

4U4MTSP1X06F_{xys}4



Features

- Sector & omni configuration with 24 connectors
- 4x4 MIMO capable in both omni and tri-sectored configurations at 1695-2700 MHz
- Broadband networks 1695-2700 and 3300-4200 MHz
- Easily removable lifting ring
- Improvements in gain, port isolation and VSWR
- Can be ordered with an integrated GPS unit
- This antenna meets the requirements of the U-NII

PRODUCT OVERVIEW	Frequency Range (MHz)	(4x) 1695-2700		(2x) 3300-4200	(2x) 5150-5925	Optional GPS BAND 1575.42 ± 10
	Array	■ Y1 ■ Y2 ■ Y3 ■ Y4 ■ Y5 ■ Y6	■ Y7 ■ Y8	■ P1 ■ P2	■ O1 ■ O2	---
	Connector	12 PORTS	4 PORTS	4 PORTS	4 PORTS	1 PORT
	Polarization	XPOL	XPOL	XPOL	XPOL	RIGHT HAND CIRCULAR
	Azimuth Beamwidth (avg)	SECTORIZED	OMNI	OMNI	OMNI	---
	Electrical Downtilt	2°, 4°, 6°		0°	0°	---
	Configuration	SECTOR & OMNI COMBINATION				---
	Maximum Continuous Power Per Port @ 50° C (122° F)	300 WATTS	300 WATTS	100 WATTS	50 WATTS	---
	Maximum Total Continuous Power at 50° C (122° F)	5400 WATTS				---
	Connector Type	(24x) 4.3-10 FEMALE				(1x) N-TYPE FEMALE
	Dimensions	606 x Ø371 mm (23.9 x Ø14.6 in)				---
	Radome Color Options	GREY, BROWN or BLACK				---

ELECTRICAL SPECIFICATIONS Sectorized

■ Y1 ■ Y2 ■ Y3 ■ Y4 ■ Y5 ■ Y6

Frequency Range	MHz	(4x) 1695-2700				
Frequency Sub-Range	MHz	1695-1880	1850-1990	1920-2200	2300-2700	
Polarization	---	(4x) ±45°				
Gain	BASTA	dBi	12.8 ± 0.6	12.9 ± 0.4	13.1 ± 0.6	13.9 ± 0.8
	MAX	dBi	13.4	13.3	13.7	14.7
Azimuth Beamwidth (3 dB)	degrees	91.2° ± 9.5°	88.2° ± 7.6°	85.3° ± 7.4°	71.1° ± 11.7°	
Elevation Beamwidth (3 dB)	degrees	21.3° ± 2.0°	20.1° ± 1.7°	19.3° ± 1.9°	15.3° ± 1.8°	
Electrical Downtilt	degrees	(x) 2°, 4°, 6°				
Impedance	Ohms	50Ω				
VSWR	---	≤ 1.5:1				
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	< -153				
Front-to-Back Ratio	dB	> 21	> 22	> 24	> 24	
Upper Sidelobe Suppression	dB	N/A	N/A	N/A	N/A	
Isolation	Intraband	dB				> 25
	Interband	dB				> 28

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ELECTRICAL SPECIFICATIONS Omni

■ Y7 ■ Y8

Frequency Range	MHz	(4x) 1695-2700				
Frequency Sub-Range	MHz	1695-1880	1850-1990	1920-2200	2300-2700	
Polarization	---	(4x) ±45°				
Gain	BASTA	dBi	9.5 ± 0.6	9.3 ± 0.5	9.1 ± 0.5	9.6 ± 0.6
	MAX	dBi	10.1	9.8	9.6	10.2
Azimuth Beamwidth (3 dB)	degrees	360°	360°	360°	360°	
Elevation Beamwidth (3 dB)	degrees	21.5° ± 3.0°	20.0° ± 1.5°	19.0° ± 1.8°	15.4° ± 2.2°	
Electrical Downtilt	degrees	(x) 2°, 4°, 6°				
Impedance	Ohms	50Ω				
VSWR	---	≤ 1.5:1				
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	< -153				
Upper Sidelobe Suppression	dB	N/A	N/A	N/A	N/A	
Isolation	Intraband	dB	> 25			
	Interband	dB	> 28			

ELECTRICAL SPECIFICATIONS

■ P1 ■ P2

Frequency Range	MHz	(2x) 3300-4200		
Frequency Sub-Range	MHz	3300-3700	3700-4200	
Polarization	---	(2x) ±45°		
Gain	BASTA	dBi	6.4 ± 0.5	6.5 ± 0.8
	MAX	dBi	6.9	7.3
Azimuth Beamwidth (3 dB)	degrees	360°	360°	
Elevation Beamwidth (3 dB)	degrees	29.4° ± 6.7°	23.4° ± 9.9°	
Electrical Downtilt	degrees	(y) 0°		
Impedance	Ohms	50Ω		
VSWR	---	≤ 1.5:1		
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	< -153		
Isolation	Intraband	dB	> 25	
	Interband	dB	> 28	

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ELECTRICAL SPECIFICATIONS

■ O1 ■ O2

Frequency Range	MHz	(2x) 5150-5925	
Polarization	---	(2x) ±45°	
Gain	BASTA	dBi	4.9 ± 0.7
	MAX	dBi	5.6
Azimuth Beamwidth (3 dB)	degrees	360°	
Elevation Beamwidth (3 dB)	degrees	19.8° ± 2.2°	
Electrical Downtilt	degrees	(y) 0°	
Impedance	Ohms	50Ω	
VSWR	---	≤ 1.5:1	
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	N/A	
Upper Sidelobe Suppression	dB	> 13	
Isolation	Intraband	dB	> 25
	Interband	dB	> 28
U-NII Compliant	---	Yes	

INTEGRATED GPS UNIT OPTIONAL

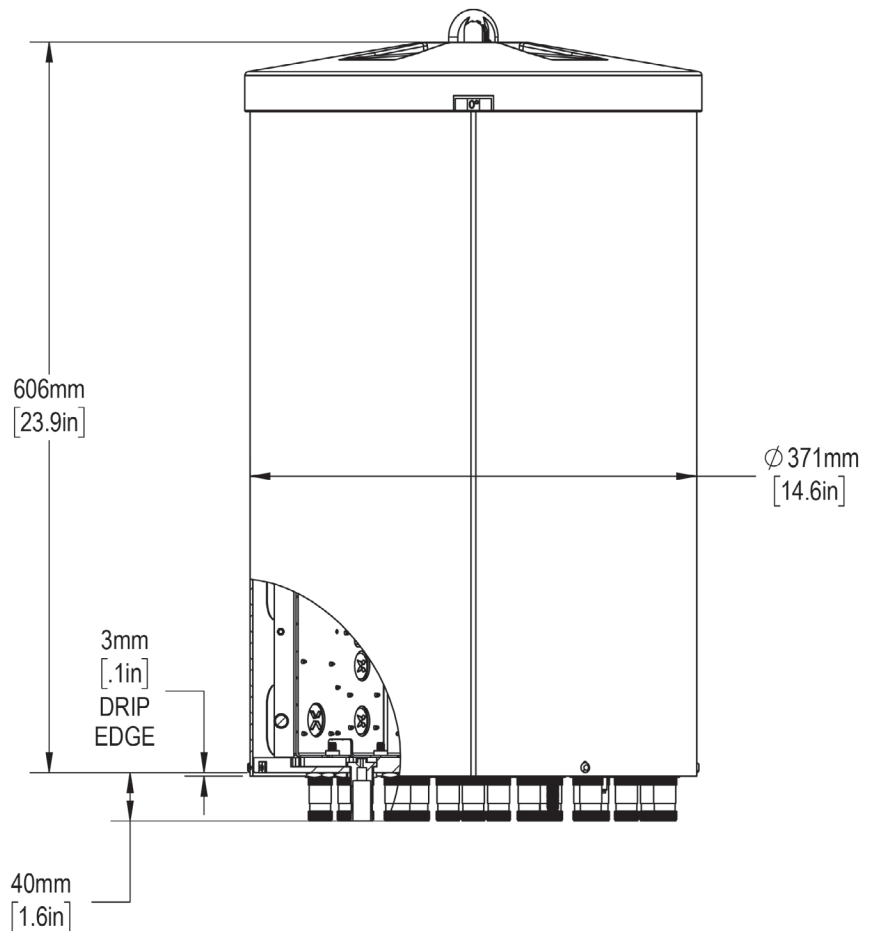
Frequency Range	1575.42 MHz ± 10 MHz
Polarization	Right Hand Circular
Nominal Gain	3 dBic at 90°; -2 dBic at 20°
Current Draw	22 mA @ 5V
Out-of-Band Rejection	> 55 dB at 1559 MHz; > 60 dB at 1625 MHz
Amplifier Gain	28 dB ± 3 dB
Nominal Impedance	50 ohm
Noise Figure	3.9 dB
DC Voltage	2.7-5.5 VDC
VSWR	< 2.0:1
Connector	N-Type Female

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MECHANICAL SPECIFICATIONS

Antenna	Height	mm (in)	606 (23.9)
	Diameter	mm (in)	371 (14.6)
Net Weight - Antenna Only		kg (lbs)	13.2 (29.0)
Windload	Calculation	km/h (mph)	160 (100)
	Frontal	N (lbf)	191 (43)
Survival Wind Speed		km/h (mph)	241 (150)
Wind Area		m ² (ft ²)	0.22 (2.4)
Volume		m ³ (ft ³)	0.07 (2.3)
Connector	Type	---	(24x) 4.3-10 Female; (1x) N-Type Female for optional GPS Unit
	Position	---	Bottom
Radome Color		---	Grey (Pantone 420 C), Brown (Pantone 476 C), Black (RAL 9011)
Lightning Protection (Grounding Type)		---	Direct Ground

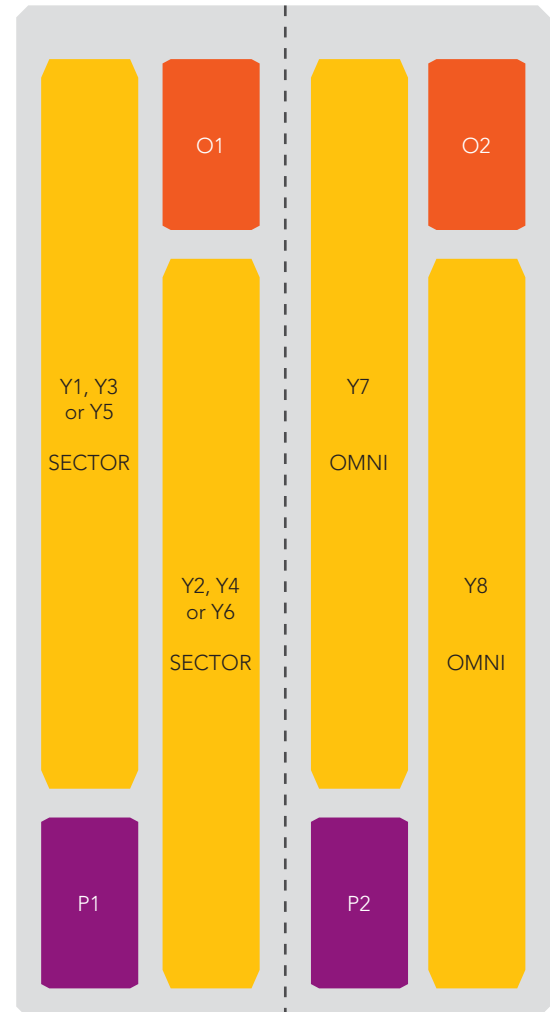


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ARRAY LAYOUT Topology

FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
1695-2700 MHz	■ Y1	1-2	(2x) 4.3-10 Female
1695-2700 MHz	■ Y2	3-4	(2x) 4.3-10 Female
1695-2700 MHz	■ Y3	5-6	(2x) 4.3-10 Female
1695-2700 MHz	■ Y4	7-8	(2x) 4.3-10 Female
1695-2700 MHz	■ Y5	9-10	(2x) 4.3-10 Female
1695-2700 MHz	■ Y6	11-12	(2x) 4.3-10 Female
1695-2700 MHz	■ Y7	13-14	(2x) 4.3-10 Female
1695-2700 MHz	■ Y8	15-16	(2x) 4.3-10 Female
3300-4200 MHz	■ P1	17-18	(2x) 4.3-10 Female
3300-4200 MHz	■ P2	19-20	(2x) 4.3-10 Female
5150-5925 MHz	■ O1	21-22	(2x) 4.3-10 Female
5150-5925 MHz	■ O2	23-24	(2x) 4.3-10 Female



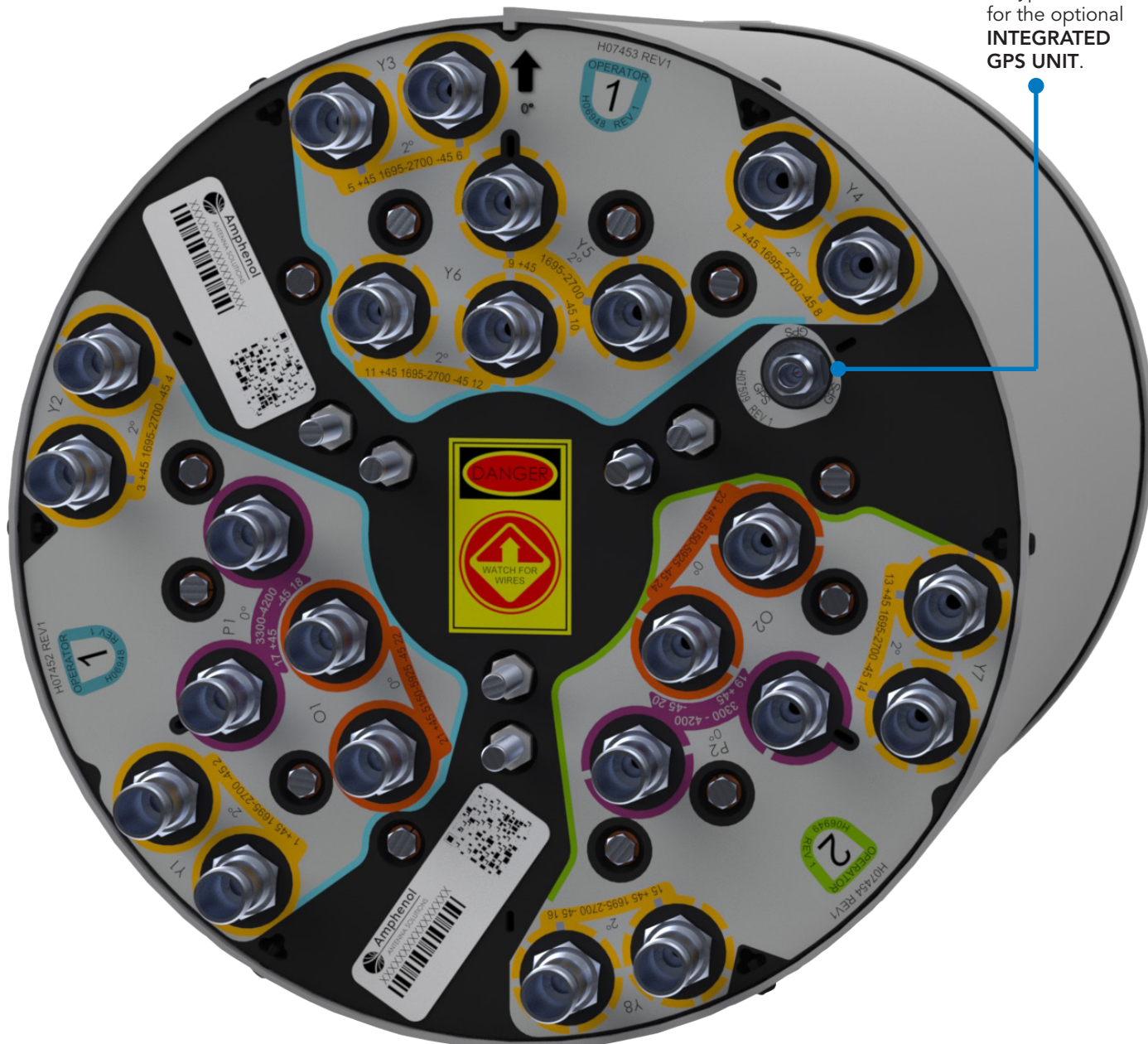
The illustration is not shown to scale.

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BOTTOM VIEW - LABELING

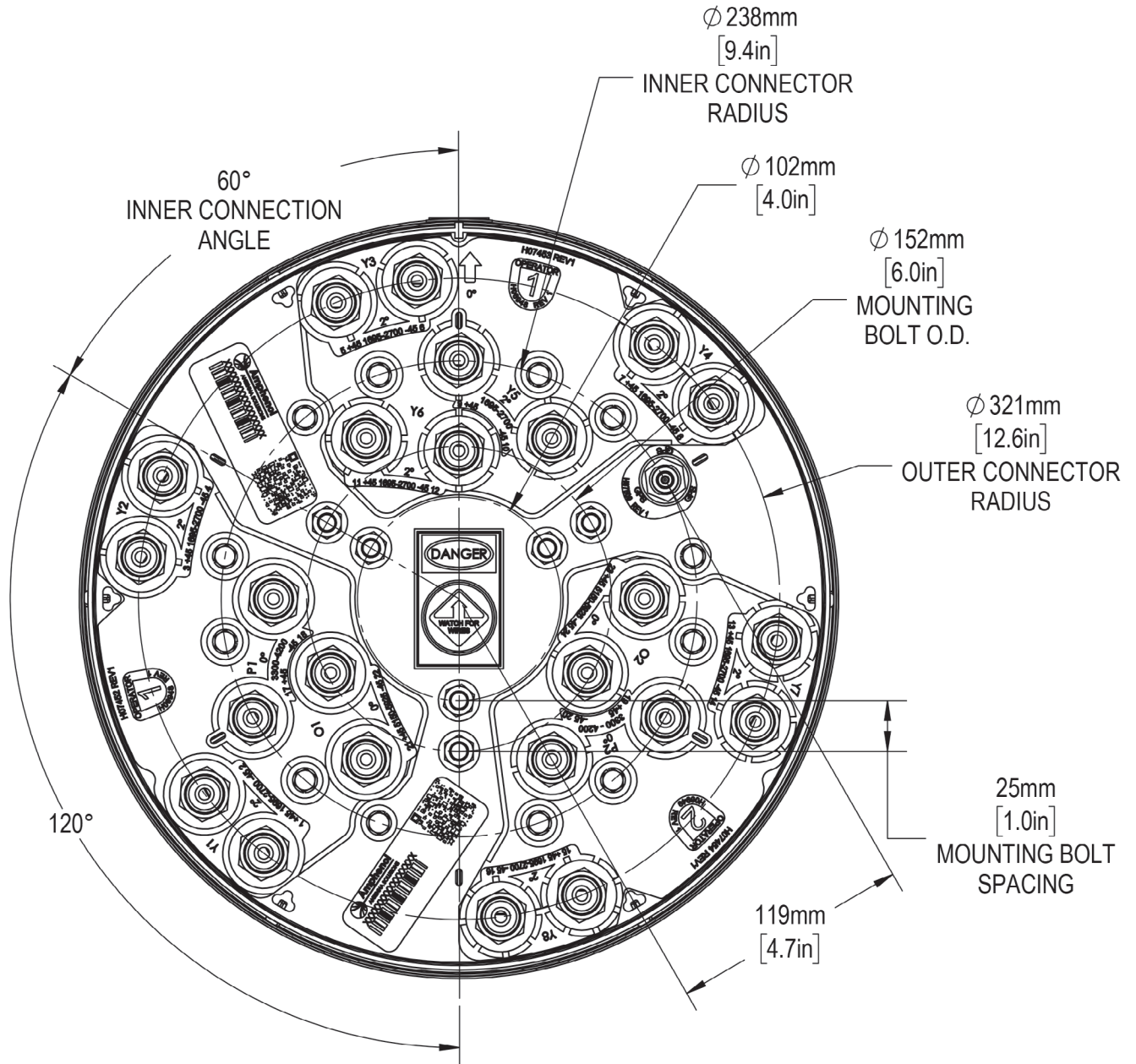
Image shows the N-Type Connector for the optional **INTEGRATED GPS UNIT**.



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BOTTOM VIEW - CONNECTOR DIAGRAM



INSTALLATION Please read all installation notes before installing this product.



Always attach the antenna using all mounting points.

Do not install the antenna with the connectors facing upwards.

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MOUNTING KITS Select from the following mounting options when ordering. Mounting kits for canister antennas are ordered as a separate line item.

MODEL NUMBER	DESCRIPTION
CWT-MKS-SIDE	 <p>SIDE MOUNTING BRACKET KIT FOR CANISTER ANTENNA</p>
CWT-MKS-TOP	 <p>TOP MOUNTING BRACKET KIT FOR CANISTER ANTENNA</p>
WB3X-MKS-01	 <p>UTILITY POLE MOUNTING BRACKET KIT FOR CANISTER ANTENNA</p>
CWT-MKS-BASE-xx	 <p>WIDE DIAMETER POLE TOP MOUNTING BRACKET KIT FOR CANISTER ANTENNA. AVAILABLE IN BROWN, BLACK AND GREY TO MATCH ANTENNA RADOME AND/OR MOUNTING STRUCTURE.</p>

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HOW TO READ THE MODEL NUMBER Each letter and number has meaning.

NUMBER OF BANDS and OPERATING FREQUENCY			PATTERN TYPE	AZIMUTH BMWDTH	POLARIZATION	LENGTH	TILT TYPE	TILT OPTIONS	CONNECTOR TYPE	VARIATION	RADOME COLOR OPTIONS	GPS	
4U			4M	T	SP1	X	06	F	xy	s	4	BK BR	-GPS
(8x) 1695-2700	(2x) 3300-4200	(2x) 5150-5925	Tri-Sector	Sector & Omni Combination	XPOL	0.6 meters	Fixed Tilt	These letters are placeholders for fixed tilt options. Refer to Electrical Specifications for available tilt options.	4.3-10 Connector	Generation 4 enhanced mechanical package	BK indicates a Black radome. BR indicates a Brown radome. The default radome color is Grey. No letters are required for a Grey radome.	Indicates an integrated GPS unit	

ORDERING OPTIONS Select from the following ordering options

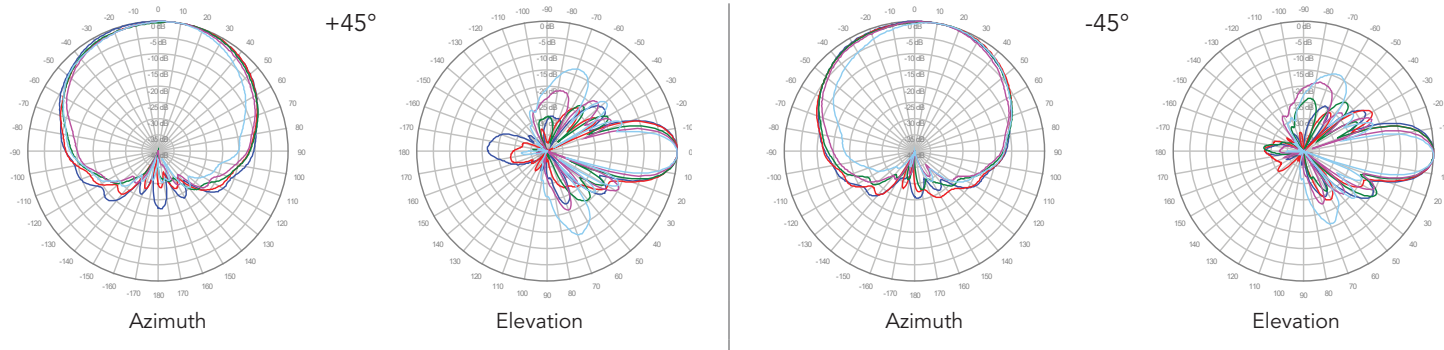
SELECT RADOME COLOR	SELECT DEGREE OF ELECTRICAL DOWNTILT FOR EACH BAND			SELECT ANTENNA TYPE	
	1695-2700 MHz	3300-4200 MHz	5150-5925 MHz	WITHOUT GPS UNIT	WITH GPS UNIT
Grey Pantone 420 C	2°	0°	0°	4U4MTSP1X06F20s4	4U4MTSP1X06F20s4-GPS
	4°	0°	0°	4U4MTSP1X06F40s4	4U4MTSP1X06F40s4-GPS
	6°	0°	0°	4U4MTSP1X06F60s4	4U4MTSP1X06F60s4-GPS
	Y1-Y6=6°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FAAs4	4U4MTSP1X06FAAs4-GPS
	Y1-Y6=4°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FBBs4	4U4MTSP1X06FBBs4-GPS
	Y1-Y6=6°; Y7-Y8=4°	0°	0°	4U4MTSP1X06FCCs4	4U4MTSP1X06FCCs4-GPS
Brown Pantone 476 C	2°	0°	0°	4U4MTSP1X06F20s4BR	4U4MTSP1X06F20s4BR-GPS
	4°	0°	0°	4U4MTSP1X06F40s4BR	4U4MTSP1X06F40s4BR-GPS
	6°	0°	0°	4U4MTSP1X06F60s4BR	4U4MTSP1X06F60s4BR-GPS
	Y1-Y6=6°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FAAs4BR	4U4MTSP1X06FAAs4BR-GPS
	Y1-Y6=4°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FBBs4BR	4U4MTSP1X06FBBs4BR-GPS
	Y1-Y6=6°; Y7-Y8=4°	0°	0°	4U4MTSP1X06FCCs4BR	4U4MTSP1X06FCCs4BR-GPS
Black RAL 9011	2°	0°	0°	4U4MTSP1X06F20s4BK	4U4MTSP1X06F20s4BK-GPS
	4°	0°	0°	4U4MTSP1X06F40s4BK	4U4MTSP1X06F40s4BK-GPS
	6°	0°	0°	4U4MTSP1X06F60s4BK	4U4MTSP1X06F60s4BK-GPS
	Y1-Y6=6°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FAAs4BK	4U4MTSP1X06FAAs4BK-GPS
	Y1-Y6=4°; Y7-Y8=2°	0°	0°	4U4MTSP1X06FBBs4BK	4U4MTSP1X06FBBs4BK-GPS
	Y1-Y6=6°; Y7-Y8=4°	0°	0°	4U4MTSP1X06FCCs4BK	4U4MTSP1X06FCCs4BK-GPS

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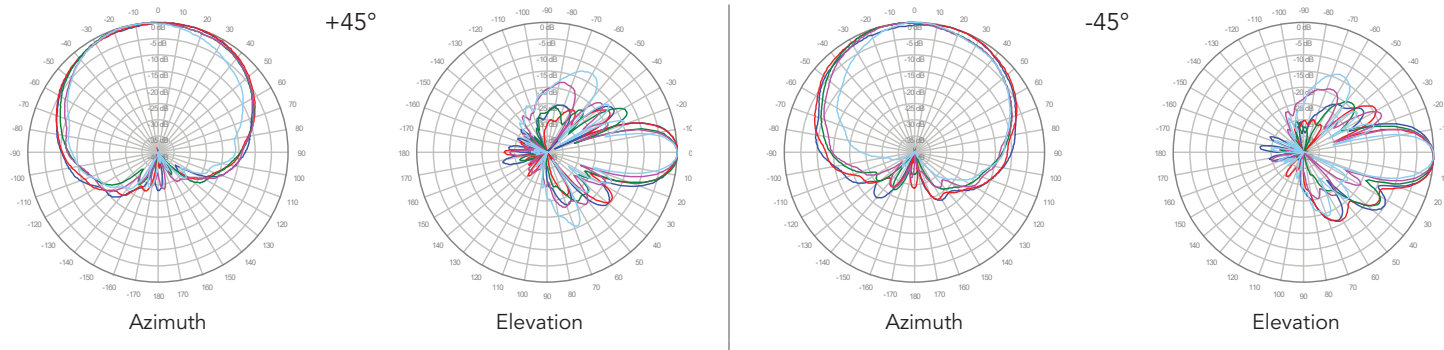
4U4MTSP1X06F_{xys}4

- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

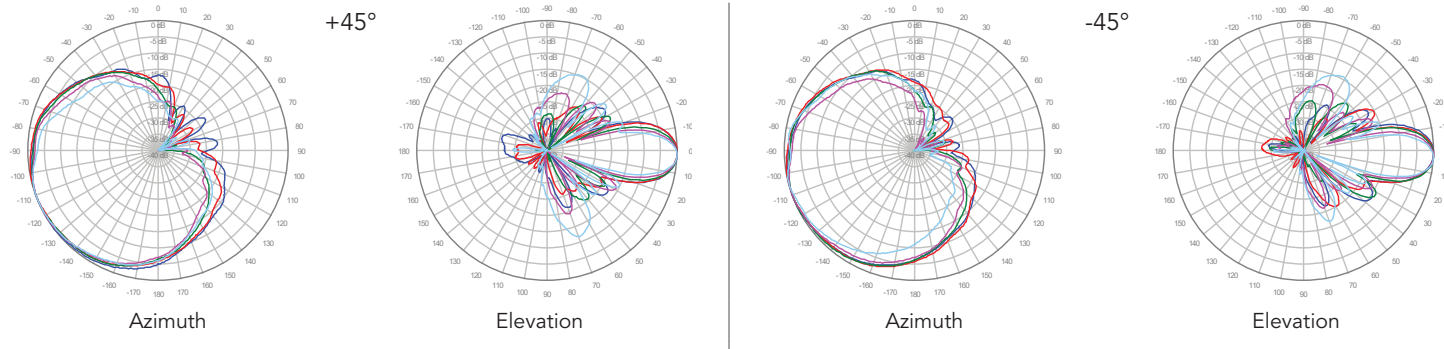
■ Y1, 2° TILT



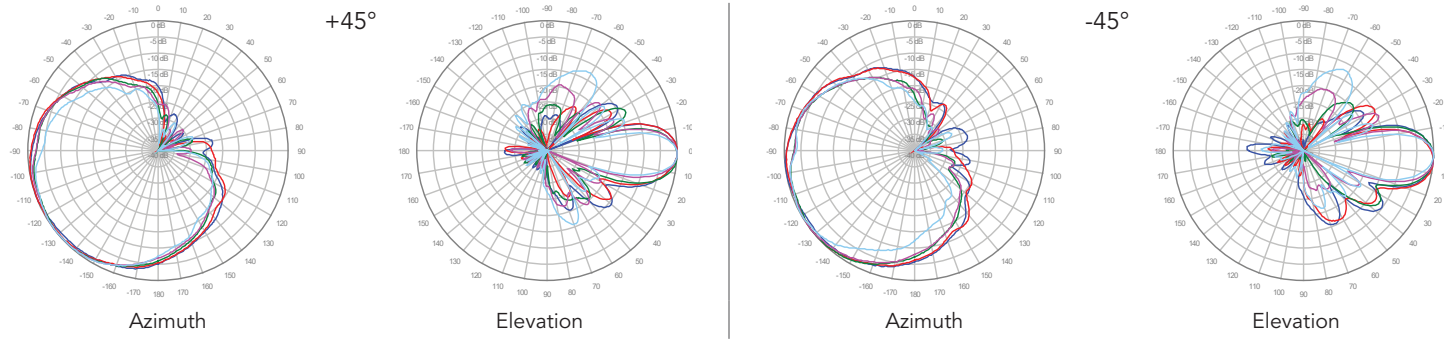
■ Y2, 2° TILT



■ Y3, 2° TILT



■ Y4, 2° TILT

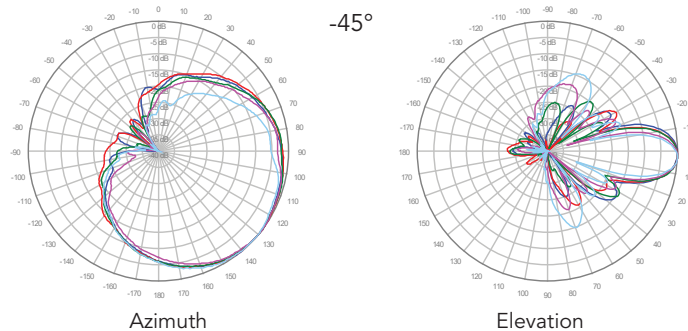
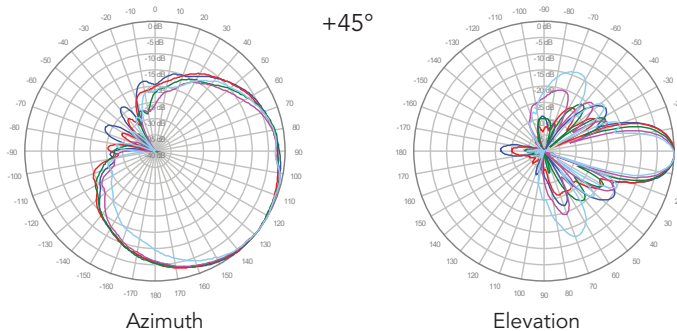


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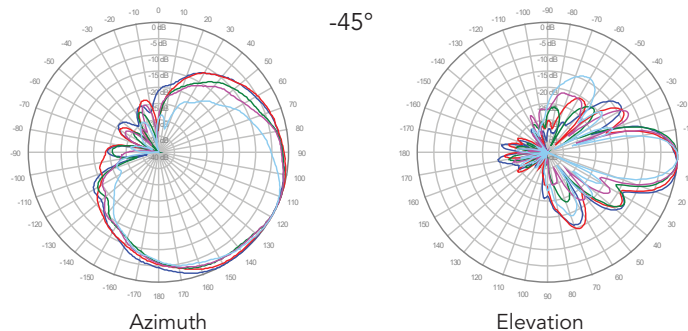
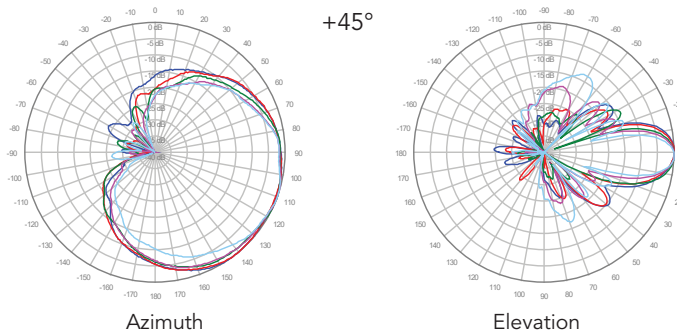
4U4MTSP1X06F_{xy}s4

- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

Y5, 2° TILT



Y6, 2° TILT

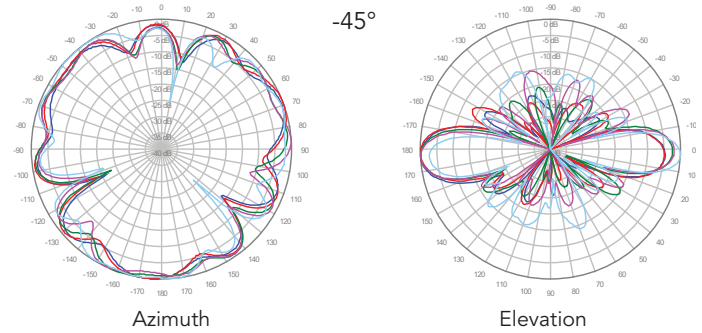
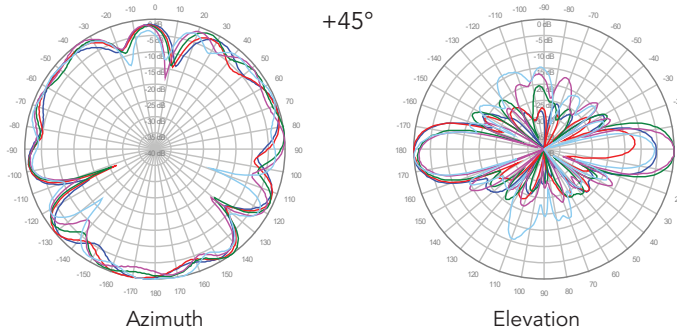


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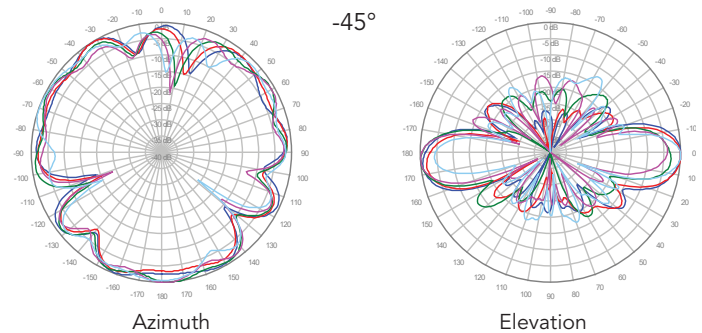
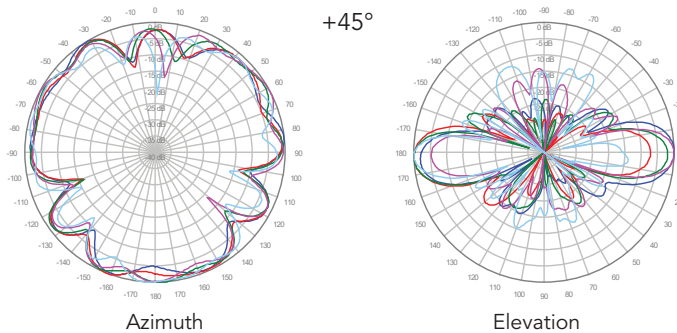
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- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
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- 2600 MHz ———

■ **Y7, 2° TILT**



■ **Y8, 2° TILT**

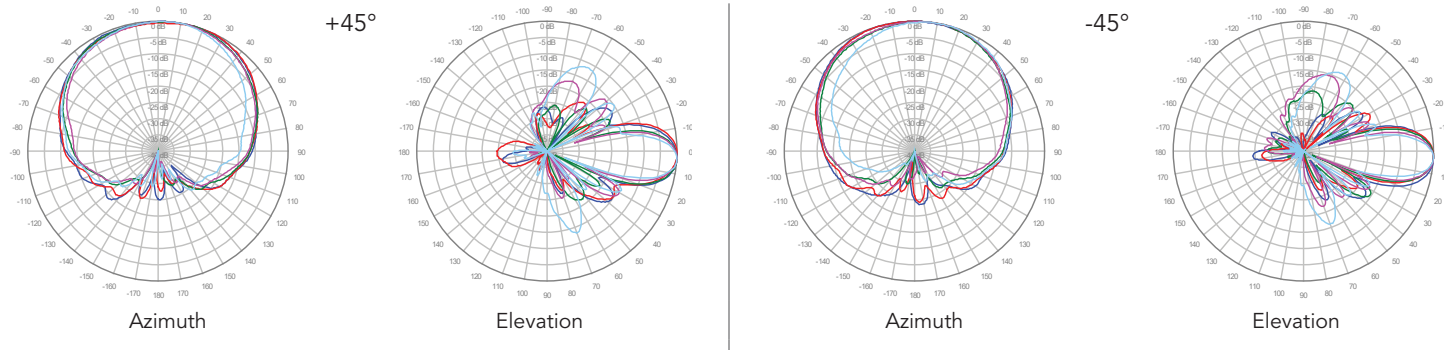


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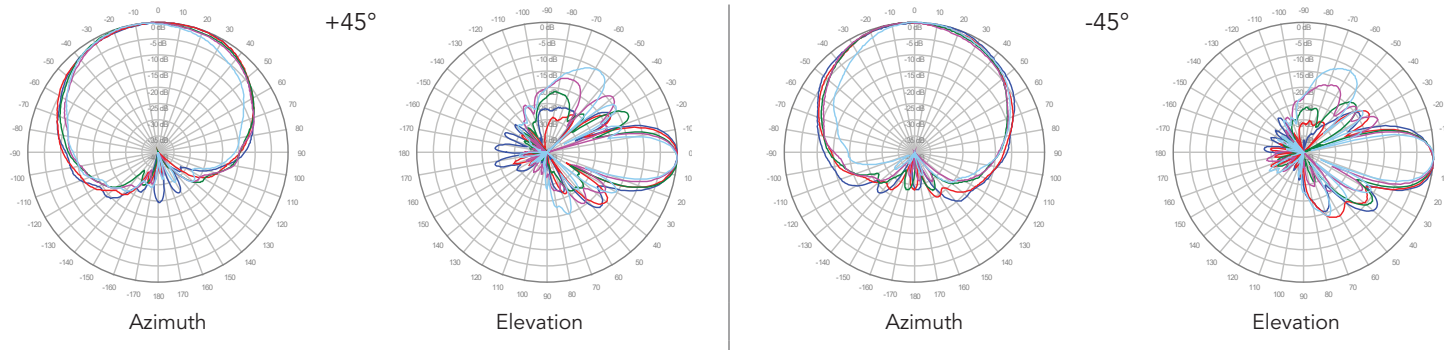
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- 1800 MHz ———
- 1900 MHz ———
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- 2600 MHz ———

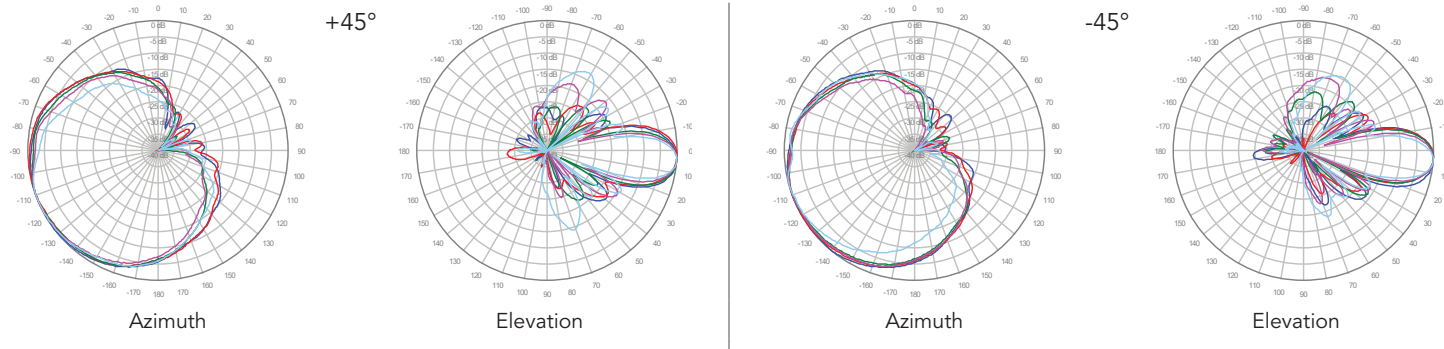
■ Y1, 4° TILT



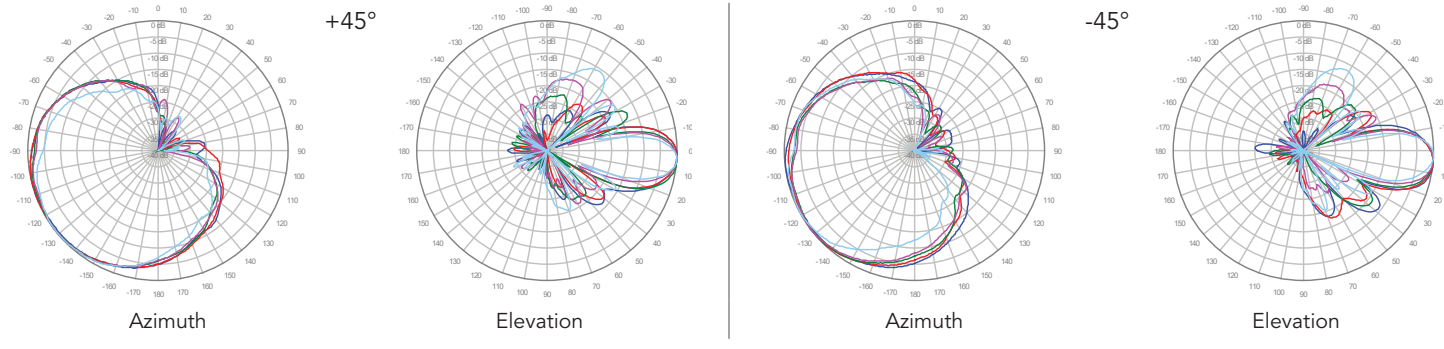
■ Y2, 4° TILT



■ Y3, 4° TILT



■ Y4, 4° TILT

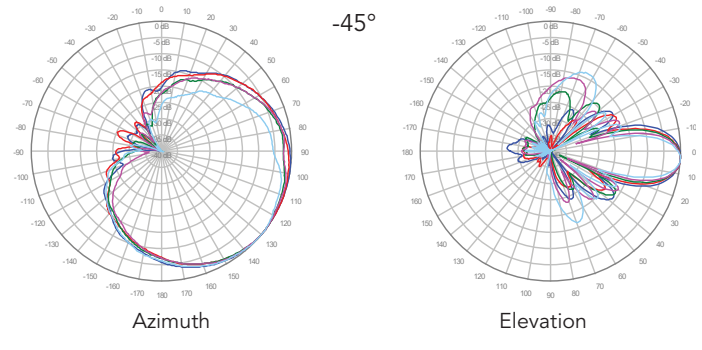
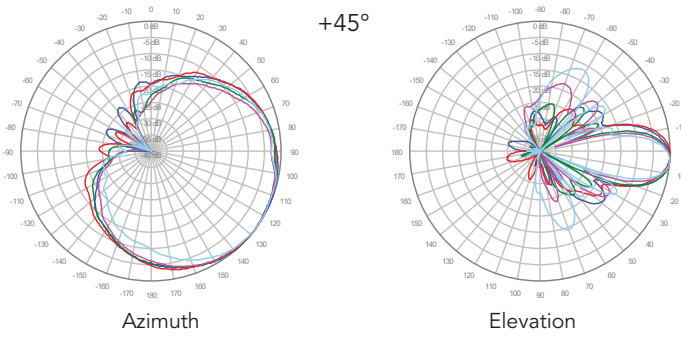


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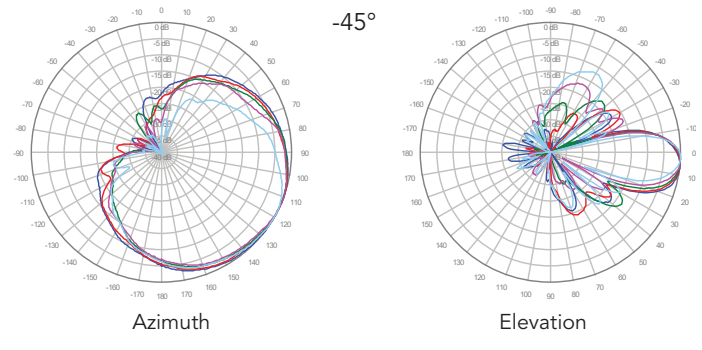
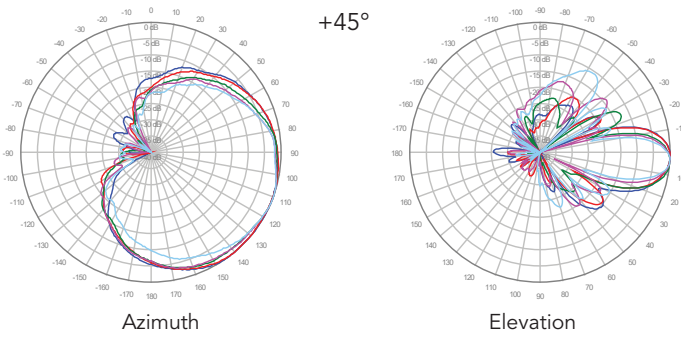
4U4MTSP1X06F_{xy}s4

- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

■ Y5, 4° TILT



■ Y6, 4° TILT

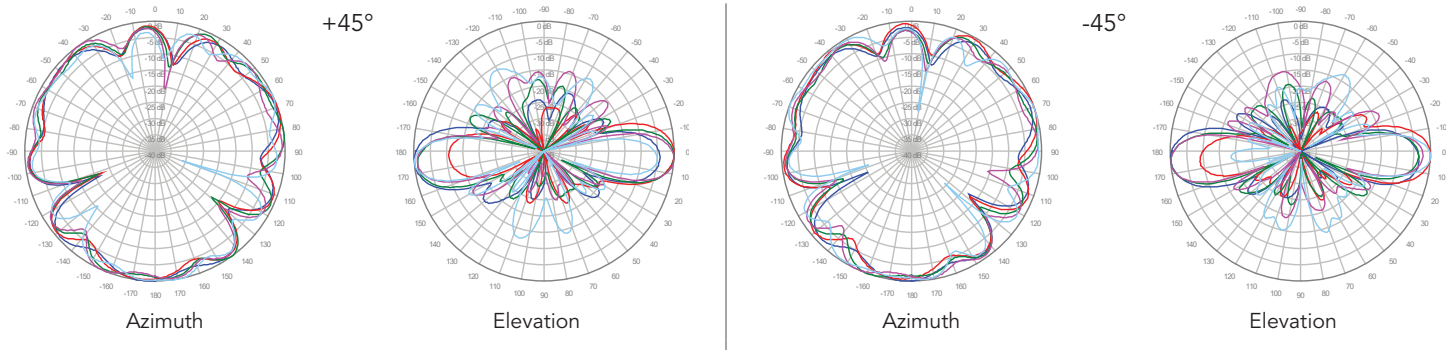


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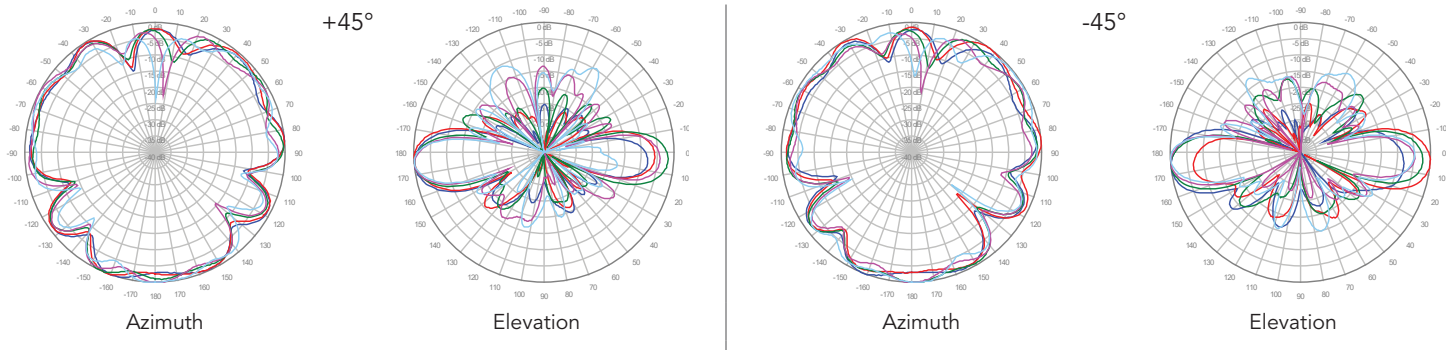
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Y7, 4° TILT



Y8, 4° TILT

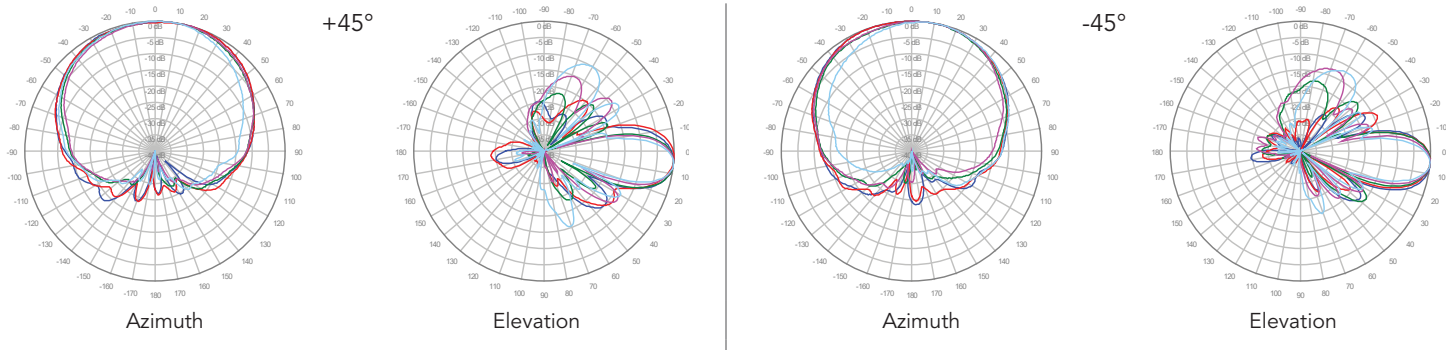


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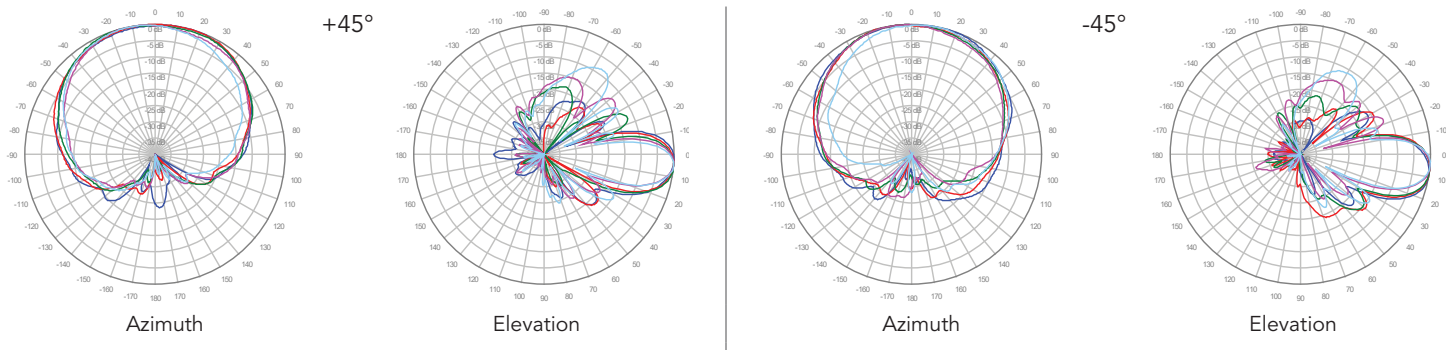
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- 2300 MHz ———
- 2600 MHz ———

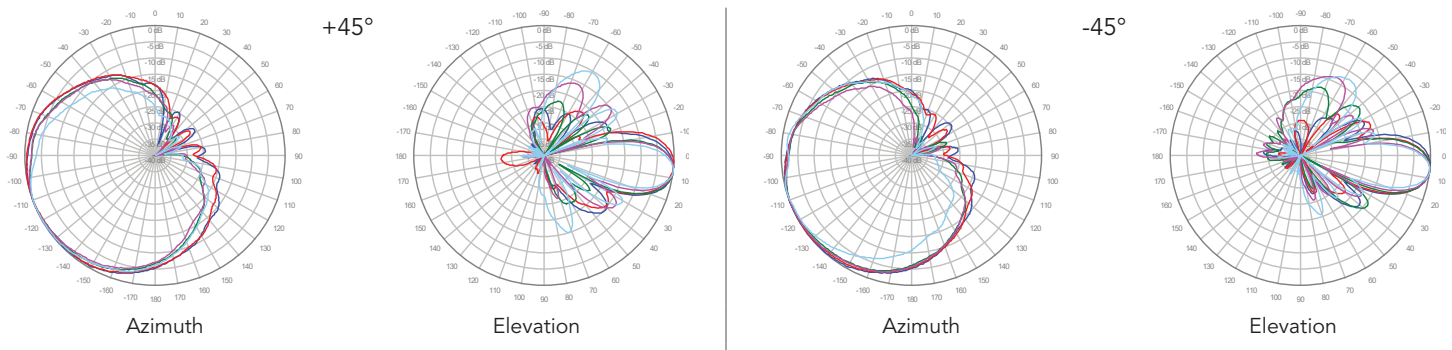
■ **Y1, 6° TILT**



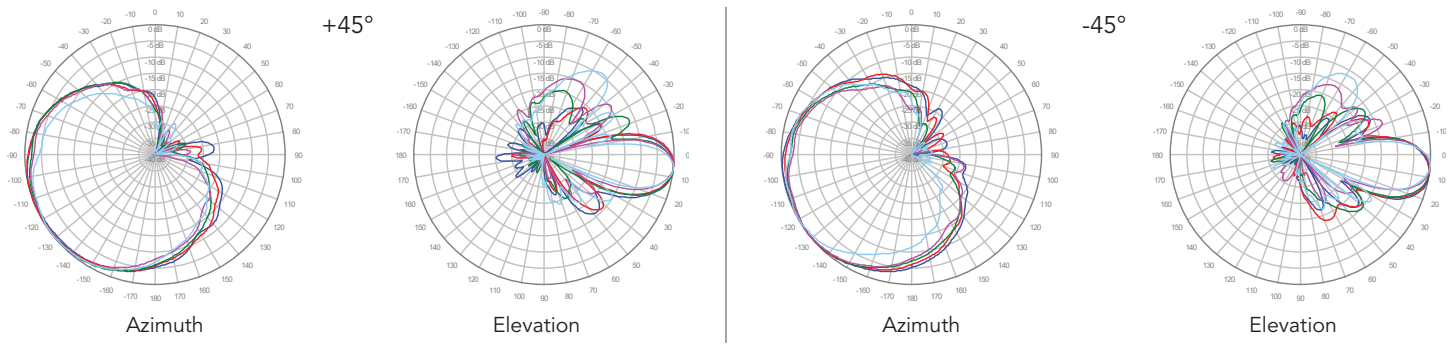
■ **Y2, 6° TILT**



■ **Y3, 6° TILT**



■ **Y4, 6° TILT**

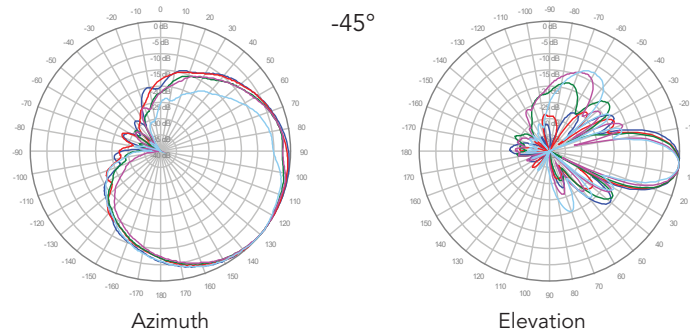
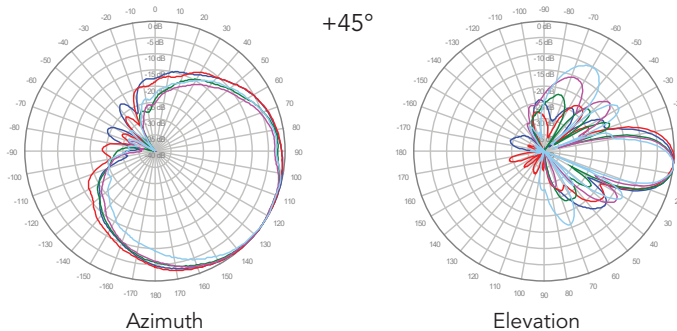


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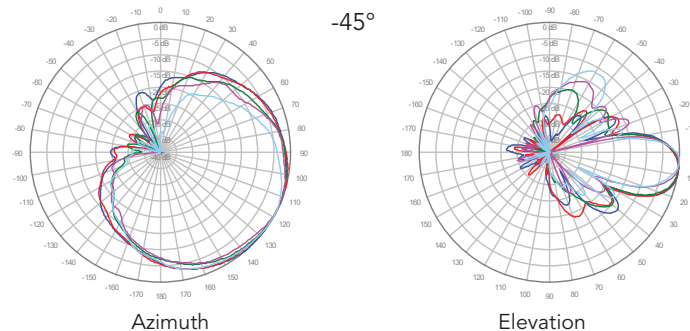
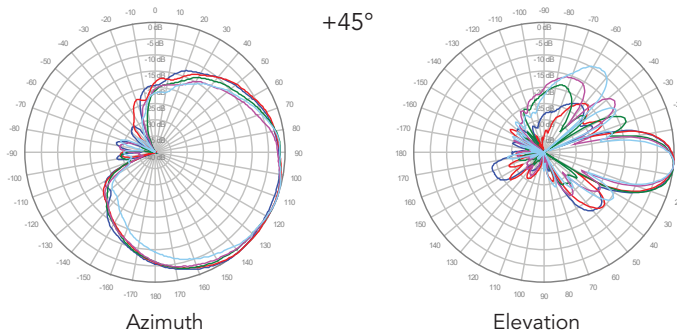
4U4MTSP1X06F_{xy}s4

- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

■ Y5, 6° TILT



■ Y6, 6° TILT

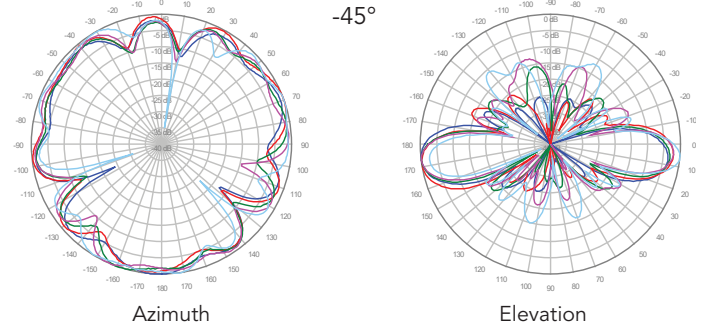
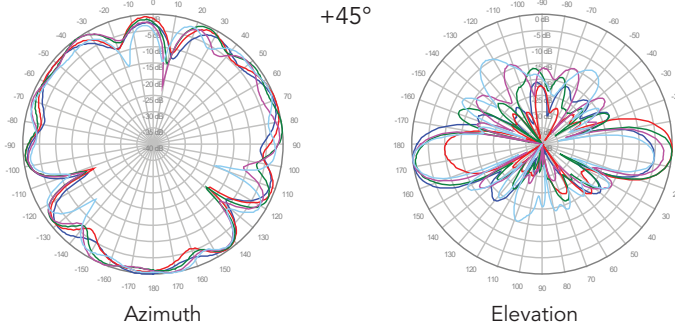


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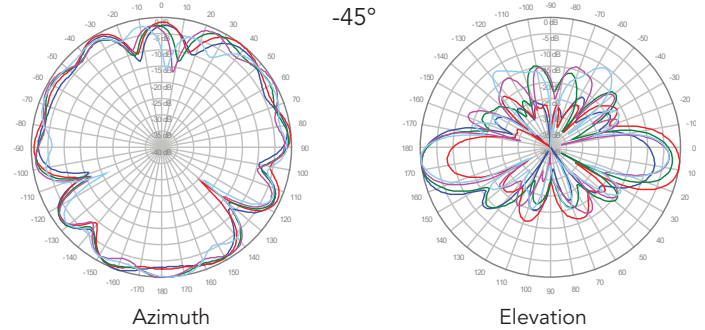
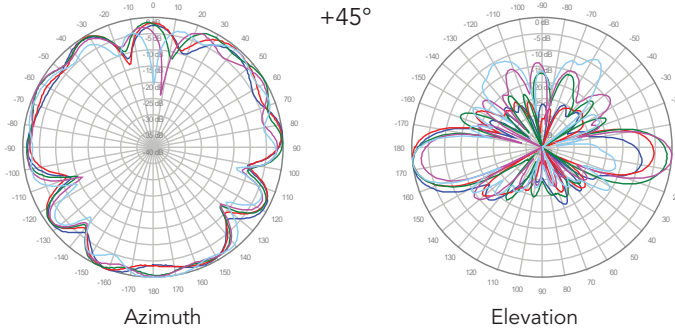
4U4MTSP1X06F_{xys}4

- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

Y7, 6° TILT



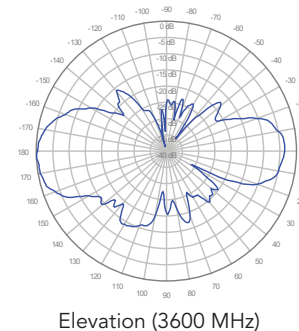
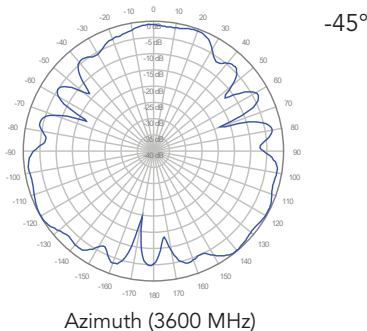
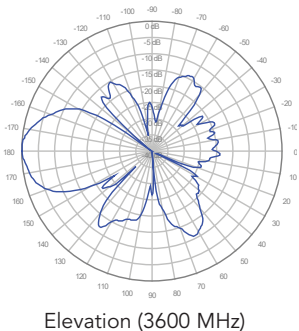
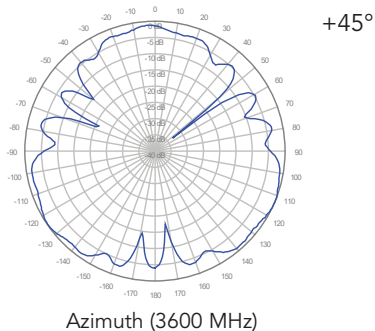
Y8, 6° TILT



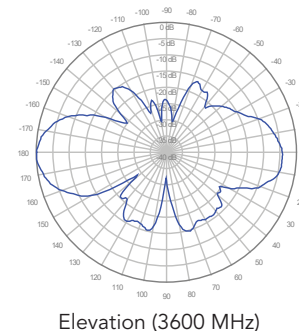
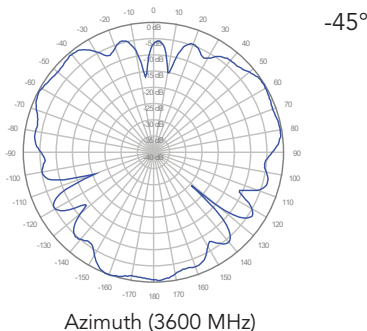
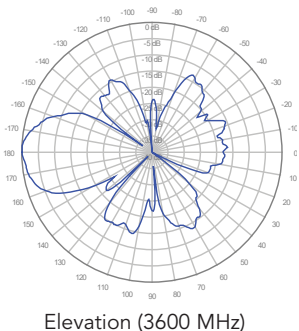
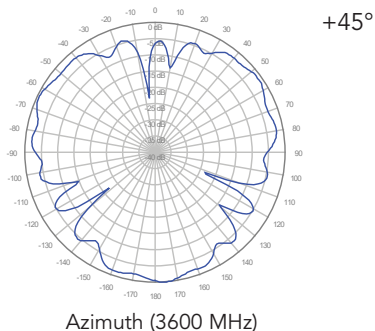
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4U4MTSP1X06F_{xys}4

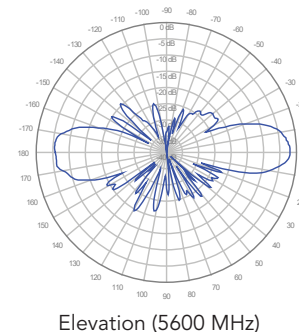
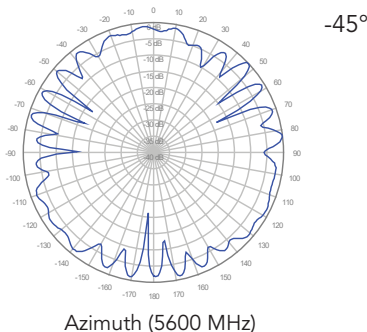
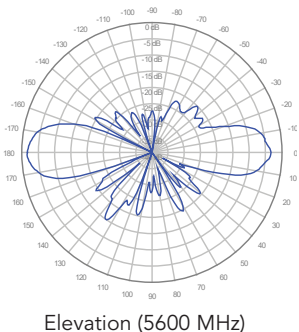
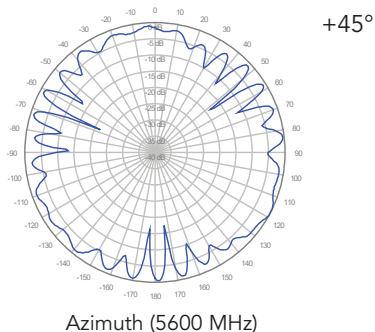
P1, 0° TILT



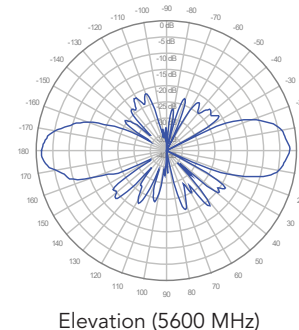
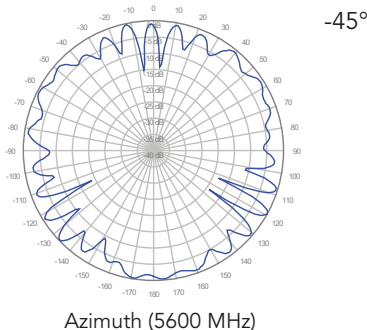
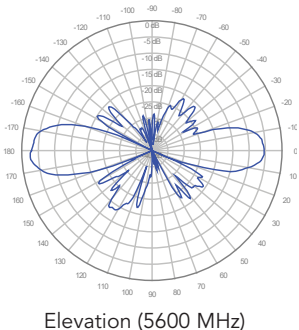
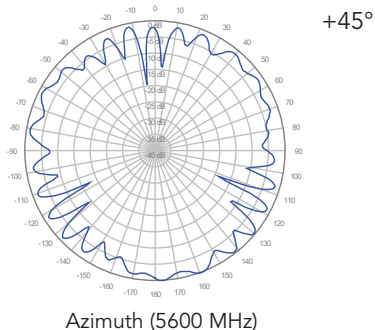
P2, 0° TILT



O1, 0° TILT



O2, 0° TILT



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