

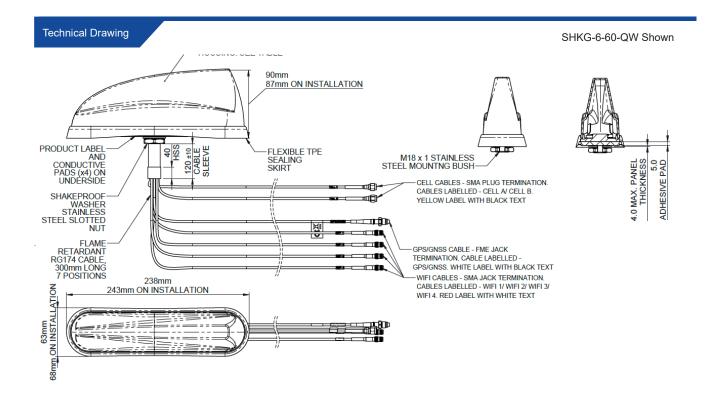
- OEM style sharkfin with 2x2 MiMo for 4G/5G
- Optional GPS/GNSS with advanced filtering
- Up to 4x MiMo WiFi

The SHKG 5G 'Sharkee' range has become a byword for industry leading technology in a discrete OEM sharkfin housing. The SHKG-6-60 brings 5G capability to the product family.

The antenna can be fitted on a metallic or non-metallic panel and still offer similar performance.

The OEM style shark fin housing contains a 2x2 MiMo antenna function for 4G/5G (617-960/1710-6000MHz) and option of 2x2, 3x3 or 4x4 MiMo dual band WiFi, which supports WiFi 6e. An active antenna for GPS/GLONASS/Galileo/BeiDou is included, with 26dB gain LNA and advanced filtering for LTE Band 13/14 operation.

The SHKG shark fin style design provides multiple antenna functions while remaining discreet and is suitable for public safety (overt/covert), industrial and transport applications where a cost effective, efficient and robust antenna is essential. Requiring only a single hole mounting, the SHKG reduces vehicle damage, installation time & cost and visual impact whilst protecting a vehicle's resale value.



						Product Data
Part No.						
		SHKG[W]-6-60- QW	SHKG[W]-6-60-TW	SHKG[W]-6-60- DW	SHKG[W]-6-60	SHK[W]-6-60
Electrical Data						
	Element 1		1562-	1612		-
Frequency Range (MHz)	Elements 2 & 3		2	x 617-960/1710-600	0	
	Elements 4, 5 6 & 7	4 x 2.4/5.0/7.1GHz	3 x 2.4/5.0/7.1GHz	2 x 2.4/5.0/7.1GHz	-	-
Dook going loots:-*	Elements 2 & 3	50	dBi (617-960MHz) / 7d	Bi (1710-4900MHz)	/ 8dBi (5000-6000	MHz)
Peak gain: Isotropic*	Elements 4, 5, 6 & 7	5dBi (2396-2	2485MHz) / 11dBi (518		-	-
Isolation**	4G/5G			>12dB		
	WiFi		> 15dB		-	
Typical Efficiency* w/o Cable	Elements 2 & 3		> 70% (617-	960Mz) / >55% (171	0-6000MHz)	
Loss	Elements 4, 5, 6 & 7	50% (2400-	-2485MHz) / 50%(515	,		
Correlation Co-efficient	Elements 2 & 3			<0.2		
Polarisation				Vertical		
Pattern				Omni-directional		
Impedance				50Ω		
Max Input Power (W)				10		
GPS/GNSS Data						
Frequency Range (MHz)			1562-			-
VSWR Gain: LNA			<2 26			-
Polarisation			Right Han			-
Out of Band Rejection		>40d	B (+/- 100MHz f)   Not		. 23dB	_
Operating Voltage		7 400	3-5V DC (fe	_	2000	_
Current			<20	•		-
Mechanical Data						
	Total Height			90 (3.54")		
Dimensions (mm) - Installed	Length			243 (9.56")		
	Width			63 (2.48")		
Operating Temp (°C)			-40	° / +80°C (-40° / 176	°F)	
Material			ASA,Silio	one Rubber, Alumini	ium Alloy	
Colour			Black or \	White (SHKGW part	numbers)	
Ingress Protection				IP69K		
Mounting Info						
Fixing				Panel Mount		
Hole Size (mm)				19 (3/4")		
Cable Data						
Cable Type - All Feeds			FR RG17	4 (UN ECE R 118 C	ompliant)	
Dimensions (mm)	Diameter			2.8 (0.11")		
, ,	Length			300 mm (12")		
	GPS/GNSS		FME	.,		-
Termination	4G/5G			2 x SMA plug		
	WiFi	4x SMA (f)	3x SMA (f)	2x SMA (f)	-	-

<sup>\*</sup>Peak gain and efficiency measured on a 600x600mm (2'x2') ground plane without additional cable

<sup>\*\*</sup> Isolation measured on a 600x600mm (2'x2') ground plane without additional cable

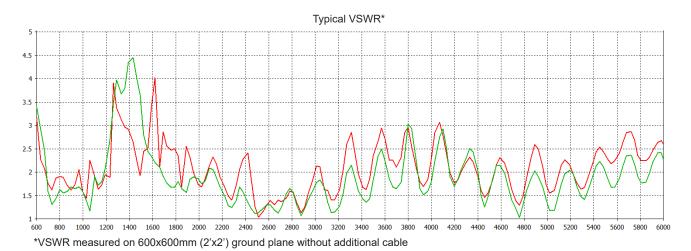
# 4G/5G Sharkfin MiMo Antenna SHK[G]-6-60[-X]



#### Electrical Data Cell -Ground Plane

Measurement Conditions	4G/5G Antennas				
SHKG-6-60-DW measured on 600x600mm (2'x2') ground plane without additional cable	Frequency Range (MHz)	LTE Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
	617-698	74 405	Cell A	3.5	57
	017-096	71, 105	Cell B	3.5	57
	699-798	40.40.44.47.00	Cell A	4.6	68
	699-798	12,13, 14 17,28	Cell B	5.2	76
	007.000	5 40 00 00 07	Cell A	5.4	72
<b>4</b>	807- 862	5,19,20,26,27	Cell B	5.7	78
		Cell A	5.8	74	
AND IN THE RESERVE OF THE PARTY	880-960	8	Cell B	5.8	79
	11, 21, 74,75,76 1427-1518 1710-1920 2,3,4,9,25,35,39,66	Cell A	6.2	63	
	1427-1518	Cell A   3.5	4.1	38	
		Cell A	5.5	51	
	1710-1920	Cell A 5.5  2,3,4,9,25,35,39,66  Cell B 5.2  Cell A 4.6	5.2	66	
	1000 0170	4.00	Cell A	4.6	58
	1920-2170	1427-1518   Cell B	5.3	63	
	0000 0400	20.40	Cell A	4.9	53
	2300-2400	30,40	Cell B	5.0	61
	2406 2600 7 38	7 00 44	Cell A	6.2	63
	2496-2690	Cell A 3.5 Cell B 3.5 Cell B 3.5 Cell A 4.6 Cell B 5.2 Cell A 5.4 Cell B 5.7 Cell A 5.8 Cell B 5.7 Cell A 5.8 Cell B 4.1 Cell B 5.5 Cell B 4.1 Cell B 5.2 Cell A 4.6 Cell B 5.2 Cell A 4.6 Cell B 5.3 Cell A 4.6 Cell B 5.3 Cell A 4.9 Cell B 5.0 Cell A 6.2 Cell B 5.3 Cell A 6.2 Cell B 7.3 Cell A 6.1 Cell B 6.5 Cell A 5.1		4.7	69
	Cell B 5.7  Cell A 5.8  Cell B 5.8  Cell B 5.8  Cell B 5.8  11, 21, 74,75,76  Cell A 6.2  Cell B 4.1  Cell A 5.5  Cell B 5.5  Cell B 4.1  Cell A 5.5  Cell B 5.2  Cell B 5.2  Cell B 5.2  Cell B 5.2  Cell A 4.6  Cell B 5.3  Cell A 4.9  Cell B 5.0  Cell B 5.0  Cell B 6.2  Cell B 6.5  Cell B 7.3  Cell A 6.1  Cell B 6.5  Cell B 6.5  Cell B 5.1	6.2	46		
		22,42,43,48,77,78	Cell B	7.3	54
	4400 5000		Cell A	6.1	46
	4400-5000	79	Cell B	6.5	51
			Cell A	5.1	48
	5000-6000	96, 102, 104	Cell B	8.2	57

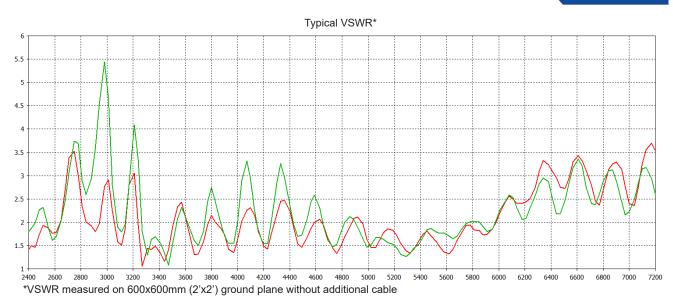
#### Electrical Data Cell -Ground Plane



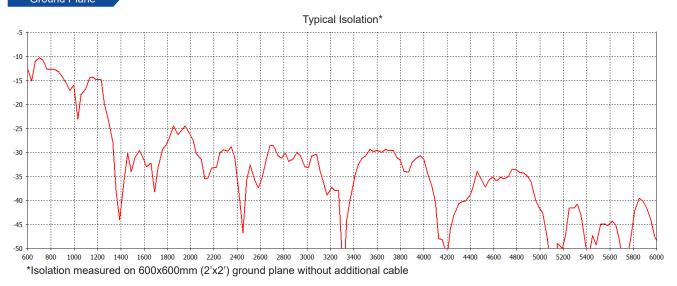
Electrical Data WiFi - Ground Plane

Measurement Conditions	WiFi Antennas					
SHKG-6-60-DW measured on 600x600mm (2'x2') ground plane without additional cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)	
	2206 2495	2.404-	WiFi 1	4.1	45	
	2390-2463	WiFi Bands	54			
	E1E0 E2E0	LINII 1	WiFi 1	7.6	57	
	3130-3230	OIVII-1	WiFi 2	7.8	54	
	E2E0 E2E0	LINIII 2A	WiFi 1	8.1	64	
<b>4</b>	5250-5350	UNII-ZA	WiFi 2	9.8	58	
	5050 5470	LINII OD	WiFi 1	8.2	66	
STATE OF THE REAL PROPERTY.	5350-5470	UNII-2B	WiFi 2	9.9	58	
	5470-5725 UNII-	UNII-2C	WiFi 1	8.3	65	
			WiFi 2	8.9	56	
	5725-5850 UNII-3	WiFi 1	8.3	61		
		UNII-3	WiFi 2	9.4	59	
Control of the contro		WiFi 1	7.7	59		
		UNII-4	WiFi 2	9.6	58	
	5725-5850 U 5850-5925 U 5925-6425 U 6425-6525 U	UNII-5	WiFi 1	7.7	48	
			WiFi 2	9.6	51	
	Peak Gain (dBi)   WiFi Bands   Antenna Element (dBi)	26				
		UNII-6	WiFi 2	6.8	37	
	2396-2485 2.4GHz WiFi 1 WiFi 2 5.7 WiFi 1 7.6 WiFi 2 7.8 WiFi 1 8.1 WiFi 2 9.8 WiFi 1 8.2 S350-5350 UNII-2A WiFi 2 9.8 WiFi 1 8.2 WiFi 2 9.9 WiFi 1 8.3 WiFi 2 9.9 WiFi 1 8.3 WiFi 2 8.9 WiFi 1 8.3 WiFi 2 9.4 WiFi 2 9.4 WiFi 2 9.6 WiFi 1 7.7 WiFi 2 9.6 WiFi 1 2.2 WiFi 1 2.2 WiFi 1 2.7 WiFi 2 5.0 WiFi 1 3.0	28				
		UINII-/	WiFi 2	5.0	31	
	0075 7405		WiFi 1	3.0	30	
		0070-7120	UINII-0	WiFi 2	4.1	30

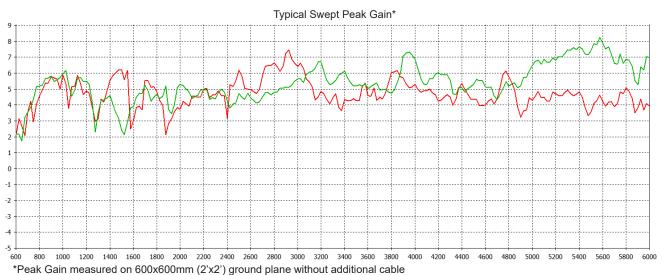
Electrical Data WiFi -Ground Plane



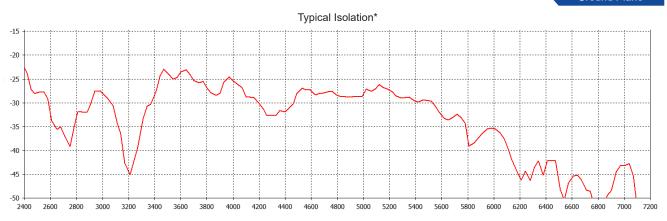
# Electrical Data Cell - Ground Plane



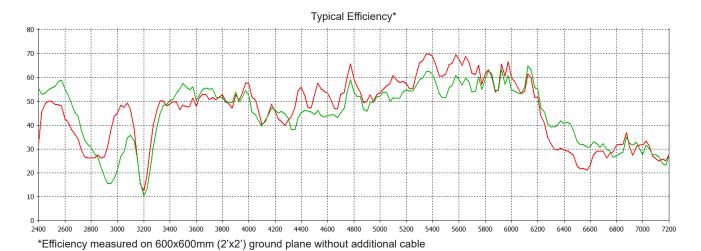


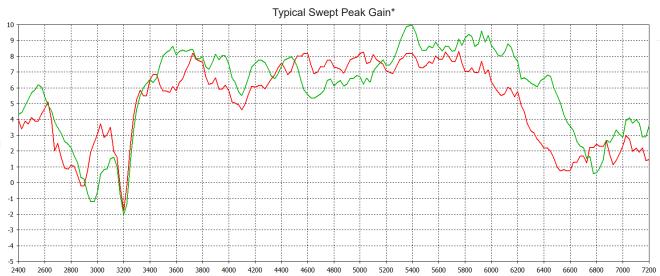


Electrical Data WiFi-Ground Plane

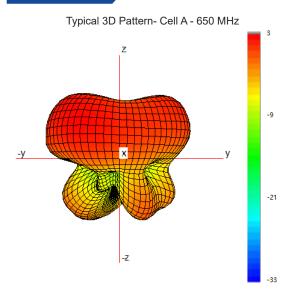


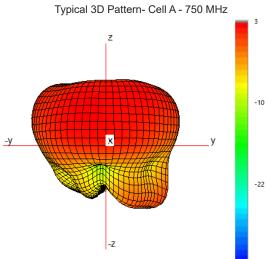
\*Isolation measured on 600x600mm (2'x2') ground plane without additional cable

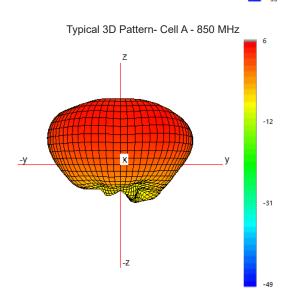




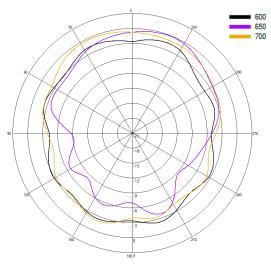
\*Peak Gain measured on 600x600mm (2'x2') ground plane without additional cable



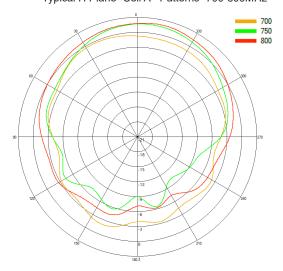




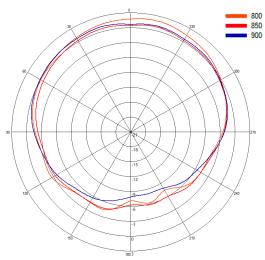
## Typical H Plane- Cell A - Patterns- 600-700MHz

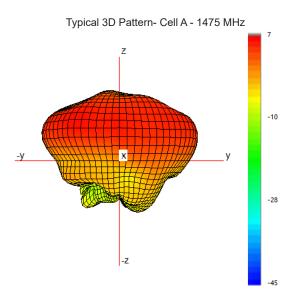


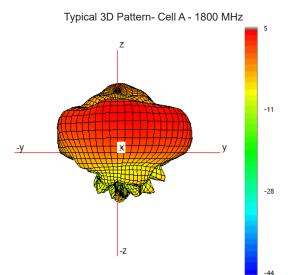
Typical H Plane- Cell A - Patterns- 700-800MHz

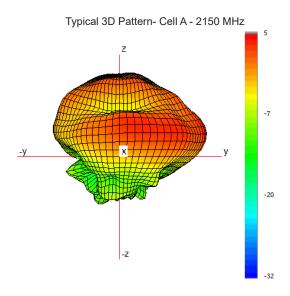


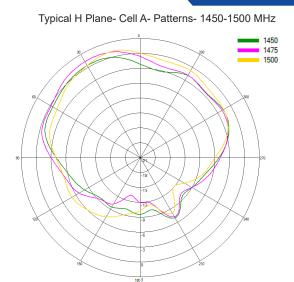
Typical H Plane- Cell A - Patterns- 800-900MHz

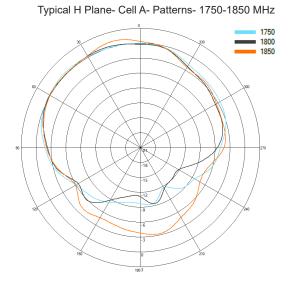


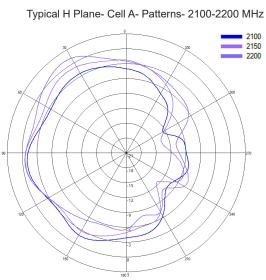


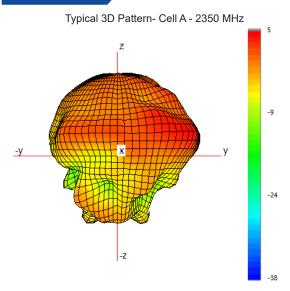


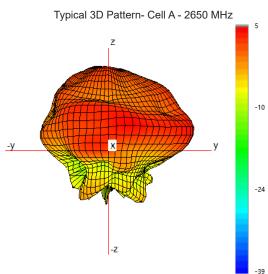


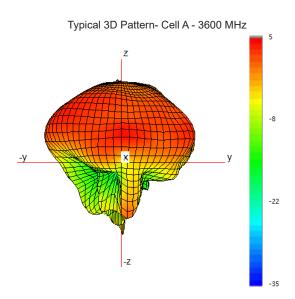




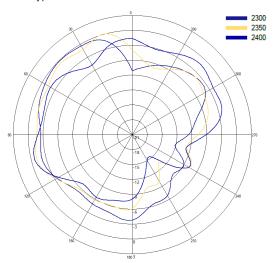




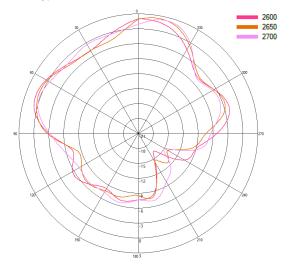




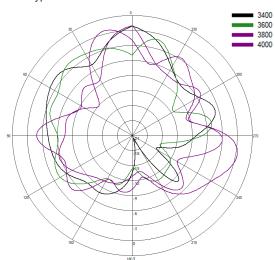
Typical H Plane- Cell A - Patterns- 2300-2400 MHz



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

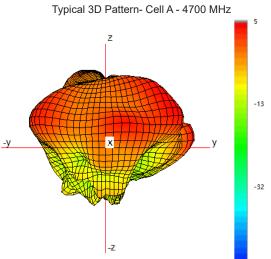


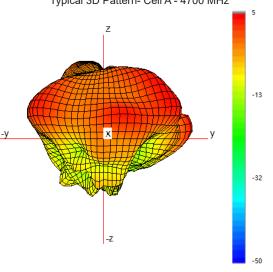
Typical H Plane- Cell A - Patterns- 3400-4000 MHz

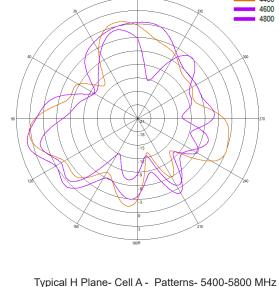


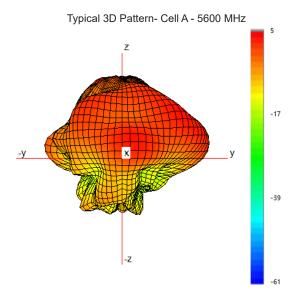
Typical H Plane- Cell A - Patterns- 4400-4800 MHz

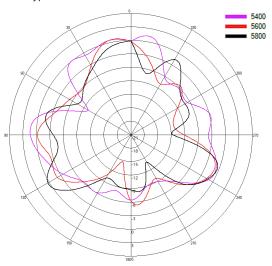
3D Pattern Data on Ground Plane Cell A

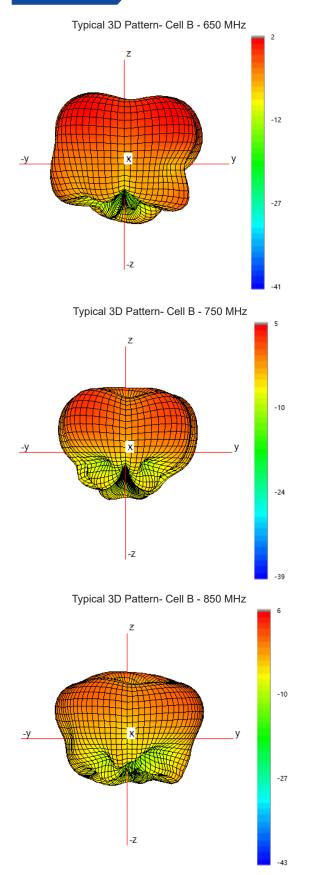


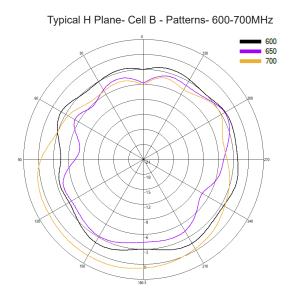


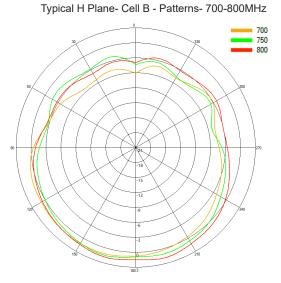


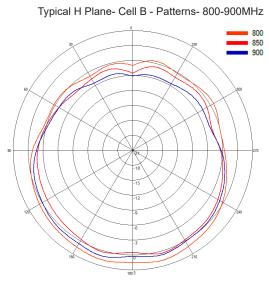


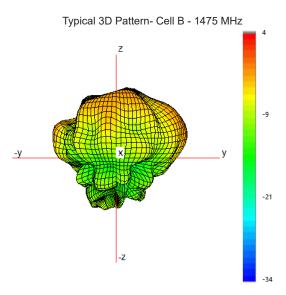


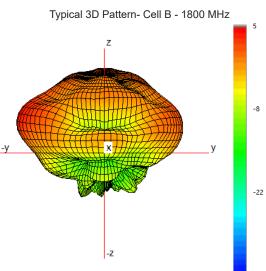


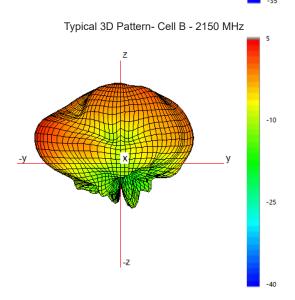


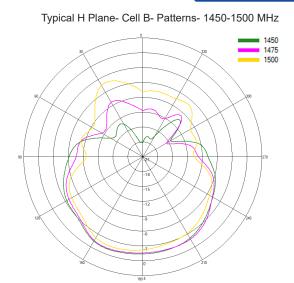


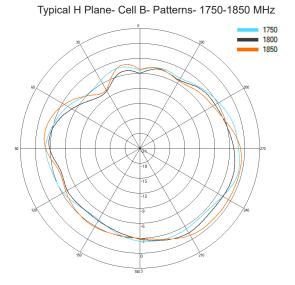


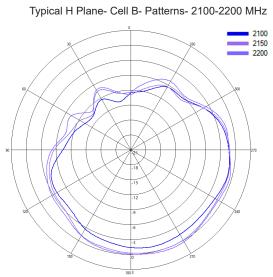






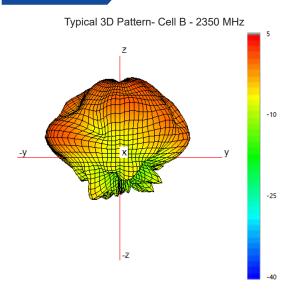


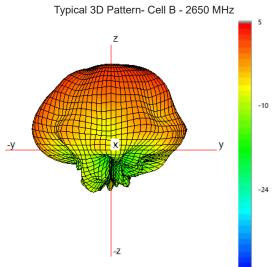


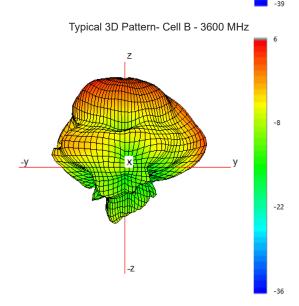


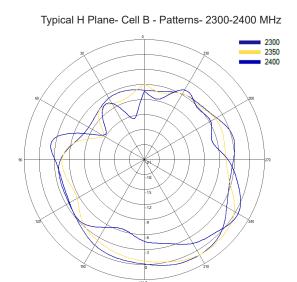
Waiver: The data given above is indicative of the performance of the product/s under particular conditions and does not imply a guarantee of performance. These specifications are subject to change without notice.

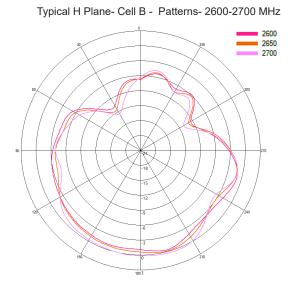
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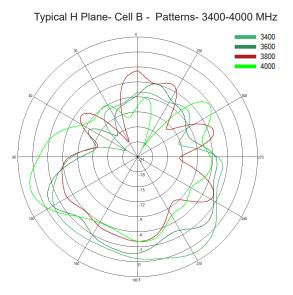


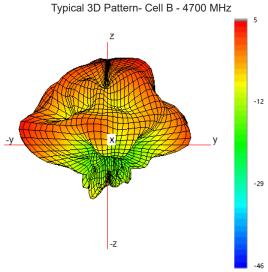


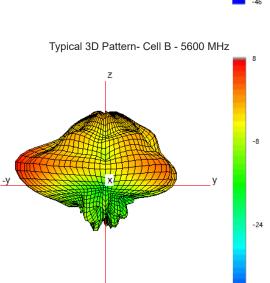


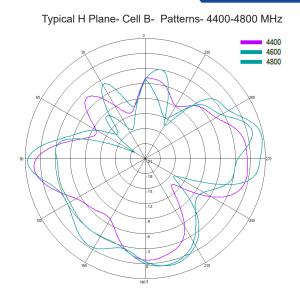


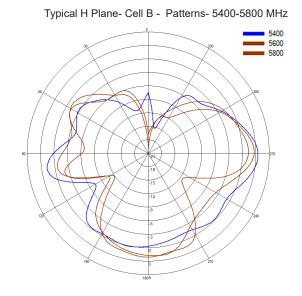




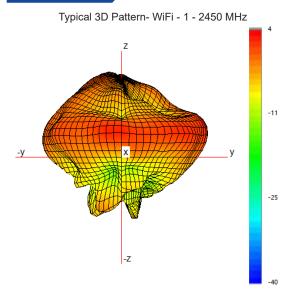




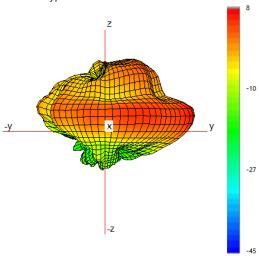




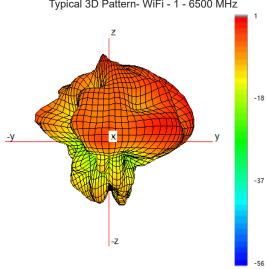
#### 3D Pattern Data on Ground Plane WIFI- 1



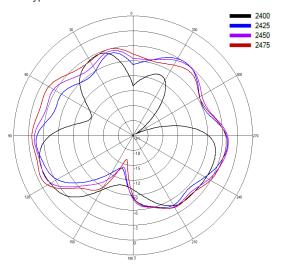
Typical 3D Pattern- WiFi - 1 - 5500 MHz



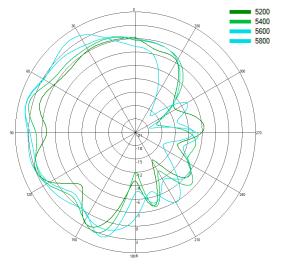
Typical 3D Pattern- WiFi - 1 - 6500 MHz



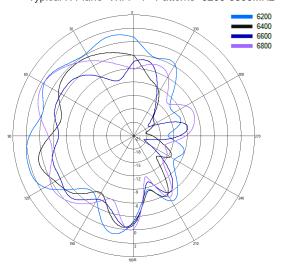
Typical H Plane- WiFi - 1 - Patterns- 2400-2475MHz



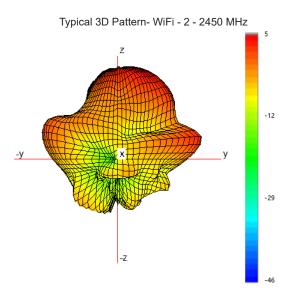
Typical H Plane- WiFi - 1 - Patterns- 5200-5800MHz

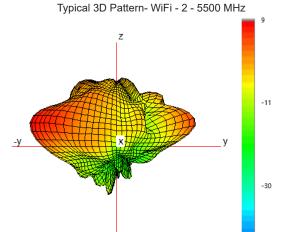


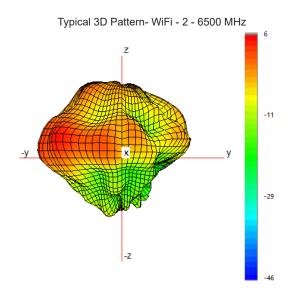
Typical H Plane- WiFi - 1 - Patterns- 6200-6800MHz

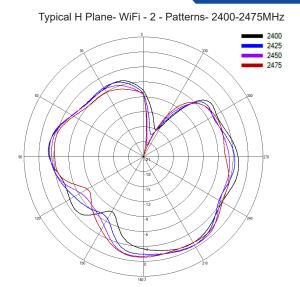


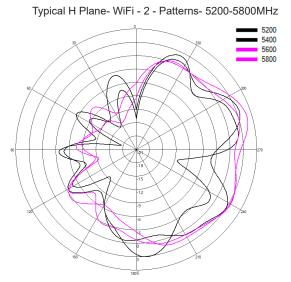
3D Pattern Data on Ground Plane WIFI- 2

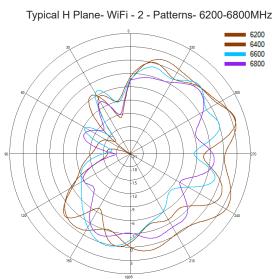










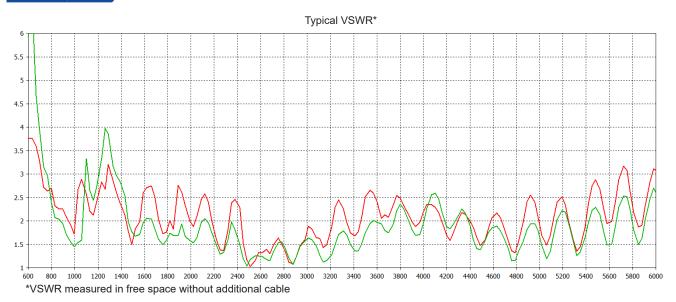


# 4G/5G Sharkfin MiMo Antenna SHK[G]-6-60[-X]

## Electrical Data Cell - Ground Plane

Measurement Conditions	4G/5G Antennas				
SHKG-6-60-DW measured in free space without additional cable	Frequency Range (MHz)	LTE Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)
+	617-698	71 105	Cell A	1.3	44
	017-030	71, 103	Cell B	0.7	35
	699-798	12 13 14 17 28	Cell A	2.1	55
A CONTRACTOR DE LA CONT	099-190	12,10, 14 17,20	Cell B	2.2	58
	807- 862	5 10 20 26 27	Cell A	3.0	67
	880-960 8 CC C	Cell B	3.5	69	
	880-960 8	Cell A	3.6	70	
	000-900	0	Cell B	3.7	74
	1407 1510	8	Cell A	3.2	66
	1427-1316		2.8	68	
	1710 1020	2 2 4 0 25 25 20 66	Cell A	2.9	57
A THE STATE OF THE	17 10-1920	2,3,4,9,25,35,39,66	Cell B	3.6	66
	1920-2170 1,23	Cell A	3.7	59	
		Cell B	4.1	65	
A A A A A A A A A A A A A A A A A A A	2300-2400 30.40	30.40	Cell A	3.1	58
		Cell B	3.2	58	
	2496-2690 7,38	7 20 44	Cell A	4.0	65
	2490-2090	7,30,41	3.8	67	
	3300-4200	22 42 42 40 77 70	Cell A	5.8	46
	3300-4200	LTE Bands         Antenna Element         Peak Gain (dBi)           71, 105         Cell A         1.3           12,13, 14 17,28         Cell B         0.7           Cell B         2.1         Cell B           5,19,20,26,27         Cell A         3.0           Cell B         3.5         Cell B           Cell B         3.7         Cell B           11, 21, 74,75,76         Cell A         3.2           Cell B         2.8         Cell A           2,3,4,9,25,35,39,66         Cell A         2.9           Cell B         3.6         Cell A           1,23         Cell A         3.7           Cell B         4.1         Cell B           30,40         Cell B         3.2           Cell A         4.0         Cell B           7,38,41         Cell B         3.8	53		
	4400 5000	70	Cell A	5.2	50
	4400-5000	19	Cell B	4.2	54
	5000 C000	2,3,4,9,25,35,39,66  1,23  30,40  7,38,41  22,42,43,48,77,78	Cell A	5.4	58
	5000-6000		Cell B	5.1	55

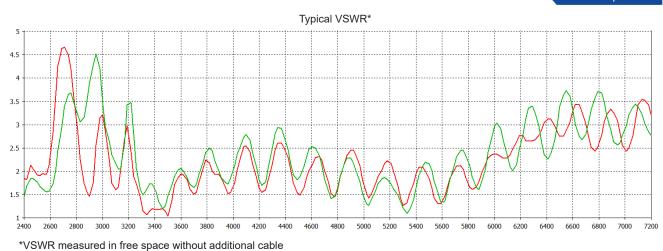
## Electrical Data WiFi - Free Space



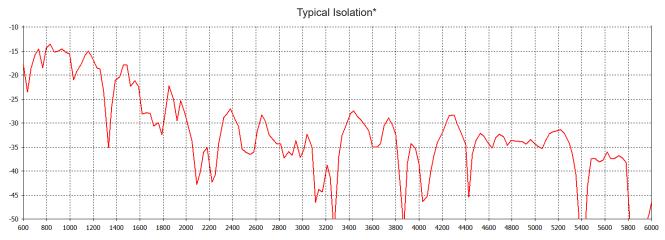
Electrical Data WiFi - Free Space

Measurement Conditions	WiFi Antennas					
SHKG-6-60-DW measured in free space without additional cable	Frequency Range (MHz)	WiFi Bands	Antenna Element	Peak Gain (dBi)	Efficiency (%)	
<b>+</b>	2206 2405	WiFi Bands Antenna Peal	WiFi 1	3.2	46	
	2390-2465		2.3	54		
	E4E0 E2E0	LINULA	WiFi 1	6.5	56	
	5150-5250	OMII-1	WiFi 2	5.9	50	
	E250 5250	LINIII 2A	WiFi 1	7.4	64	
	5250-5350	UNII-ZA	WiFi 2	6.4	57	
	5050 5470	LINIII OD	WiFi 1	7.5	64	
	5350-5470	UNII-2B	WiFi 2	6.4	53	
	5470-5725 UNII-2C	LINII 00	WiFi 1	7.5	62	
		UNII-2C	WiFi 2	5.7	52	
	5725-5850 UNII-3	WiFi 1	6.9	58		
		UNII-3	WiFi 2	6.6	52	
CAGNA WHAT	5150-5250 UNII-1 5250-5350 UNII-2 5350-5470 UNII-2 5470-5725 UNII-2 5725-5850 UNII-3 5850-5925 UNII-4 5925-6425 UNII-6 6425-6525 UNII-6	LINIII 4	WiFi 1	5.7	55	
	5850-5925	UNII-4	WiFi 2	7.0	53	
		LINIU.	WiFi 1	6.2	51	
		3923-0423	OMII-5	WiFi 2	7.1	48
	Frequency Range (MHz)         WiFi Bands         Antenna Element         Peak G (dBi) (dBi)           2396-2485         2.4GHz         WiFi 1         3.2           5150-5250         UNII-1         WiFi 2         2.3           WiFi 1         6.5         WiFi 2         5.9           WiFi 1         7.4         WiFi 2         6.4           WiFi 2         6.4         WiFi 1         7.5           WiFi 1         7.5         WiFi 2         6.4           WiFi 2         5.7         WiFi 1         6.9           WiFi 1         6.9         WiFi 2         6.6           WiFi 2         7.0         WiFi 2         7.0           WiFi 1         6.2         ViFi 1         2.4           WiFi 1         2.4         4.7           WiFi 2         4.7         WiFi 1         3.5           6525-6875         UNII-7         WiFi 2         4.0           WiFi 1         3.5         WiFi 1         3.5	2.4	31			
		0425-0525	UNII-6	WiFi 2	4.7	35
	CEDE CO75	LINII 7	WiFi 1	3.5	31	
	0323-0073	OIVII-/	WiFi 2	4.0	25	
	6975 7125	LINII Q	WiFi 1	3.5	32	
		0070-7120	OIVII-0	WiFi 2	2.1	22

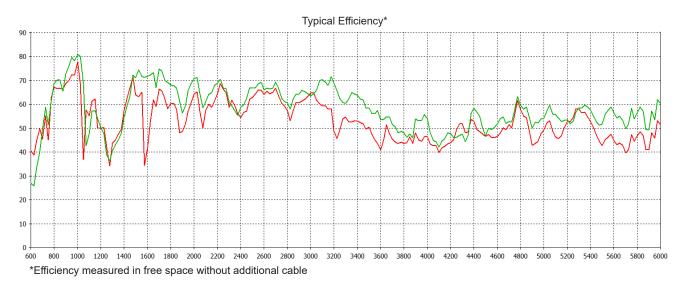
Electrical Data WiFi - Free Space



## Electrical Data WiFi - Free Space

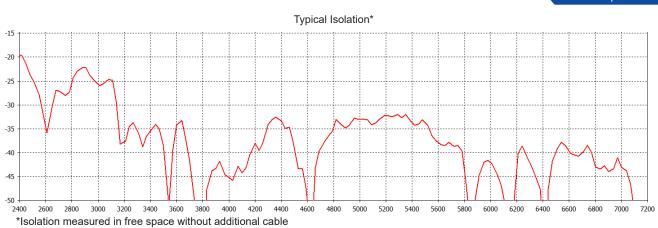


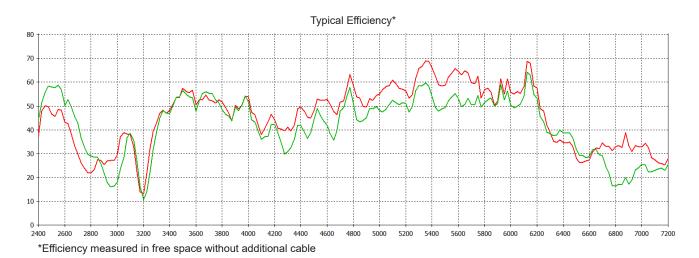
\*Isolation measured in free space without additional cable

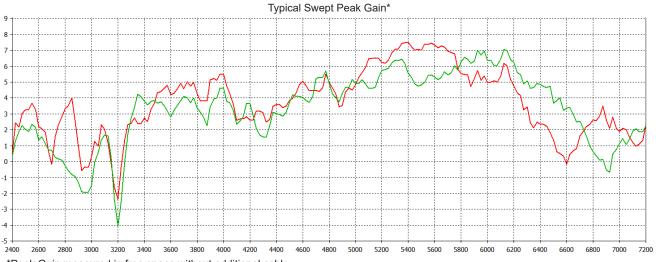


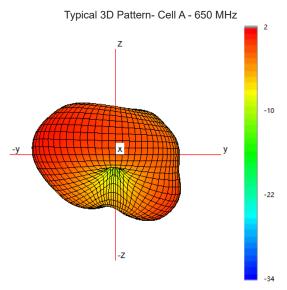
\*Peak Gain measured in free space without additional cable

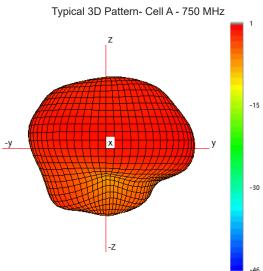
Electrical Data WiFi - Free Space

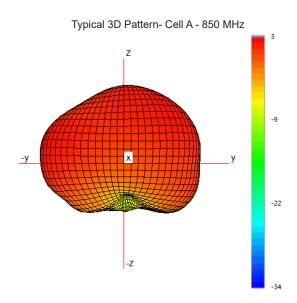


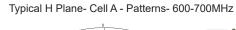


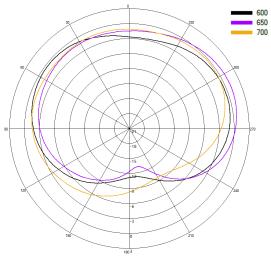




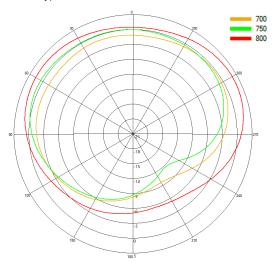




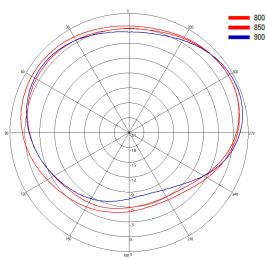


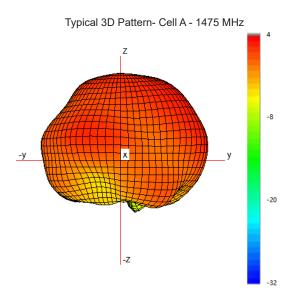


Typical H Plane- Cell A - Patterns- 700-800MHz

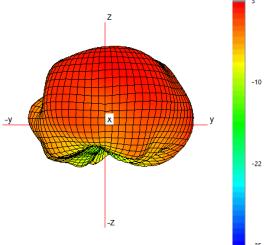


Typical H Plane- Cell A - Patterns- 800-900MHz

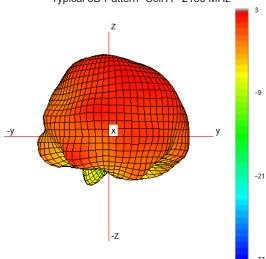




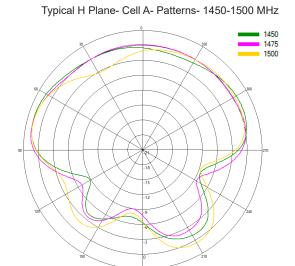




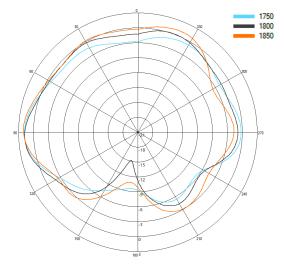
Typical 3D Pattern- Cell A - 2150 MHz



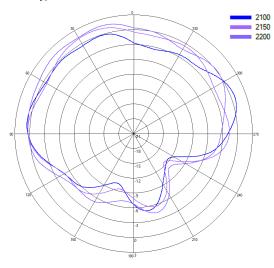
Panorama Antennas Ltd Frogmore, London, SW18 1HF, United Kingdom T: +44 (0)20 8877 4444 | F: +44 (0)20 8877 4477 E: sales@panorama-antennas.com W: www.panorama-antennas.com

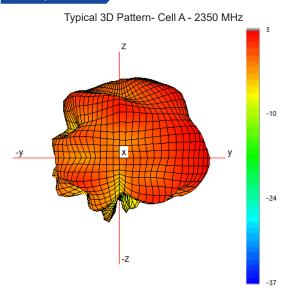


Typical H Plane- Cell A- Patterns- 1750-1850 MHz

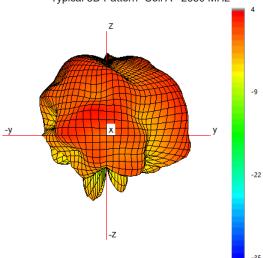


Typical H Plane- Cell A- Patterns- 2100-2200 MHz

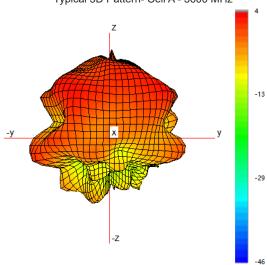




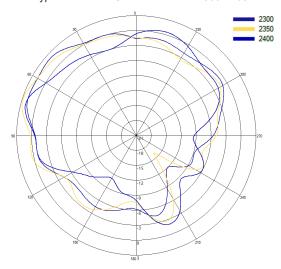
Typical 3D Pattern- Cell A - 2650 MHz



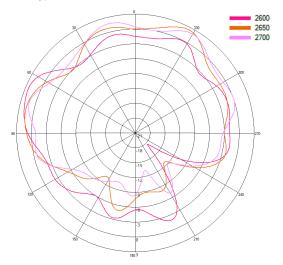
Typical 3D Pattern- Cell A - 3600 MHz



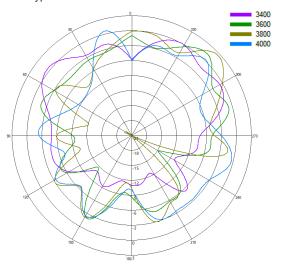
Typical H Plane- Cell A - Patterns- 2300-2400 MHz



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



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



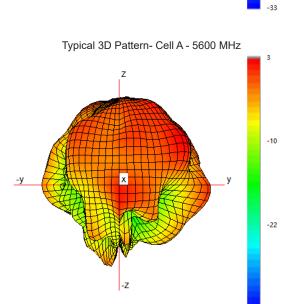
Typical 3D Pattern- Cell A - 4700 MHz

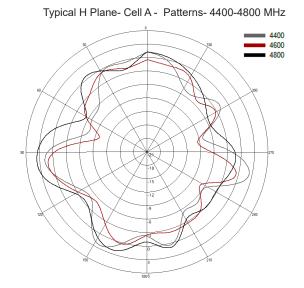
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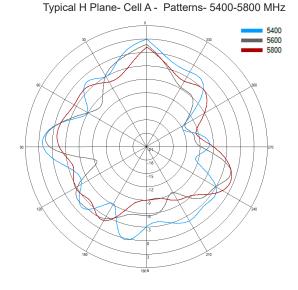
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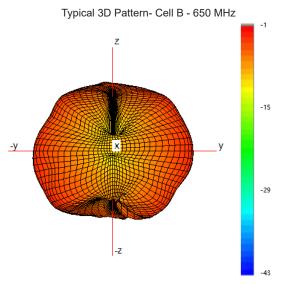
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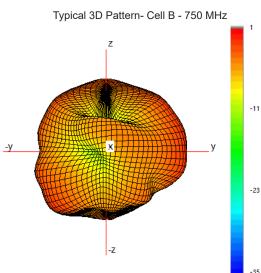
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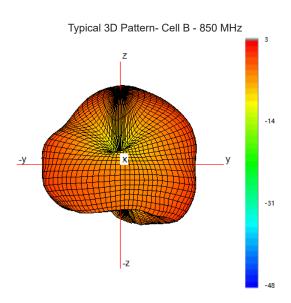




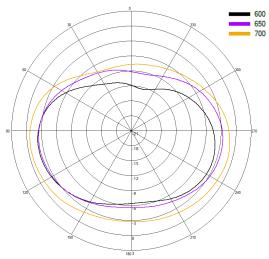




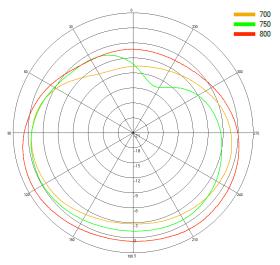




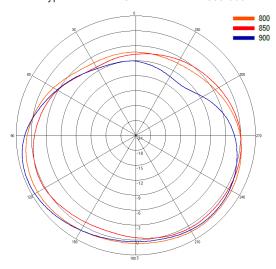
## Typical H Plane- Cell B - Patterns- 600-700MHz

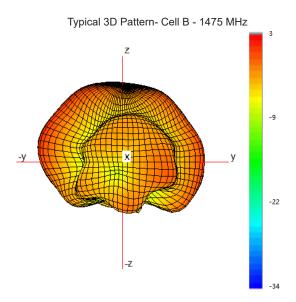


Typical H Plane- Cell B - Patterns- 700-800MHz

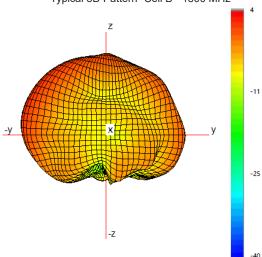


Typical H Plane- Cell B - Patterns- 800-900MHz

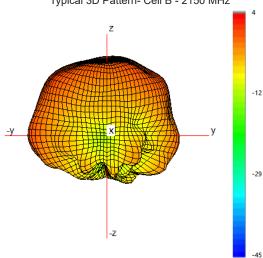




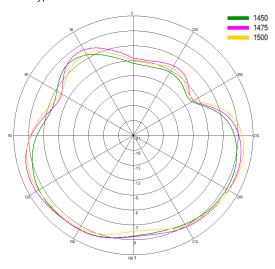
Typical 3D Pattern- Cell B - 1800 MHz



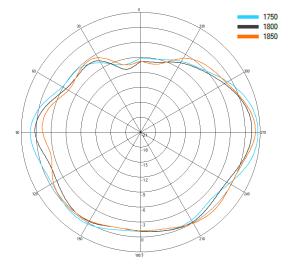
Typical 3D Pattern- Cell B - 2150 MHz



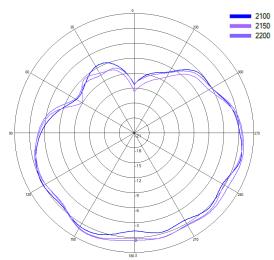
Typical H Plane- Cell B- Patterns- 1450-1500 MHz

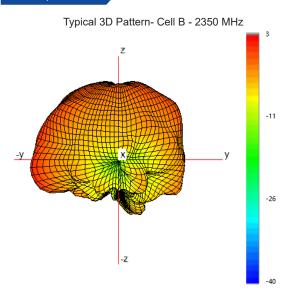


Typical H Plane- Cell B- Patterns- 1750-1850 MHz

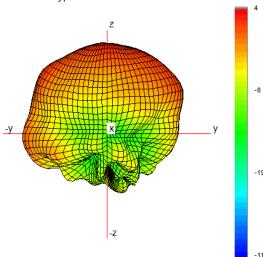


Typical H Plane- Cell B- Patterns- 2100-2200 MHz

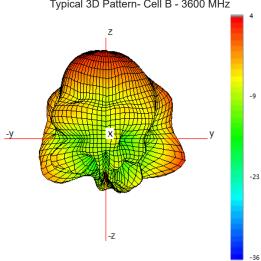




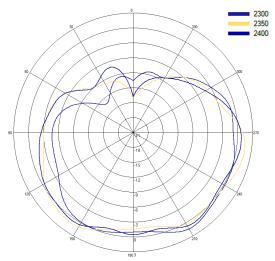
Typical 3D Pattern- Cell B - 2650 MHz



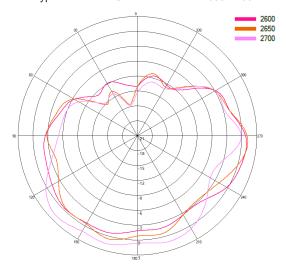
Typical 3D Pattern- Cell B - 3600 MHz



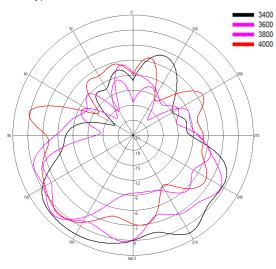
Typical H Plane- Cell B - Patterns- 2300-2400 MHz

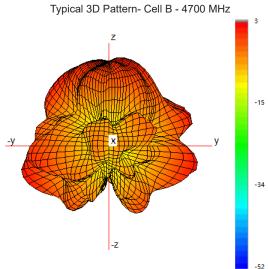


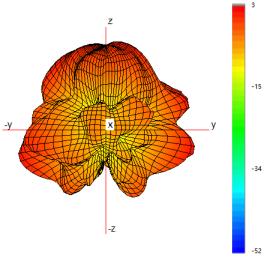
Typical H Plane- Cell B - Patterns- 2600-2700 MHz

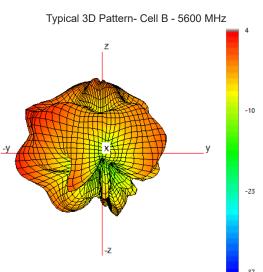


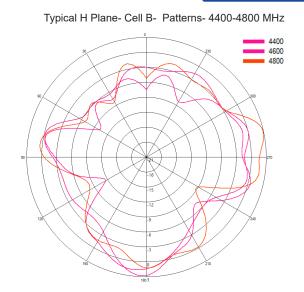
Typical H Plane- Cell B - Patterns- 3400-4000 MHz

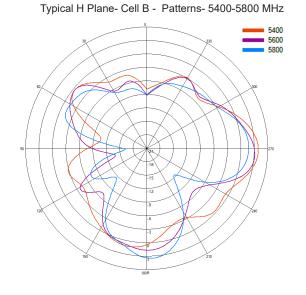




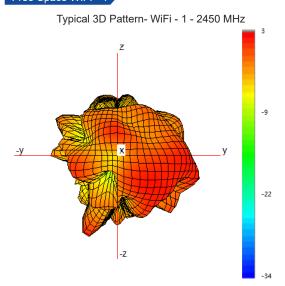




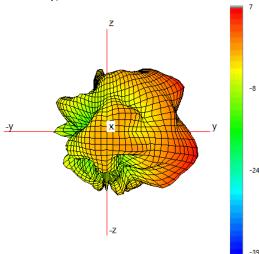




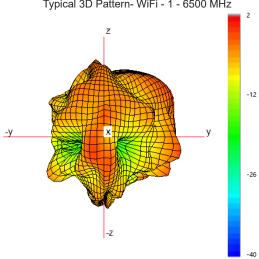
#### 3D Pattern Data in Free Space WIFI - 1



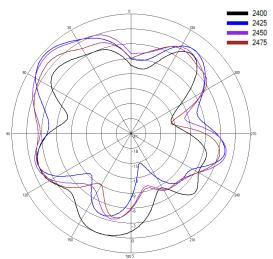
Typical 3D Pattern- WiFi - 1 - 5500 MHz



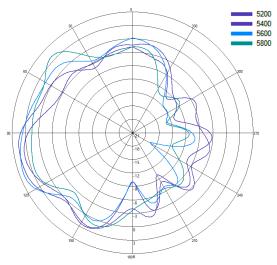
Typical 3D Pattern- WiFi - 1 - 6500 MHz



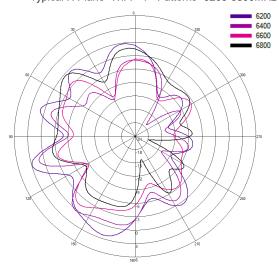
Typical H Plane- WiFi - 1 - Patterns- 2400-2475MHz



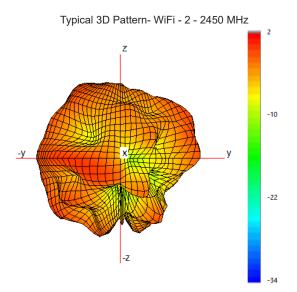
Typical H Plane- WiFi - 1 - Patterns- 5200-5800MHz

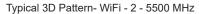


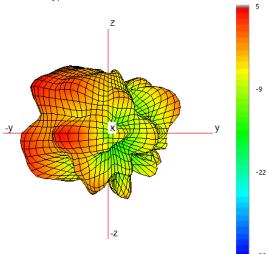
Typical H Plane- WiFi - 1 - Patterns- 6200-6800MHz



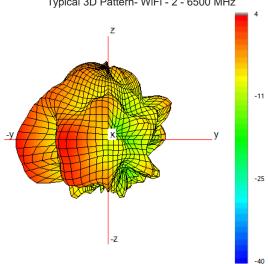
3D Pattern Data in Free Space WIFI - 2



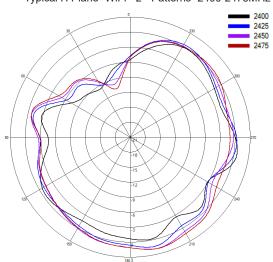




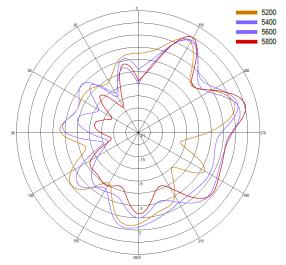
Typical 3D Pattern- WiFi - 2 - 6500 MHz



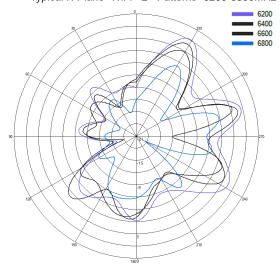
Typical H Plane- WiFi - 2 - Patterns- 2400-2475MHz



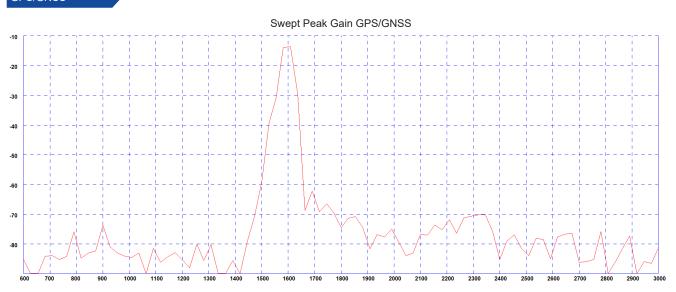
Typical H Plane- WiFi - 2 - Patterns- 5200-5800MHz



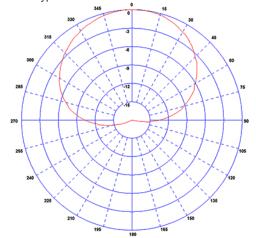
Typical H Plane- WiFi - 2 - Patterns- 6200-6800MHz



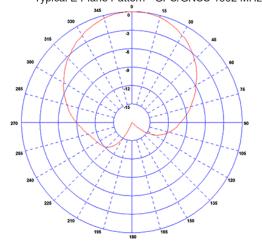




Typical E Plane Pattern - GPS/GNSS 1575 MHz



Typical E Plane Pattern - GPS/GNSS 1602 MHz



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