

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™



- Low Profile 2x2 4G/5G MiMo
- Up to 6x6 MiMo Dual Band WiFi 6E
- Optional GPS/GNSS Active Antenna 26dB LNA

The L[G]M[X]M[X]-6-60[-24-58] range has been designed to provide 2x2 4G/5G MiMo performance from 617-960/1427-6000MHz in a robust low profile package. The flexible platform allows the main elements to be combined with a number of other functions including GPS/GNSS and up to 6x6 MiMo WiFi 6e / 7 covering 2.4/4.9-7.2GHz.

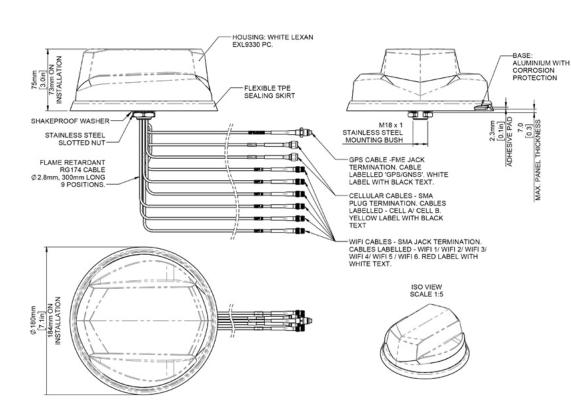
The antenna is designed to be panel mounted and can be fitted on a conductive or non- conductive panel. Supplied with integrated flame retardant RG174 cables (Compliant to UN ECE R118 and EN45545-2) and a halogen free flame retardant radome the antenna is suitable for many environments and applications.

The LGM variants have an integrated GPS/GNSS module supporting GPS, Glonass, Galileo and Compass with 26dB LNA gain. This GPS module features advanced filtering for LTE B13/14 designed to minimise potential in band interference.

The antenna is available with a black or white radome which meets IK10 for vandal resistance and IP69K for ingress protection. The range has been certified to EN50155 and EN45545-2 and is suitable for many tram and light rail applications.

Technical Drawing

LGMHM-6-60-24-58 Shown



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

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L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Product Data

Part No.			LGMHM-6-60-24-58	LGMHMB-6-60-24-58	LGMOM-6 60 24 59	LGMQMB-6-60-24-58			
Electrical Data			LGIMHM-0-00-24-38	LGINIHIVIB-0-00-24-38	LGMQM-0-00-24-38	LGMQMB-0-00-24-30			
				2x 617-960	/ 1427-6000				
Frequency Rar (MHz)	WiFi Elements		6x 2 4 / 5 1	50-7.125GHz		150-7.125GHz			
. ,		617-960MHz	0/ 2.17 0.1	6					
				8					
Peak Gain: Iso	4G/5G Elements	1427-4200MHz		0	. I				
*(dBi)		4400-6000MHz		7	.4				
	WiFi Elements	2.4GHz		8.9					
		5.15-7.125GHz	10.2						
Typical Efficien	4G/5G Elements			>7:	2%				
	WiFi Elements			>5	4%				
Isolation *	4G/5G Elements			>12	2dB				
	Wifi Elements			>20)dB				
Correlation	4G/5G Elements			< (0.1				
Co-efficient	WiFi Elements			<().1				
Nominal Impec	dance			50	Ω				
GPS/GNSS D	ata								
Frequency Rar	nge (MHz)			1562-1	1612				
Gain: LNA			26dB						
Out of band rej	jection		>40dB (@ > +/- 100MHz f)						
Typical Noise F	Figure		-2.7dB						
Notch Filter rej	jection @787MHz			23dE	3m				
Operating Volta	age			3 - 5V	DC				
Typcal Current	t (mA)		17						
Mechanical Da	ata								
Dimensions	Height		75 (3")						
(mm)	Diameter			180 (7.1")					
Operating Tem	ıp			-40°/ +80°C (-	40° / +176°F)				
Colour			White	Black	White	Black			
Ingress & Van	dal Protection			IP69K	& IK10				
Rail Industry S	tandards		EN50155:2021 (Dry heat & Cooling, Damp Heat), EN61373:2010 / EN50155:2021 (Shock & Vibration), EN45545:2020- HL3 (flammability)						
Mounting Data	I.								
Mounting type			Panel mount						
Max panel thic	kness (mm)		7 (0.27")						
Mounting hole (mm)				19 (3/4")				
Cable Data									
	Туре			RG174 -FR (UN EC	CE R118 Compliant)				
All Cables	Diameter (mm)			2.8 (0.1")				
	Length (m)			0.3	(1')				
Terminations			GPS/GNSS	4G /	5G	WiFi			
Connectors			FME (f)	SMA	(m)	SMA (f)			

* Peak gain, isolation and efficiency measured on a 600x600mm (2'x2') ground plane without additional cable. Efficiency given as the average across all relevant bands.

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L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Product Data

Part No.									
			LGMTM-6-60-24-58	LGMTMB-6-60-24-58	LGMDM-6-60-24-58	LGMDMB-6-60-24-5			
Electrical Data									
Frequency Range	4G/5G Elements		2x 617-960 / 1427-6000						
(MHz)	WiFi Elements		3x 2.4 / 5.15	50-7.125GHz	2x 2.4 / 5.1	50-7.125GHz			
		617-960MHz		6.	2				
	4G/5G Elements	1427-4200MHz		8.	1				
Peak Gain: Isotropi (dBi)	ic*	4400-6000MHz		7.	4				
()		2.4GHz		8.	9				
	WiFi Elements	5.15-7.125GHz		10	.2				
	4G/5G Elements			>72	2%				
Typical Efficiency *	WiFi Elements			>54	1%				
ll	4G/5G Elements			>12	dB				
Isolation *	Wifi Elements			>20	dB				
Correlation	4G/5G Elements			< ().1				
Co-efficient	WiFi Elements			<0	.1				
Nominal Impedance	e			50	Ω				
GPS/GNSS Data									
Frequency Range ((MHz)			1562-	1612				
Gain: LNA			26dB						
Out of band rejection	on		>40dB (@ > +/- 100MHz f)						
Typical Noise Figur	e			-2.7	ďB				
Notch Filter rejection	on @787MHz			23d	Bm				
Operating Voltage			3 - 5V DC						
Typcal Current (mA	A)		17						
Mechanical Data									
Dimonolonio	ight		75 (3")						
(mm) Dia	ameter		180 (7.1")						
Operating Temp				-40°/ +80°C (-4	40° / +176°F)				
Colour			White	Black	White	Black			
Ingress & Vandal P	rotection			IP69K					
Rail Industry Stand	ards		EN50155:2021 (Dry heat & Cooling, Damp Heat), EN61373:2010 / EN50155:2021 (Shock 8 Vibration), EN45545:2020- HL3 (flammability)						
Mounting Data									
Mounting type				Panel	mount				
Max panel thicknes	ss (mm)		7 (0.27")						
Mounting hole (mm)			19 (3/4")						
Cable Data									
Ту	pe			RG174 -FR (UN EC	E R118 Compliant)				
All Cables Dia	ameter (mm)		2.8 (0.1")						
Le	ngth (m)			0.3	(1')				
Terminations			GPS/GNSS	4G/	5G	WiFi			
Connectors			FME (f)	SMA	(m)	SMA (f)			

* Peak gain, isolation and efficiency measured on a 600x600mm (2'x2') ground plane without additional cable. Efficiency given as the average across all relevant bands.



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							Product Data		
Part No.						``			
				LGMM-6-60	LGMMB-6-60	LPMM-6-60	LPMMB-6-60		
Electrical Data									
Frequency Rar	nge (MHz)	4G/5G Elements			2x 617-960 /	/ 1427-6000			
			617-960MHz		6.	2			
Peak Gain: Iso *(dBi)	otropic 4G/5G Elemer		1427-4200MHz	8.1					
			4400-6000MHz	7.4					
Typical Efficien	cy*	4G/5G Elements			>72	2%			
Isolation*		4G/5G Elements							
Correlation Co-	-efficient	4G/5G Elements			< ().1			
Nominal Imped	lance				50	Ω			
GPS/GNSS D	ata								
Frequency Rar	nge (MHz)			1562	-1612		-		
Gain: LNA				26	бdВ		-		
Out of band rej	ection			>40dB (@ >	+/- 100MHz f)		-		
Typical Noise F	igure			-2.	7dB		-		
Notch Filter reje	ection @787	7MHz		23dBm -					
Operating Volta	age			3 - 5V DC -					
Typcal Current	(mA)				17		-		
Mechanical Da	ta								
Dimensions	Height				75 ((3")			
(mm)	Diameter				180 (7.1")				
Operating Tem	р				-40°/ +80°C (-4				
Colour				White	Black	White	Black		
Ingress & Impa	ct Protectio	n			IP69K				
Rail Industry St	tandards				heat & Cooling, Damp He & Vibration), EN45545:2				
Mounting Data									
Mounting type					Panel	mount			
Max panel thicl	kness (mm)			7 (0.27")					
Mounting hole	(mm)				19 (3	3/4")			
Cable Data									
Туре					RG174 -FR (UN EC	E R118 Compliant)			
All Cables	Diameter ((mm)			2.8 (0	0.1")			
	Length (m	1)			0.3	(1')			
Terminations									
4G/5G					SMA	(m)			
GPS/GNSS					FME	E (f)			

* Peak gain, isolation and efficiency measured on a 600x600mm (2'x2') ground plane without additional cable. Efficiency given as the average across all relevant bands.

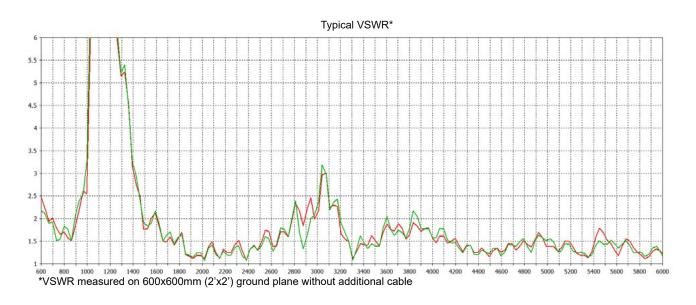


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Electrical Data Cell -Ground Plane

Measurement Conditions	4G/5G Antennas						
LGMDM-6-60-24-58 measured on 600x600mm (2'x2') ground plane without addtional cable	Frequency Range (MHz)	LTE Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)		
	617-698	71, 105	Cell A	3.7	70		
			Cell B	4.1	70		
	699-798	12,13, 14 17,28	Cell A	4.0	71		
	099-790	12,13, 14 17,20	Cell B	4.2	71		
	807- 862	5,19,20,26,27	Cell A	4.7	64		
	007-002		Cell B	4.0	60		
	880-960	8	Cell A	6.2	61		
	000-900	0	Cell B	5.8	60		
	1427-1518	11, 21, 74,75,76	Cell A	6.8	71		
SUCCESSION IN MAR & PRODUCTS			Cell B	7.0	72		
	1710-1920 2,3,4,9,25,35,39,66	2 2 4 0 25 25 20 66	Cell A	7.5	75		
		Cell B	7.5	73			
	1920-2170 1,23	1 00	Cell A	7.8	81		
CAUSSIN CAUSSIN		Cell B	8.1	80			
	2300-2400 30,4	30.40	Cell A	7.3	84		
		50,40	Cell B	7.8	83		
CARLER HILLS	2496-2690	7,38,41	Cell A	7.1	81		
	2490-2090 7,30,41	7,50,41	Cell B	7.5	80		
	3300-4200 22,42,43,48,77,78	22 42 43 48 77 78	Cell A	7.6	71		
		22,42,40,40,11,10	Cell B	8.1	68		
	4400-5000	79	Cell A	7.4	74		
	4400-3000	13	Cell B	6.7	70		

Electrical Data Cell -Ground Plane



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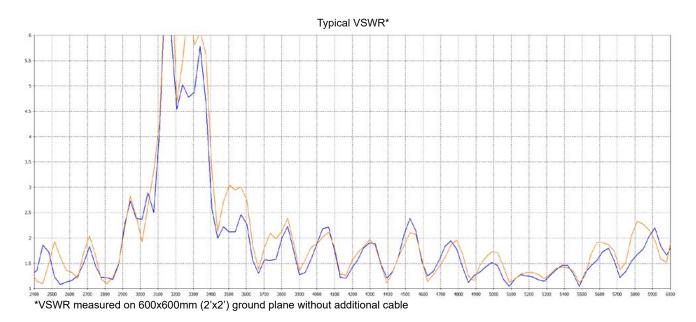
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Electrical Data WiFi -Ground Plane

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Measurement Conditions	WiFi Antenna	as			
LGMDM-6-60-24-58 measured on 600x600mm (2'x2') ground plane without addtional cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	2396-2485	2.4GHz	WiFi 1	7.2	73
	2390-2465	2.4002	WiFi 2	8.9	72
	5150-5250	UNII-1	WiFi 1	8.1	62
	5150-5250	UNII-1	WiFi 2	7.3	62
	5250-5350	UNII-2A	WiFi 1	8.5	60
	5250-5550	UNII-2A	WiFi 2	8.1	64
	5350-5470	UNII-2B	WiFi 1	9.4	62
	5550-5470	UNII-2B	WiFi 2	9.3	65
	5470-5725	UNII-2C	WiFi 1	10.1	60
	3470-3723	0111-20	WiFi 2	10.1	62
	5725-5850	UNII-3	WiFi 1	9.0	57
		0111-0	WiFi 2	10.1	58
	5850-5925	UNII-4	WiFi 1	8.1	50
2220NN MASS		0111-4	WiFi 2	10.2	56
(1997) A.	5925-6425	UNII-5	WiFi 1	8.6	41
		UNII-5	WiFi 2	10.2	50
	6425-6525	UNII-6	WiFi 1	4.4	30
	0425-0525	UNII-0	WiFi 2	7.8	45
	6525-6875	UNII-7	WiFi 1	3.5	31
	0323-0075	UNII-7	WiFi 2	6.4	40
	6875-7125	UNII-8	WiFi 1	6.5	38
	0070-7120	UINII-O	WiFi 2	6.4	40

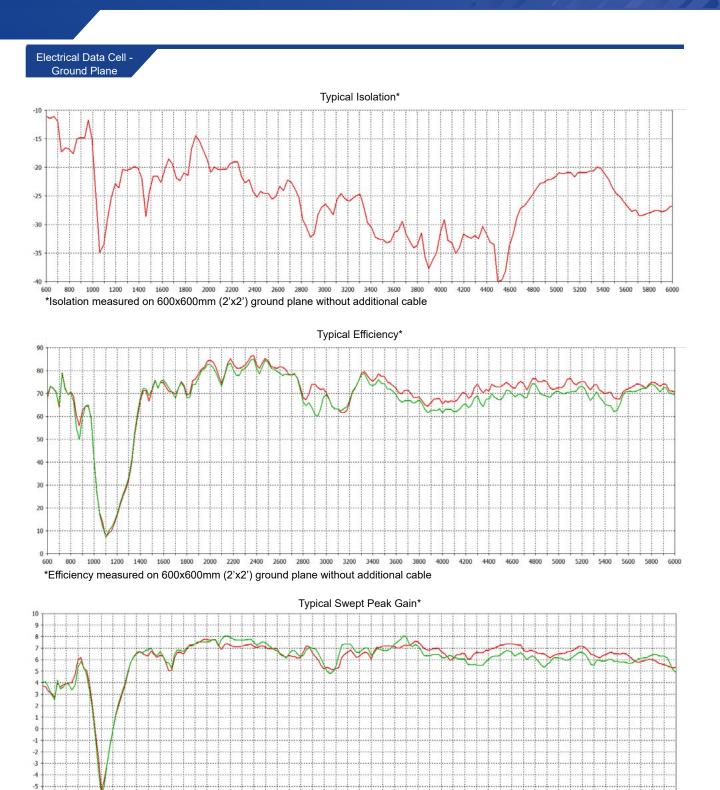
Electrical Data WiFi -Ground Plane



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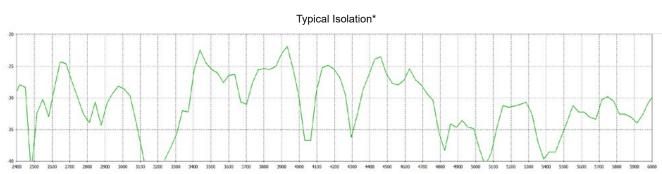
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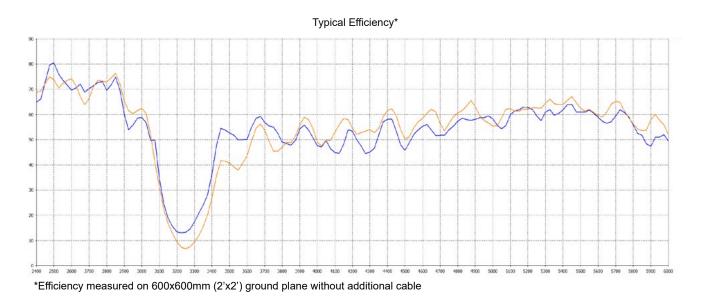
-6 -7 -8 -10

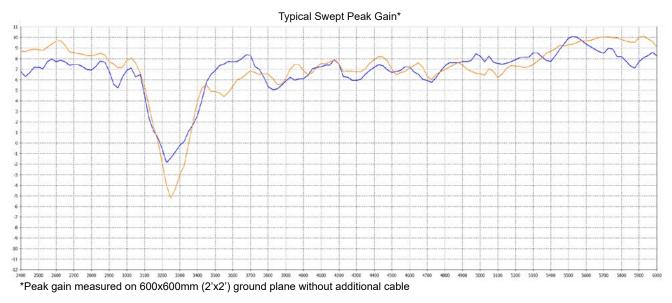
 Electrical Data WiFi -Ground Plane

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*Isolation measured on 600x600mm (2'x2') ground plane without additional cable



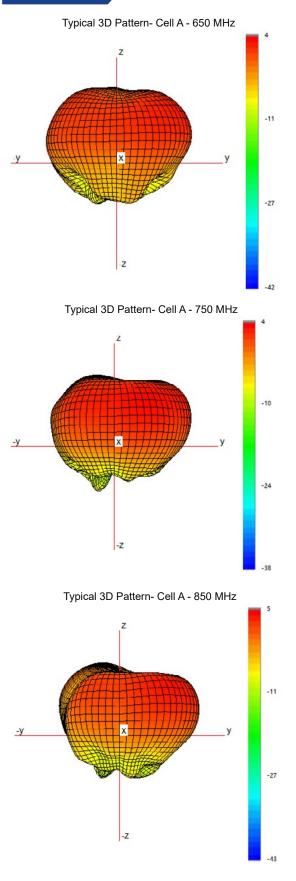


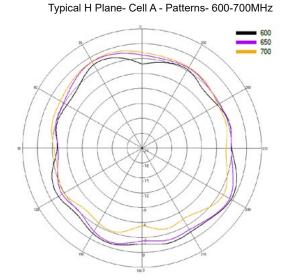
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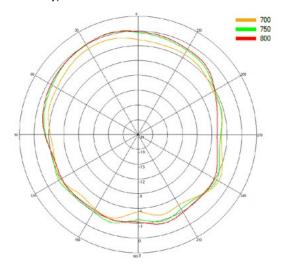
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3D Pattern Data on Ground Plane Cell A

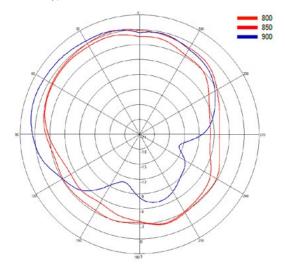




Typical H Plane- Cell A - Patterns- 700-800MHz



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



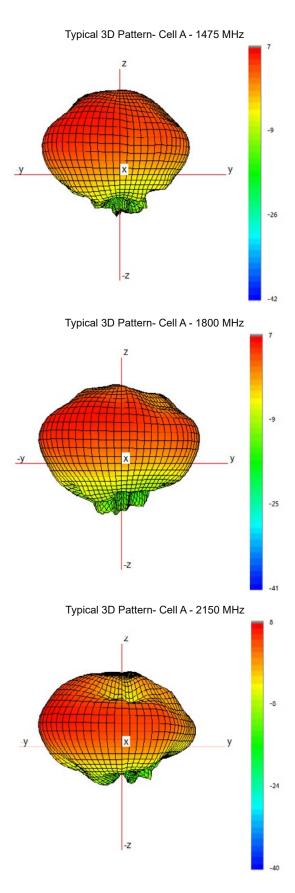
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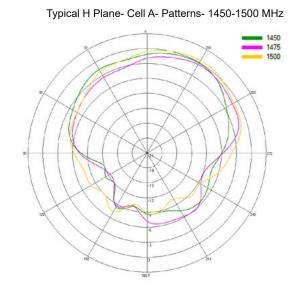
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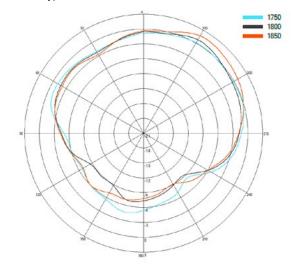
3D Pattern Data on Ground Plane Cell A

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

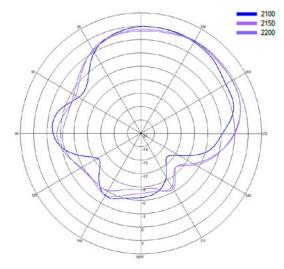




Typical H Plane- Cell A- Patterns- 1750-1850 MHz



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



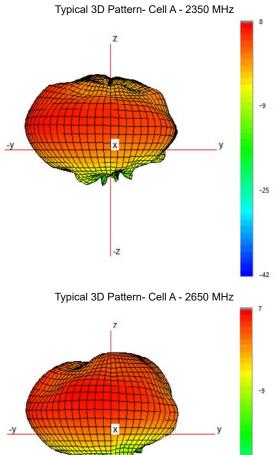
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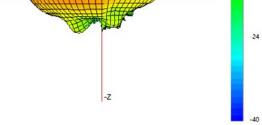
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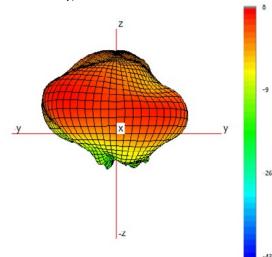
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3D Pattern Data on Ground Plane Cell A

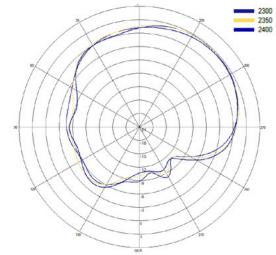




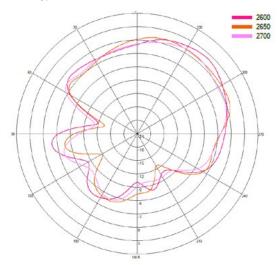
Typical 3D Pattern- Cell A - 3600 MHz



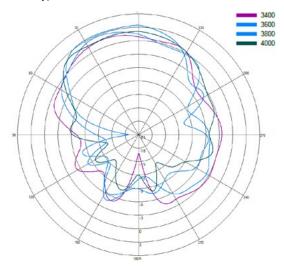
Typical H Plane- Cell A - Patterns- 2300-2400 MHz



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



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



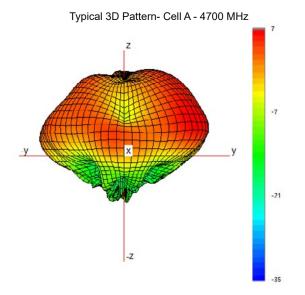
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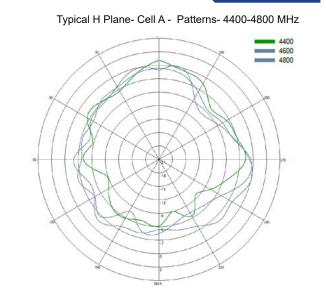
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3D Pattern Data on Ground Plane Cell A

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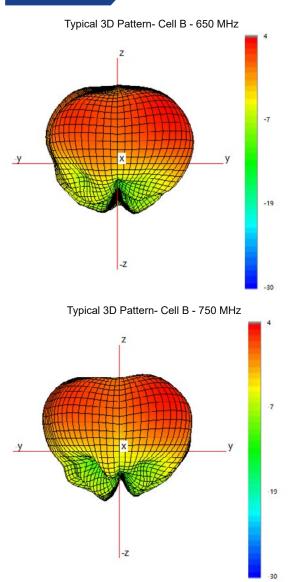


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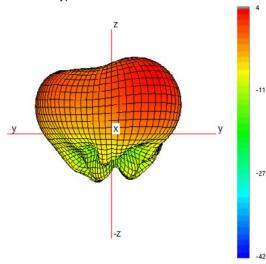
Typical H Plane- Cell B - Patterns- 600-700MHz

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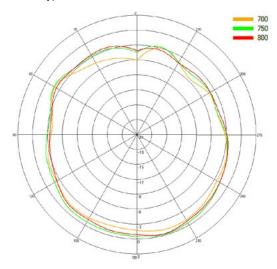
3D Pattern Data on Ground Plane Cell B



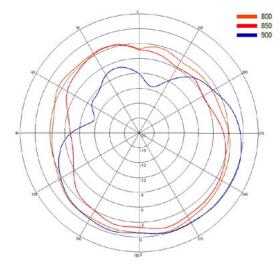
Typical 3D Pattern- Cell B - 850 MHz



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



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



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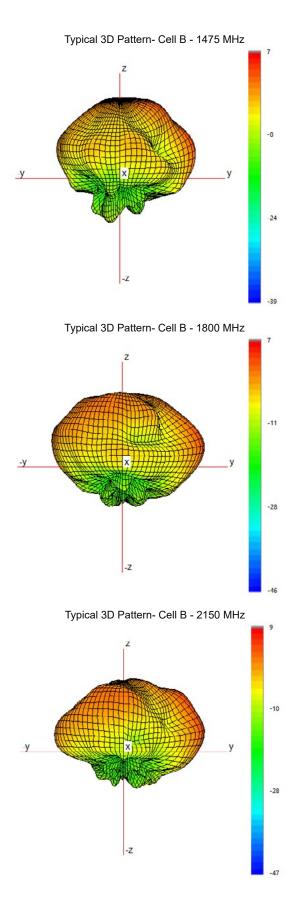
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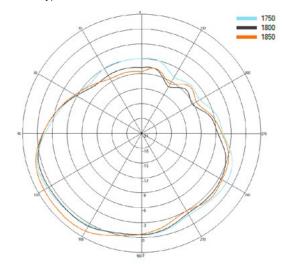
3D Pattern Data on Ground Plane Cell B

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

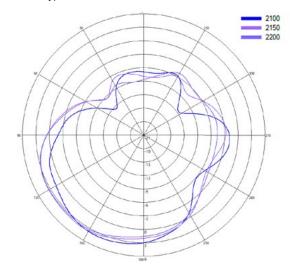


Typical H Plane- Cell B- Patterns- 1450-1500 MHz 1450 1475 1500

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



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



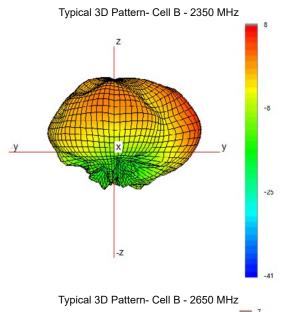
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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7 Page 14

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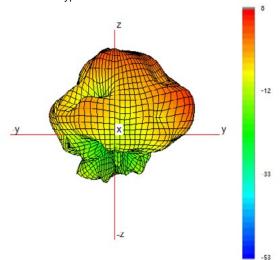
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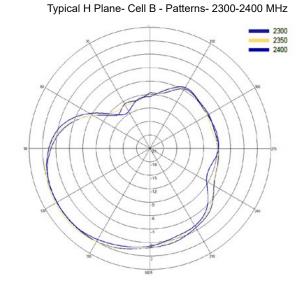
3D Pattern Data on Ground Plane Cell B



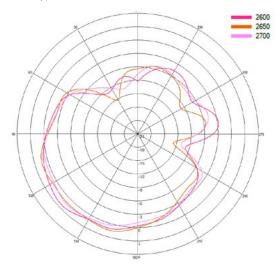
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Typical 3D Pattern- Cell B - 3600 MHz

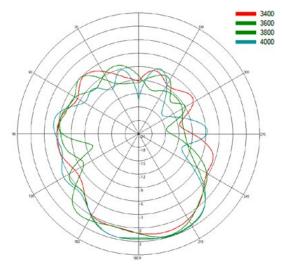




Typical H Plane- Cell B - Patterns- 2600-2700 MHz



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



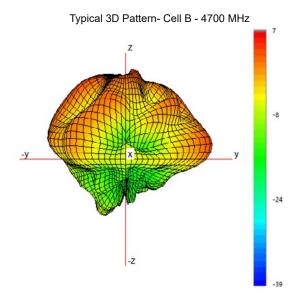
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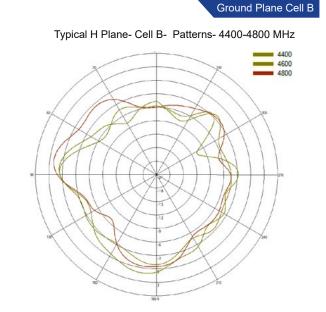
L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

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3D Pattern Data on

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

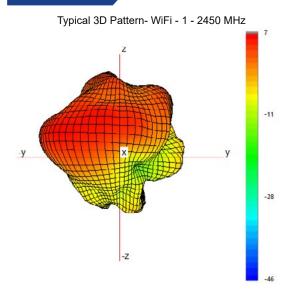




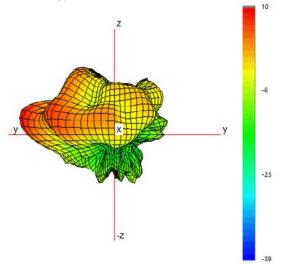
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L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

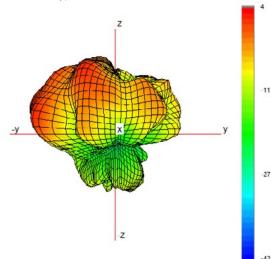
3D Pattern Data in Ground Plane WIFI - 1



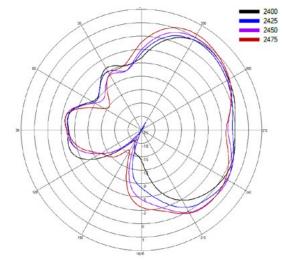
Typical 3D Pattern- WiFi - 1 - 5500 MHz



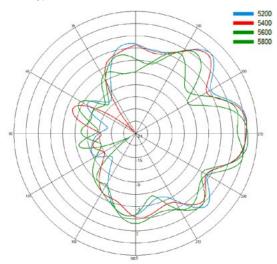
Typical 3D Pattern- WiFi - 1 - 6500 MHz



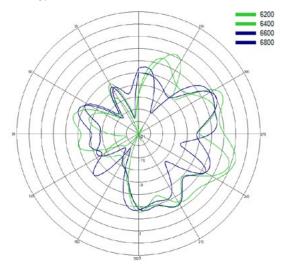
Typical H Plane- WiFi - 1 - Patterns- 2400-2475MHz



Typical H Plane- WiFi - 1 - Patterns- 5200-5800MHz



Typical H Plane- WiFi - 1 - Patterns- 6200-6800MHz



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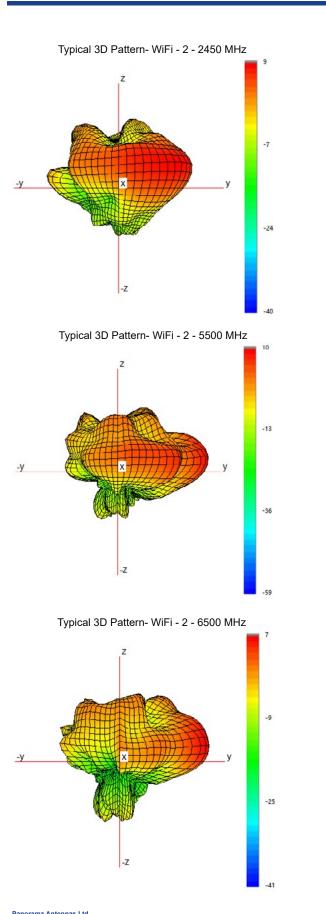
L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

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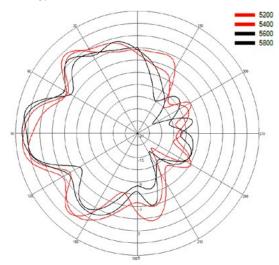
Typical H Plane- WiFi - 2 - Patterns- 2400-2475MHz

3D Pattern Data in Ground Plane WIFI - 2

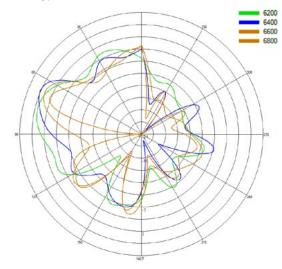
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™



Typical H Plane- WiFi - 2 - Patterns- 5200-5800MHz



Typical H Plane- WiFi - 2 - Patterns- 6200-6800MHz



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

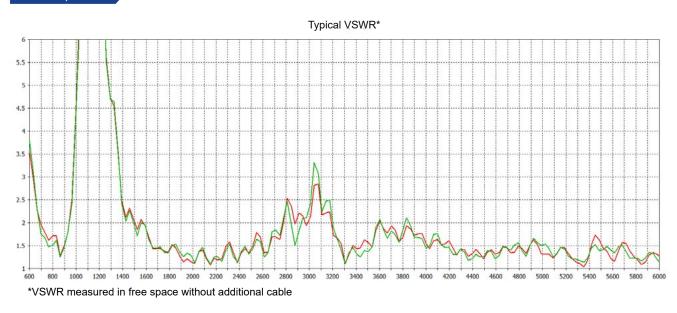


L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Electrical Data Cell -Free Space

Measurement Conditions	4G/5G Antennas					
LGMDM-6-60-24-58 measured in free space without additional cable	Frequency Range (MHz)	LTE Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)	
	617-698	71, 105	Cell A	1.8	67	
			Cell B	1.4	75	
	699-798	10 10 11 17 00	Cell A	2.9	76	
	099-790	12,13, 14 17,28	Cell B	2.8	78	
a faith faith an	807- 862	E 10 00 06 07	Cell A	3.9	85	
	007-002	5,19,20,26,27	Cell B	4.0	86	
	880-960	8	Cell A	3.9	78	
	880-900	0	Cell B	4.0	78	
	4407 4540	11, 21, 74,75,76	Cell A	4.7	75	
	1427-1518		Cell B	4.8	73	
	1710-1920 2,3,4	2,3,4,9,25,35,39,66	Cell A	4.9	75	
MASSA CANA			Cell B	5.1	74	
	1920-2170 1,2	1,23	Cell A	5.4	83	
CANN. MMASS			Cell B	5.2	82	
and the second	2300-2400	30,40	Cell A	5.7	85	
			Cell B	5.2	85	
	2496-2690	7,38,41	Cell A	5.8	82	
	2490-2090	7,30,41	Cell B	5.4	82	
	2200 4200	22 42 42 49 77 79	Cell A	6.9	72	
	3300-4200 2	22,42,43,48,77,78	Cell B	6.5	72	
	4400 5000	79	Cell A	7.2	72	
	4400-5000	19	Cell B	7.5	72	

Electrical Data Cell -Free Space



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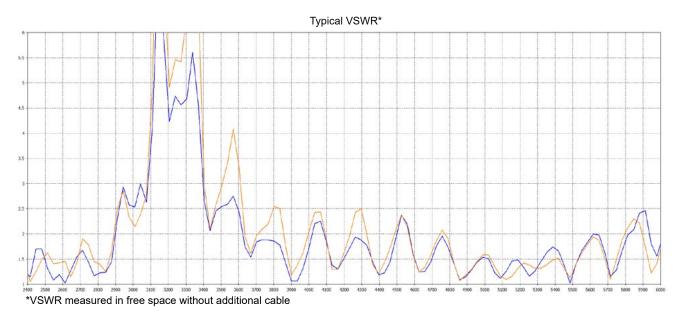
MiMo 4G/5G Dome Combination Antenna

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

					Free Space
Measurement Conditions	WiFi Antenna	as			
LGMDM-6-60-24-58 measured in free space without additional cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	2396-2485	2.4GHz	WiFi 1	4.4	72
	2000 2100		WiFi 2	5.5	76
	5150-5250	UNII-1	WiFi 1	8.1	61
	3130-3230	UNII-1	WiFi 2	7.2	65
	5250-5350	UNII-2A	WiFi 1	7.2	58
	5250-5550	UNII-ZA	WiFi 2	7.7	64
	5350-5470	UNII-2B	WiFi 1	8.4	59
	5350-5470	UNII-2B	WiFi 2	8.9	63
	5470-5725	UNII-2C	WiFi 1	8.1	56
	5470-5725		WiFi 2	8.9	59
	5725-5850	UNII-3	WiFi 1	6.6	54
		UNII-5	WiFi 2	8.3	54
ANN MADE	5850-5925	UNII-4	WiFi 1	6.5	47
	5650-5925	UNII-4	WiFi 2	7.5	53
	5925-6425	UNII-5	WiFi 1	6.9	40
MANTA ATTACT	5925-6425	UNII-5	WiFi 2	7.5	48
	0405 0505		WiFi 1	2.8	31
	6425-6525	UNII-6	WiFi 2	6.2	47
	0505 0075		WiFi 1	3.3	33
	6525-6875	75 UNII-7	WiFi 2	5.4	43
	0075 7405		WiFi 1	5.6	38
	6875-7125	UNII-8	WiFi 2	4.3	42

Electrical Data WiFi -Free Space

Electrical Data WiFi -



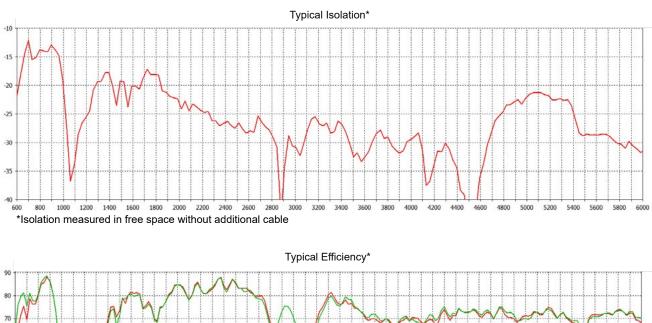
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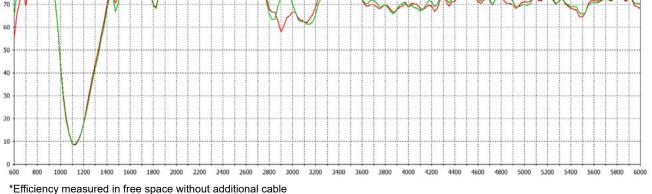
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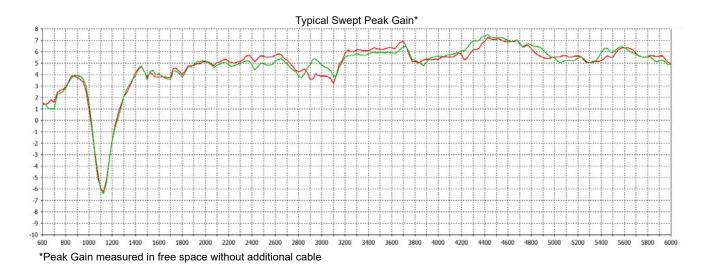
MiMo 4G/5G Dome Combination Antenna

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Electrical Data Cell -Free Space

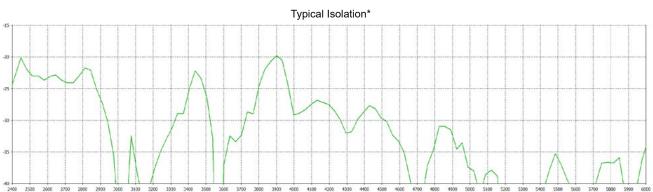




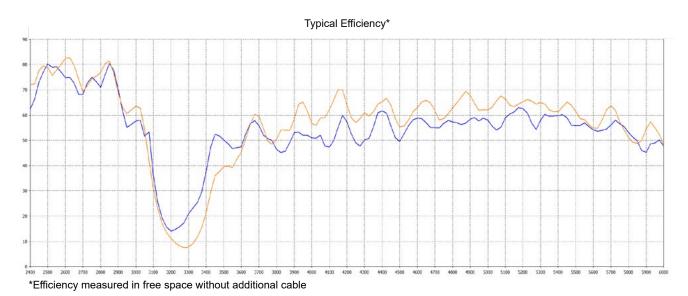


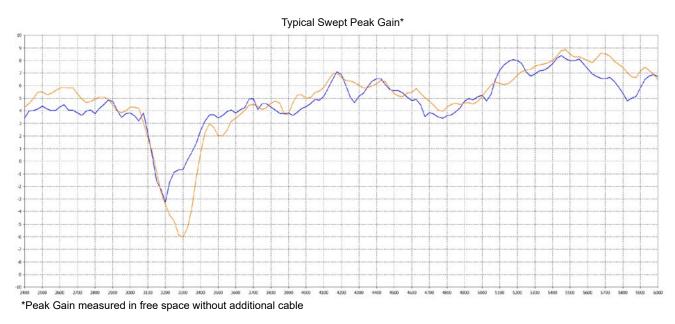
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Electrical Data WiFi -Free Space



*Isolation measured in free space without additional cable





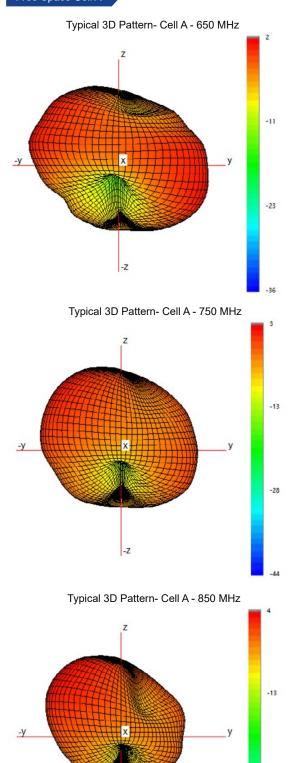
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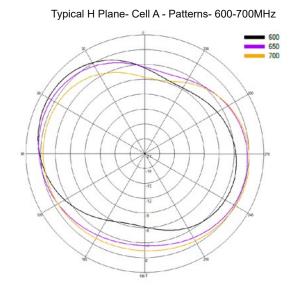
L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

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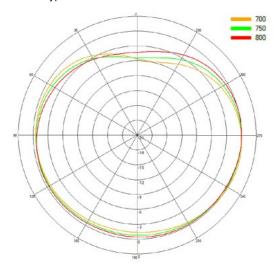
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3D Pattern Data in Free Space Cell A

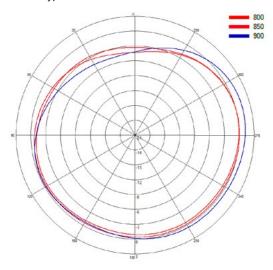




Typical H Plane- Cell A - Patterns- 700-800MHz



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



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

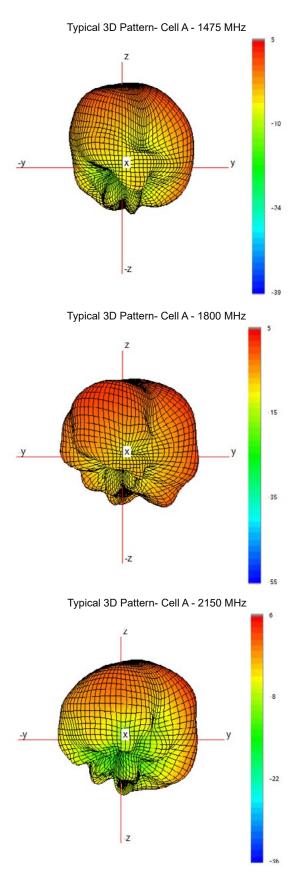
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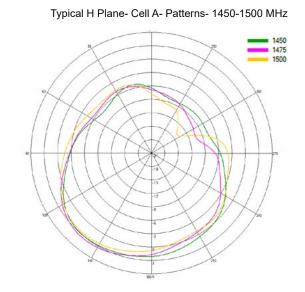
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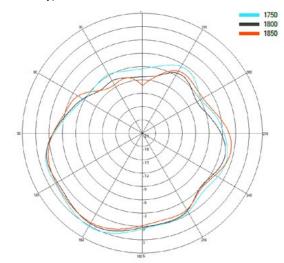
3D Pattern Data in Free Space Cell A

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

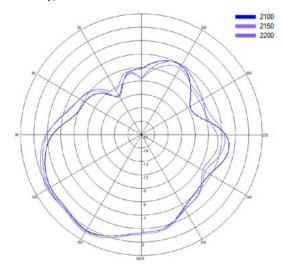




Typical H Plane- Cell A- Patterns- 1750-1850 MHz



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



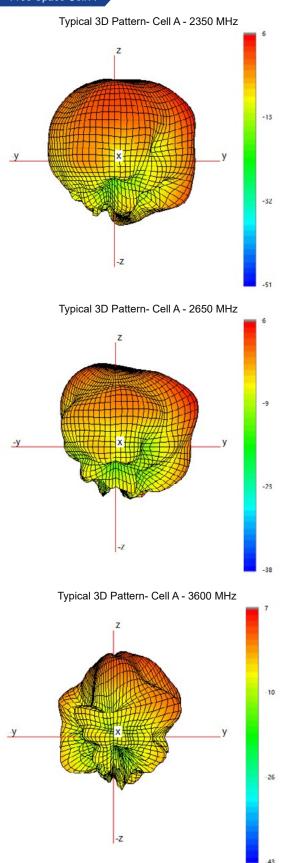
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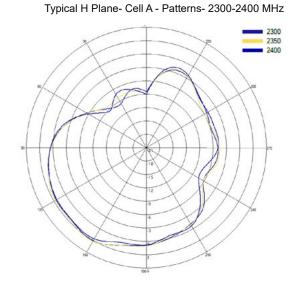
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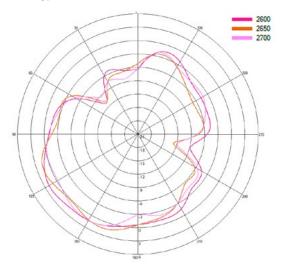
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3D Pattern Data in Free Space Cell A

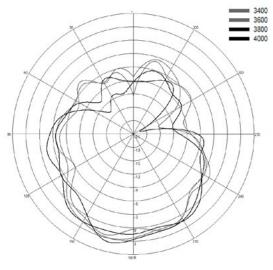




Typical H Plane- Cell A - Patterns- 2600-2700 MHz



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



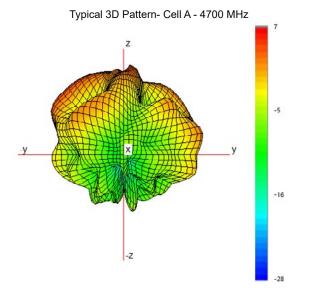
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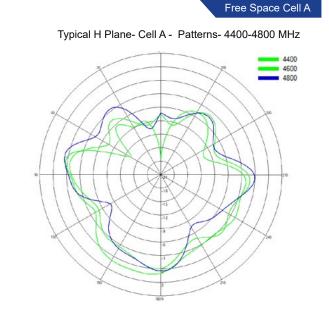
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3D Pattern Data in

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

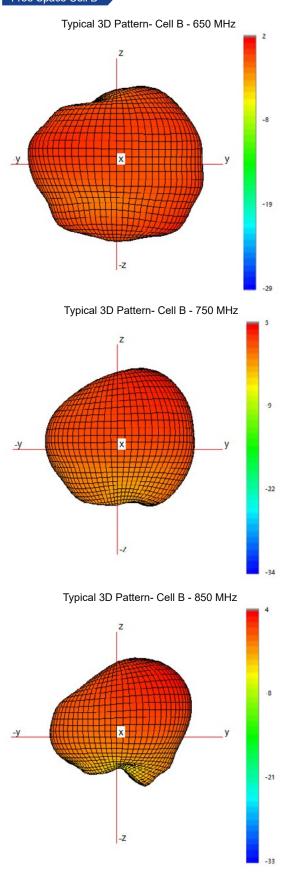


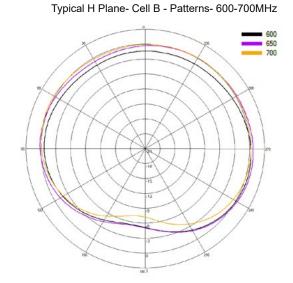


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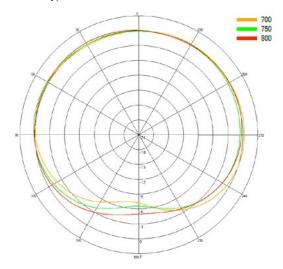
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

3D Pattern Data in Free Space Cell B

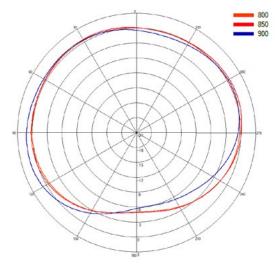




Typical H Plane- Cell B - Patterns- 700-800MHz



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



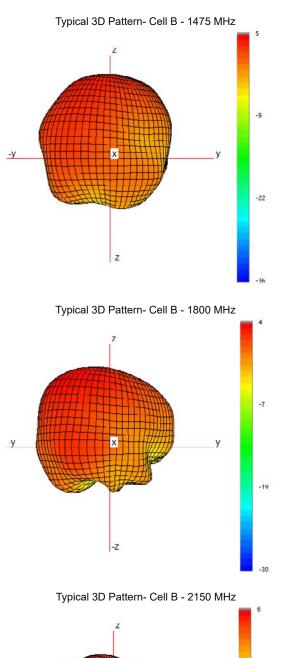
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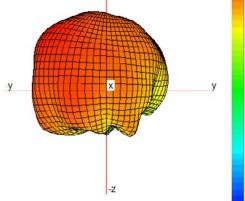
L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

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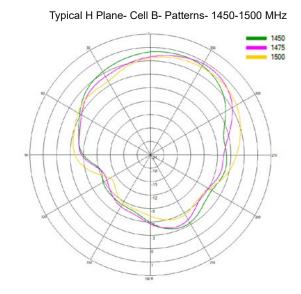
3D Pattern Data in Free Space Cell B

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

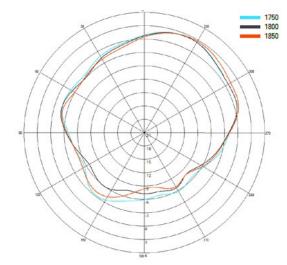




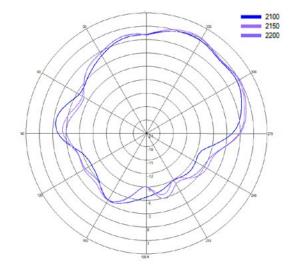
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Typical H Plane- Cell B- Patterns- 1750-1850 MHz



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



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

-7

-20

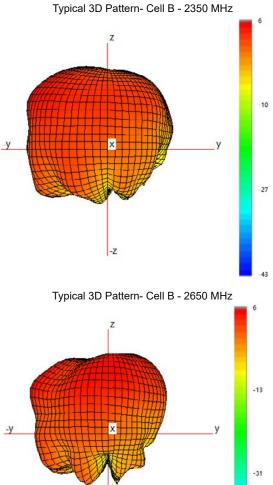
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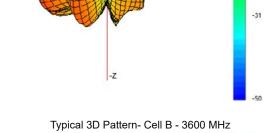
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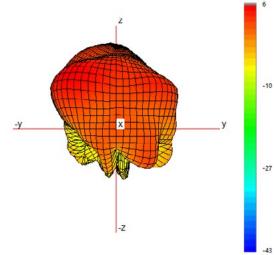
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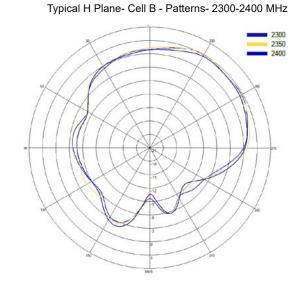
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

3D Pattern Data in Free Space Cell B

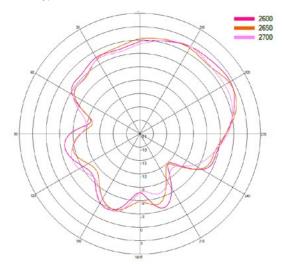




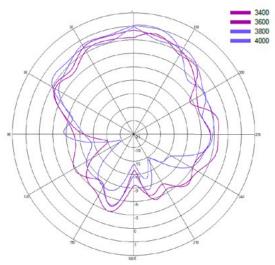




Typical H Plane- Cell B - Patterns- 2600-2700 MHz



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



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

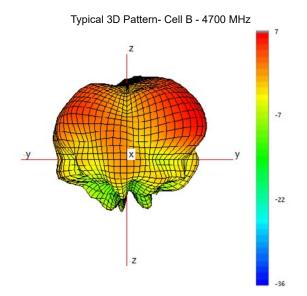
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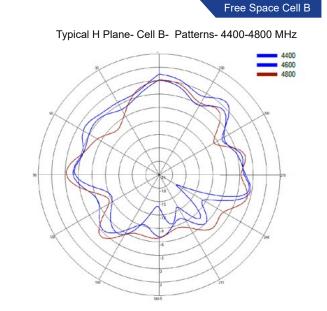
Page 29

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3D Pattern Data in

L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

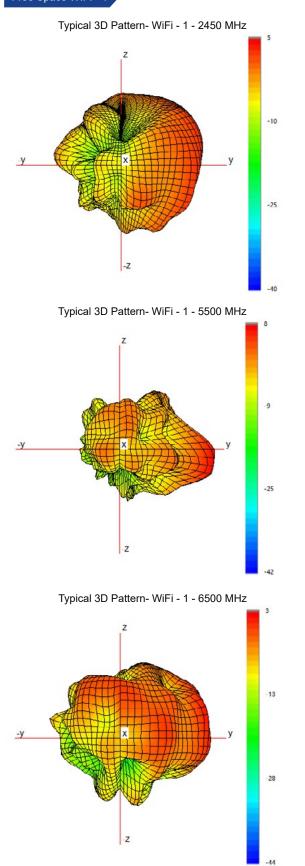


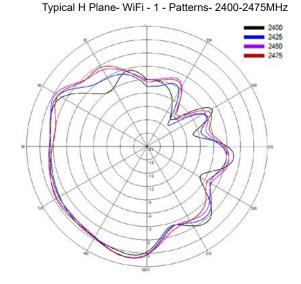


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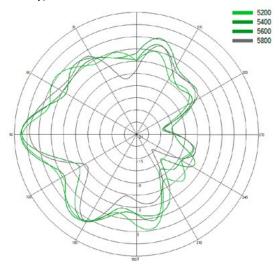
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

3D Pattern Data in Free Space WIFI - 1

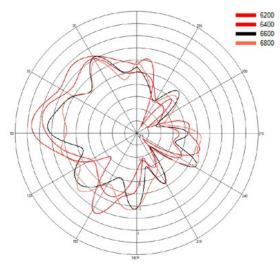




Typical H Plane- WiFi - 1 - Patterns- 5200-5800MHz



Typical H Plane- WiFi - 1 - Patterns- 6200-6800MHz



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L[G]M[X]M[X]-6-60[-24-58] 18/06/2024 V7

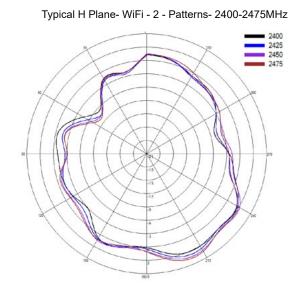
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3D Pattern Data in Free Space WIFI - 2

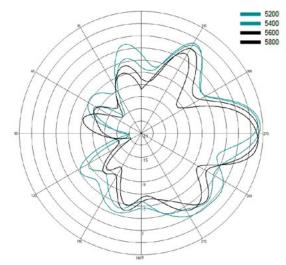
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Typical 3D Pattern- WiFi - 2 - 2450 MHz -11 X y -y 28 Typical 3D Pattern- WiFi - 2 - 5500 MHz Z -10 y 30 -Z Typical 3D Pattern- WiFi - 2 - 6500 MHz -8 y -23 -Z .37

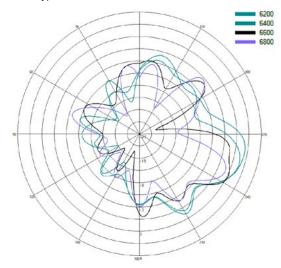
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Typical H Plane- WiFi - 2 - Patterns- 5200-5800MHz



Typical H Plane- WiFi - 2 - Patterns- 6200-6800MHz



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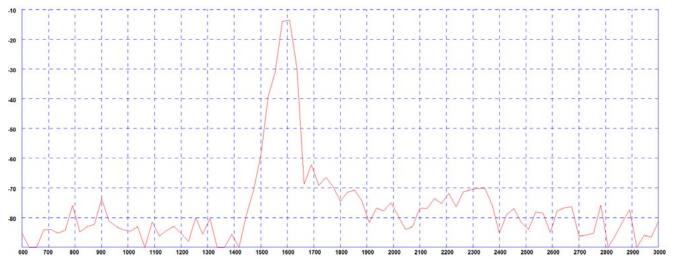
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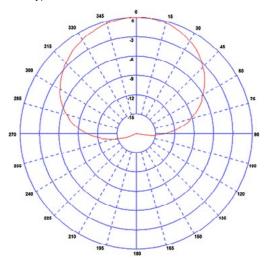
L[G]M[X]M[X]-6-60[-24-58] - 5G Great White™

Electrical Data- L1 GPS/GNSS

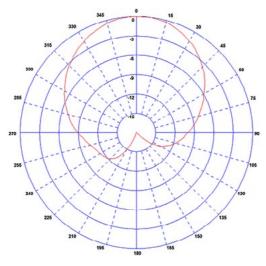




Typical E Plane Pattern - GPS/GNSS 1575 MHz



Typical E Plane Pattern - GPS/GNSS 1602 MHz



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

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