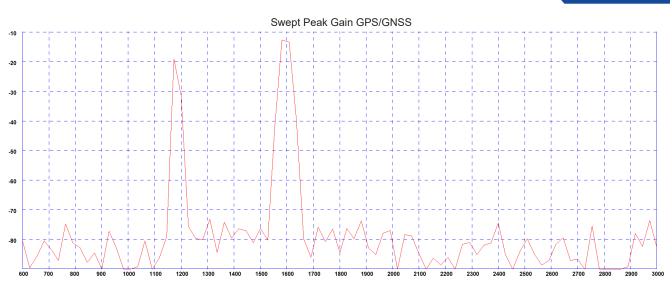
Typical E Plane- Cell H - Patterns- 2600-2700 MHz



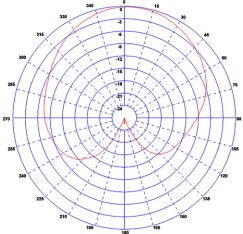
Typical E Plane- Cell H - Patterns- 4400-4800 MHz



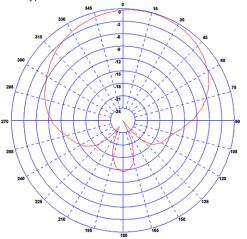
Electrical Data- L1/ L5 GPS/GNSS



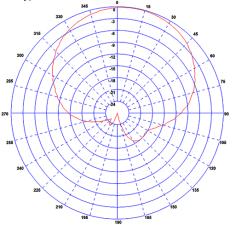
Typical E Plane Pattern - GPS/GNSS 1575 MHz



Typical E Plane Pattern - GPS/GNSS 1602 MHz



Typical E Plane Pattern - GPS/GNSS 1176 MHz



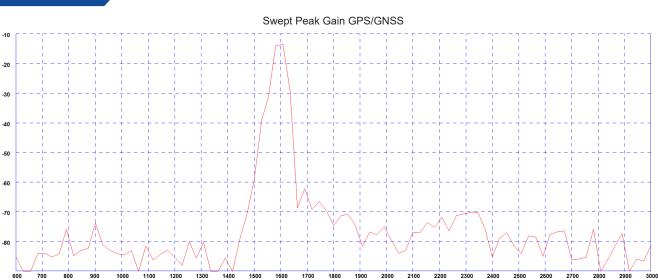
GPS/GNSS Measurements taken on 190x190mm (7.4" x 7.4") ground plane excluding cable loss

# 2x 4x4 MiMo 4G/5G Wall / Mast Mount Antenna PANORAMA PANTENNAS

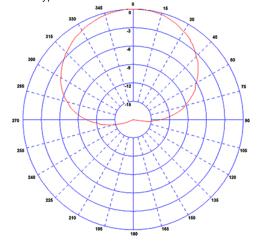


DWMM8[X]-6-60-[X]

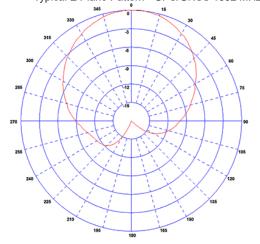




Typical E Plane Pattern - GPS/GNSS 1575 MHz



Typical E Plane Pattern - GPS/GNSS 1602 MHz



GPS/GNSS Measurements taken on 190x190mm (7.4" x 7.4") ground plane excluding cable loss