

2C4U4MTSP1X06FwxyS4-GPS



Features

- 4G/5G sector & omni configuration with 32 connectors and a separate port for an integrated GPS unit
- Low and Mid Bands contain sectored and pseudo omni arrays
- Ideal for multi-carrier or 4x4 MIMO deployments
- New, enhanced mechanical and antenna design
 - Easily removable lifting ring
 - Extended CBRS Band
 - Improvements in gain, port isolation and VSWR
- 5 GHz U-NII FCC compliant
- Available for order with a grey, brown or black radome

PRODUCT OVERVIEW	Frequency Range (MHz)	GPS BAND	LOW BAND		MID BAND				CBRS BAND	LAA BAND
		1575.42 ± 10 MHz	(4x) 696-960		(8x) 1695-2700				(2x) 3300-4200	(2x) 5150-5925
	Array	---	■ R1	■ R2 ■ R3 ■ R4	■ Y1 ■ Y2	■ Y3 ■ Y4 ■ Y5 ■ Y6 ■ Y7 ■ Y8	■ P1 ■ P2	■ O1 ■ O2		
	Connector	1 PORT	2 PORTS	6 PORTS	4 PORTS	12 PORTS	4 PORTS	4 PORTS		
	Polarization	RIGHT HAND CIRCULAR	XPOL	XPOL	XPOL	XPOL	XPOL	XPOL	XPOL	
	Azimuth Beamwidth (avg)	---	OMNI	SECTORIZED	OMNI	SECTORIZED	OMNI	OMNI	OMNI	
	Electrical Downtilt	---	0°	0°	2°, 4°, 6°	2°, 4°, 6°	0°	0°		
	Configuration	OMNI AND SECTOR COMBINATION CONFIGURATION WITH INTEGRATED GPS UNIT								
	Connector Type	(32x) 4.3-10 FEMALE and (1x) N-TYPE FEMALE FOR GPS								
	Dimensions	611 x Ø371 mm (24.1 x Ø14.6 in)								
Radome Color Options	GREY, BROWN or BLACK									

ELECTRICAL SPECIFICATIONS Low Band - Omni

■ R1

Frequency Range	MHz	(1x) 696-960	
Frequency Sub-Range	MHz	696-806	806-960
Polarization	---	(1x) ±45°	
Gain	BASTA	dBi	4.3 ± 0.6
	MAX	dBi	4.9
Azimuth Beamwidth (3 dB)	degrees	360°	
Elevation Beamwidth (3 dB)	degrees	69.5° ± 9.9°	65.1° ± 12.7°
Electrical Downtilt	degrees	(w) 0°	
Impedance	Ohms	50Ω	
VSWR	---	≤ 1.5:1	
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	< -153	
Upper Sidelobe Suppression	dB	N/A	
Front-to-Back Ratio	dB	N/A	
Isolation	Intraband	dB	> 25
	Interband	dB	> 28
Input Power	Watts	500W	

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ELECTRICAL SPECIFICATIONS Low Band - Sectorized

■ R2 ■ R3 ■ R4

Frequency Range		MHz	(3x) 696-960	
Frequency Sub-Range		MHz	696-806	806-960
Polarization		---	(3x) ±45°	
Gain	BASTA	dBi	7.4 ± 0.5	7.5 ± 0.8
	MAX	dBi	7.9	8.3
Azimuth Beamwidth (3 dB)		degrees	90.2° ± 7.3°	78.1° ± 12.3°
Elevation Beamwidth (3 dB)		degrees	77.8° ± 11.3°	71.4° ± 11.9°
Electrical Downtilt		degrees	(w) 0°	
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
Front-to-Back Ratio		dB	> 16	> 12
Isolation	Intraband	dB	> 25	
	Interband	dB	> 28	
Input Power		Watts	500W	

ELECTRICAL SPECIFICATIONS Mid Band - Omni

■ Y1 ■ Y2

Frequency Range		MHz	(2x) 1695-2700			
Frequency Sub-Range		MHz	1695-1880	1850-1990	1920-2200	2300-2700
Polarization		---	(2x) ±45°			
Gain	BASTA	dBi	7.0 ± 1.0	6.9 ± 1.1	6.9 ± 1.1	7.0 ± 1.1
	MAX	dBi	8.0	8.0	8.0	8.1
Azimuth Beamwidth (3 dB)		degrees	360°	360°	360°	360°
Elevation Beamwidth (3 dB)		degrees	35.2° ± 9.7°	31.3° ± 6.5°	32.0° ± 7.3°	24.1° ± 7.2°
Electrical Downtilt (±1/2°) Combined Tilt		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			
Front-to-Back Ratio		dB	N/A			
Isolation	Intraband	dB	> 25			
	Interband	dB	> 28			
Input Power		Watts	300W			

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ELECTRICAL SPECIFICATIONS Mid Band - Sectorized

■ Y3 ■ Y4 ■ Y5 ■ Y6 ■ Y7 ■ Y8

Frequency Range		MHz	(6x) 1695-2700			
Frequency Sub-Range		MHz	1695-1880	1850-1990	1920-2200	2300-2700
Polarization		---	(6x) ±45°			
Gain	BASTA	dBi	10.5 ± 0.8	10.1 ± 1.1	10.2 ± 1.2	11.0 ± 1.3
	MAX	dBi	11.3	11.2	11.4	12.3
Azimuth Beamwidth (3 dB)		degrees	68.1° ± 13.9°	76.5° ± 11.0°	71.3° ± 14.8°	57.0° ± 11.0°
Elevation Beamwidth (3 dB)		degrees	35.8° ± 5.1°	32.9° ± 4.8°	33.5° ± 27.9°	26.3° ± 6.7°
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	> 18	> 17	> 18	> 17
Isolation	Intraband	dB	> 25			
	Interband	dB	> 28			
Input Power		Watts	300W			

ELECTRICAL SPECIFICATIONS CBRS Band

■ P1 ■ P2

Frequency Range		MHz	(2x) 3300-4200			
Polarization		---	(2x) ±45°			
Gain	BASTA	dBi	5.7 ± 0.4			
	MAX	dBi	6.1			
Azimuth Beamwidth (3 dB)		degrees	360°			
Elevation Beamwidth (3 dB)		degrees	29.3° ± 4.8°			
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	N/A			
Isolation	Intraband	dB	> 25			
	Interband	dB	> 28			
Input Power		Watts	100W			

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ELECTRICAL SPECIFICATIONS LAA Band

■ O1 ■ O2

Frequency Range	MHz	(2x) 5150-5925	
Polarization	---	(2x) ±45°	
Gain	BASTA	dBi	4.6 ± 0.7
	MAX	dBi	5.3
Azimuth Beamwidth (3 dB)	degrees	360°	
Elevation Beamwidth (3 dB)	degrees	20.4° ± 2.9°	
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	Meets FCC requirements upper pattern control for use in LAA outdoor network	
Isolation	Intraband	dB	> 25
	Interband	dB	> 28
Input Power	Watts	50W	
U-NII Compliant	---	Yes	

GPS UNIT Integrated

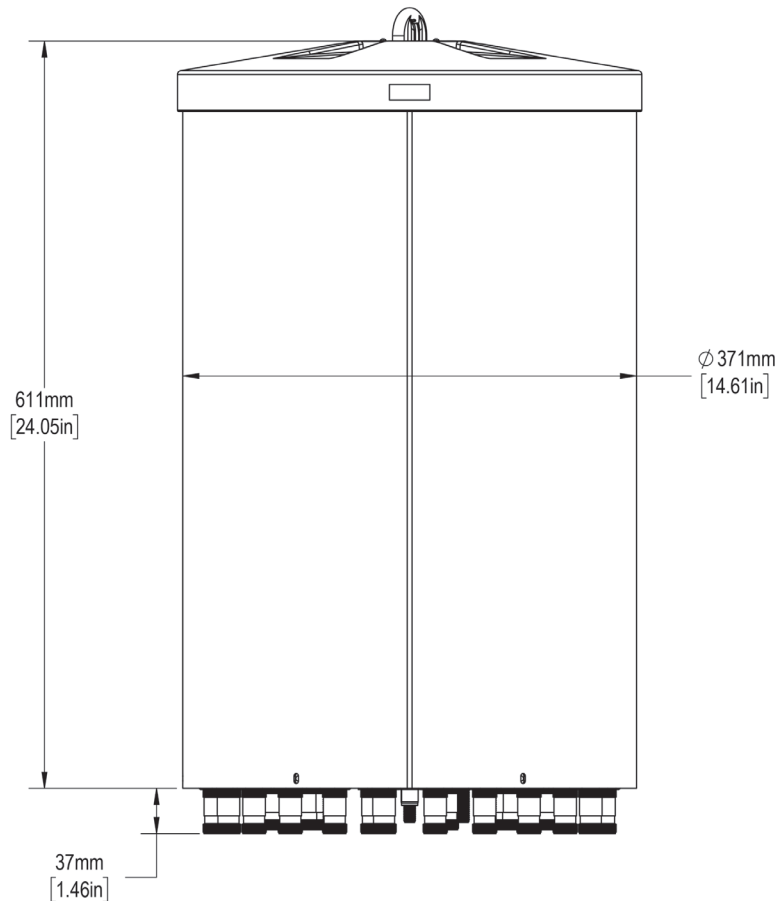
Frequency Range	1575.42 MHz ± 10 MHz
Polarization	Right Hand Circular
Nominal Gain	3 dBic at 90°; -2 dBic at 20°
Current Draw	22 mA @ 5V
Out-of-Band Rejection	> 55 dB at 1559 MHz; > 60 dB at 1625 MHz
Amplifier Gain	28 dB ± 3 dB
Nominal Impedance	50 ohm
Noise Figure	3.9 dB
DC Voltage	2.7-5.5 VDC
VSWR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

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MECHANICAL SPECIFICATIONS

Antenna	Height	mm (in)	611 (24.1)
	Diameter	mm (in)	371 (14.6)
Net Weight - Antenna Only		kg (lbs)	14.1 (31)
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	---	(32x) 4.3-10 Female and (1x) N-Type Female for GPS
	Position	---	Bottom
Radome Color		---	Grey (Pantone 420 C), Brown (Pantone 476 C), Black (RAL 9011)
Lightning Protection (Grounding Type)		---	Direct Ground

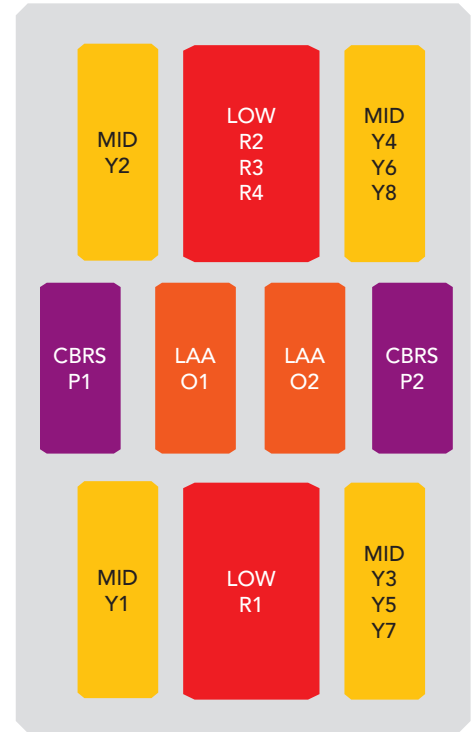


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ARRAY LAYOUT Topology

FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
LOW BAND	696-960	■ R1	1-2 (2x) 4.3-10 Female
	696-960	■ R2	3-4 (2x) 4.3-10 Female
	696-960	■ R3	5-6 (2x) 4.3-10 Female
	696-960	■ R4	78 (2x) 4.3-10 Female
MID BAND	1695-2700	■ Y1	9-10 (2x) 4.3-10 Female
	1695-2700	■ Y2	11-12 (2x) 4.3-10 Female
	1695-2700	■ Y3	13-14 (2x) 4.3-10 Female
	1695-2700	■ Y4	15-16 (2x) 4.3-10 Female
	1695-2700	■ Y5	17-18 (2x) 4.3-10 Female
	1695-2700	■ Y6	19-20 (2x) 4.3-10 Female
	1695-2700	■ Y7	21-22 (2x) 4.3-10 Female
	1695-2700	■ Y8	23-24 (2x) 4.3-10 Female
CBRS BAND	3300-4200	■ P1	25-26 (2x) 4.3-10 Female
	3300-4200	■ P2	27-28 (2x) 4.3-10 Female
LAA BAND	5150-5925	■ O1	29-30 (2x) 4.3-10 Female
	5150-5925	■ O2	31-32 (2x) 4.3-10 Female
GPS BAND	1575.42 MHz ± 10 MHz	---	33 (1x) N-Type Female

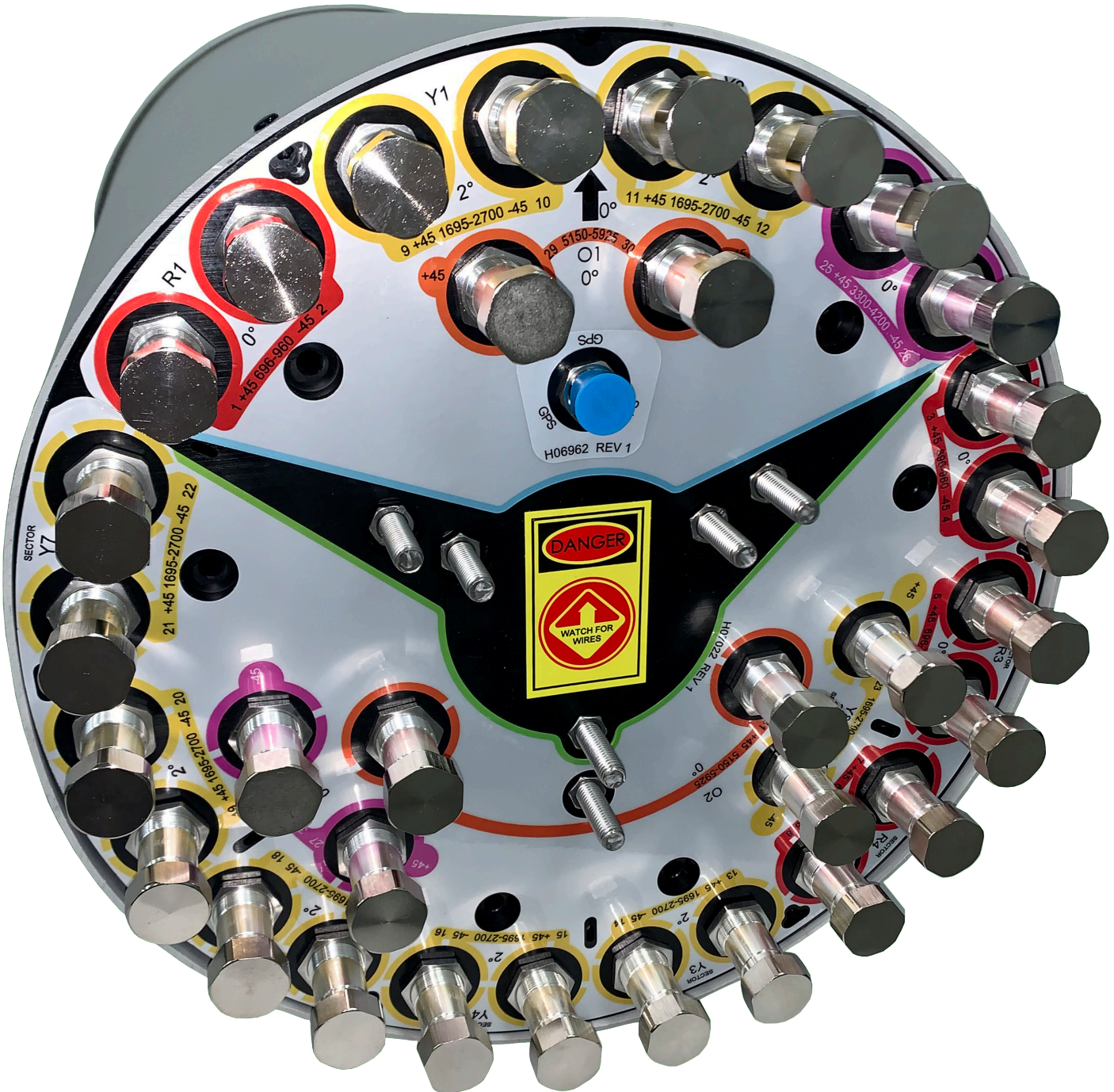


The illustration is not shown to scale.

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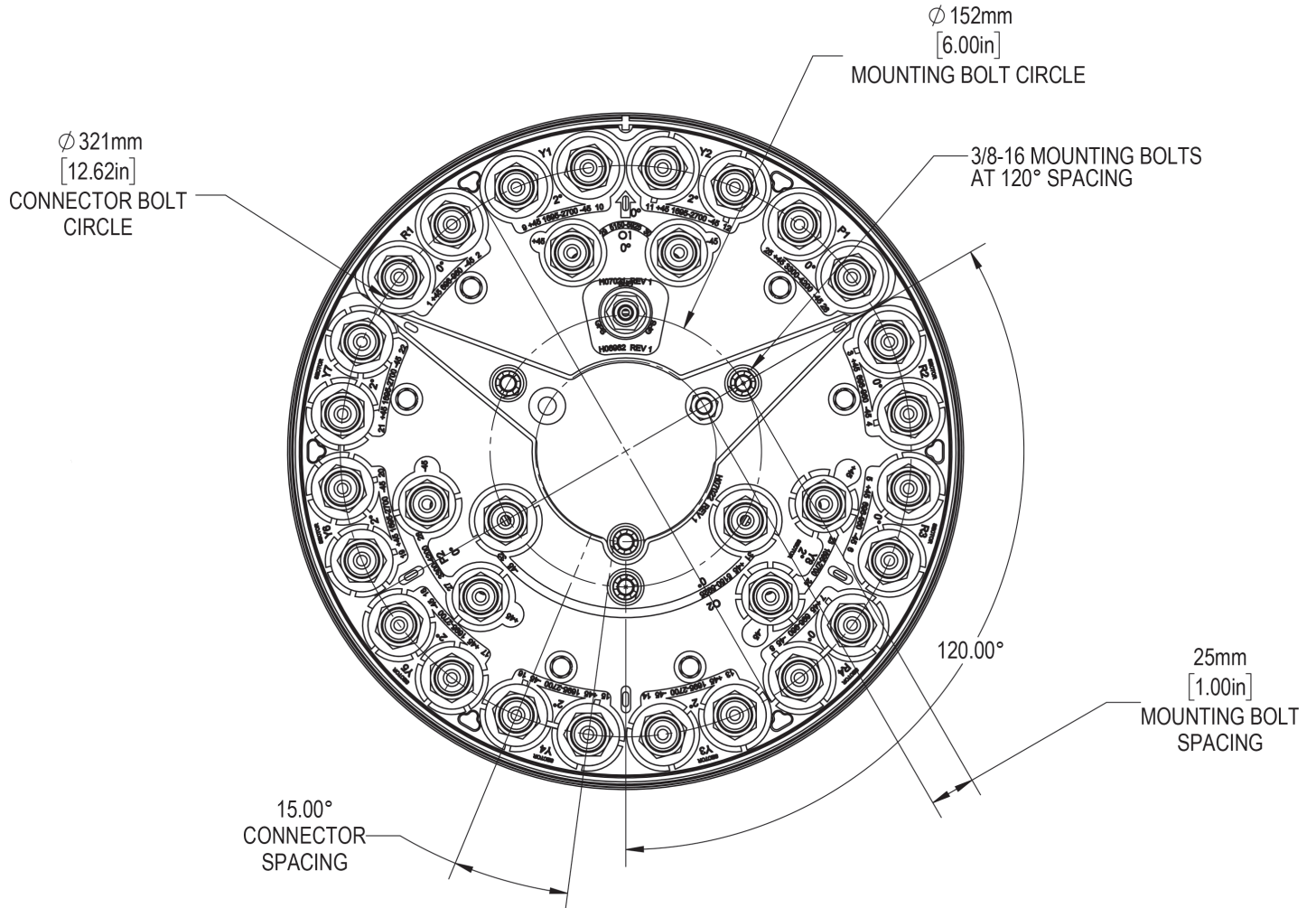
BOTTOM VIEW - LABELING



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

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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 BMWIDTH	POLARIZATION	LENGTH	TILT TYPE	TILT OPTIONS	CONNECTOR TYPE	VARIATION	RADOME COLOR OPTIONS	GPS
2C	4U	4M		T	SP1	X	06	F	wxy	s	4	BK BR	-GPS
(4x) 696-960	(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	4th generation 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

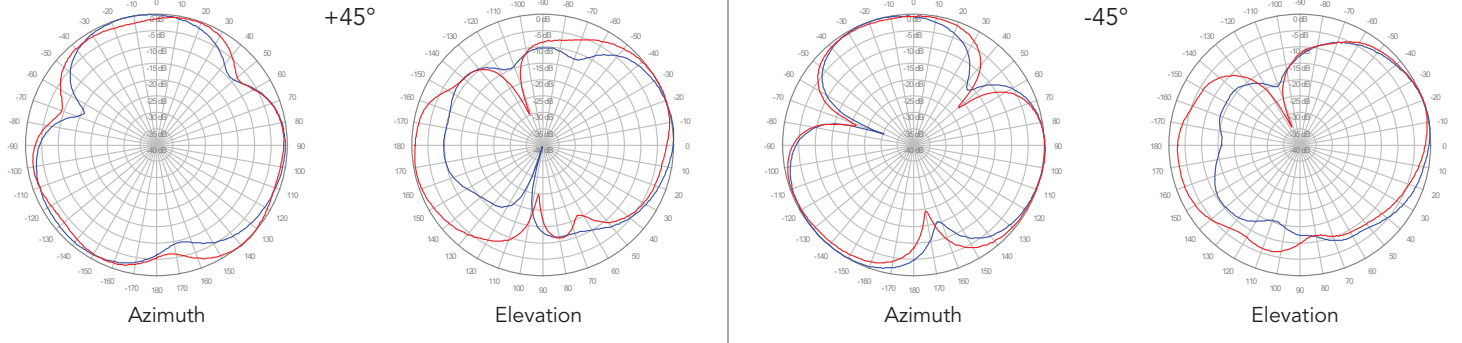
SELECT RADOME COLOR	SELECT DEGREE OF ELECTRICAL DOWNTILT FOR EACH BAND				ORDER MODEL NUMBER
	LOW BAND	MID BAND	CBRS BAND	LAA BAND	
Grey Pantone 420 C	0°	2°	0°	0°	2C4U4MTSP1X06F020 _s 4-GPS
	0°	4°	0°	0°	2C4U4MTSP1X06F040 _s 4-GPS
	0°	6°	0°	0°	2C4U4MTSP1X06F060 _s 4-GPS
	0°	Y1-Y2=2°; Y3-Y8=4°	0°	0°	2C4U4MTSP1X06FAAA _s 4-GPS
	0°	Y1-Y2=2°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FBBB _s 4-GPS
	0°	Y1-Y2=4°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FCCC _s 4-GPS
Brown Pantone 476 C	0°	2°	0°	0°	2C4U4MTSP1X06F020 _s 4BR-GPS
	0°	4°	0°	0°	2C4U4MTSP1X06F040 _s 4BR-GPS
	0°	6°	0°	0°	2C4U4MTSP1X06F060 _s 4BR-GPS
	0°	Y1-Y2=2°; Y3-Y8=4°	0°	0°	2C4U4MTSP1X06FAAA _s 4BR-GPS
	0°	Y1-Y2=2°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FBBB _s 4BR-GPS
	0°	Y1-Y2=4°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FCCC _s 4BR-GPS
Black RAL 9011	0°	2°	0°	0°	2C4U4MTSP1X06F020 _s 4BK-GPS
	0°	4°	0°	0°	2C4U4MTSP1X06F040 _s 4BK-GPS
	0°	6°	0°	0°	2C4U4MTSP1X06F060 _s 4BK-GPS
	0°	Y1-Y2=2°; Y3-Y8=4°	0°	0°	2C4U4MTSP1X06FAAA _s 4BK-GPS
	0°	Y1-Y2=2°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FBBB _s 4BK-GPS
	0°	Y1-Y2=4°; Y3-Y8=6°	0°	0°	2C4U4MTSP1X06FCCC _s 4BK-GPS

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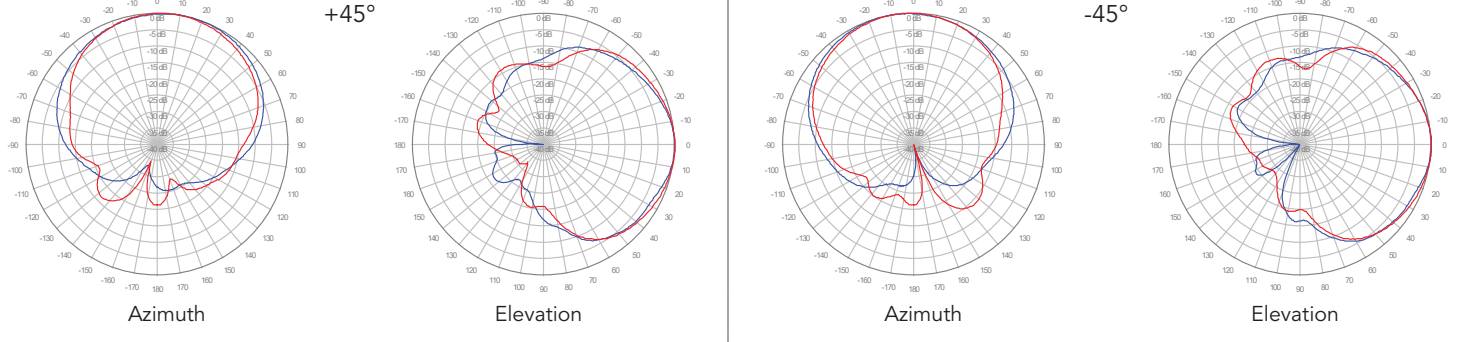
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750 MHz ————
850 MHz ————

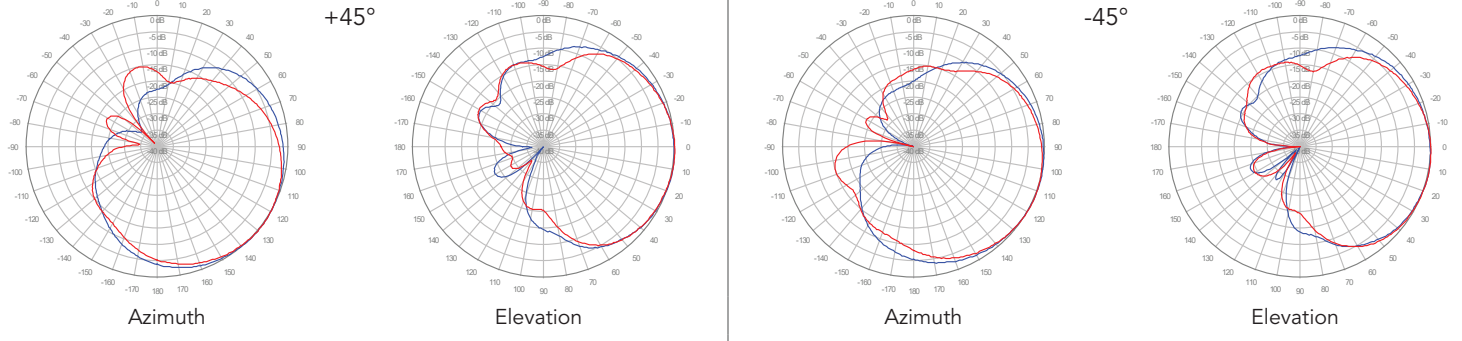
R1, 0° TILT



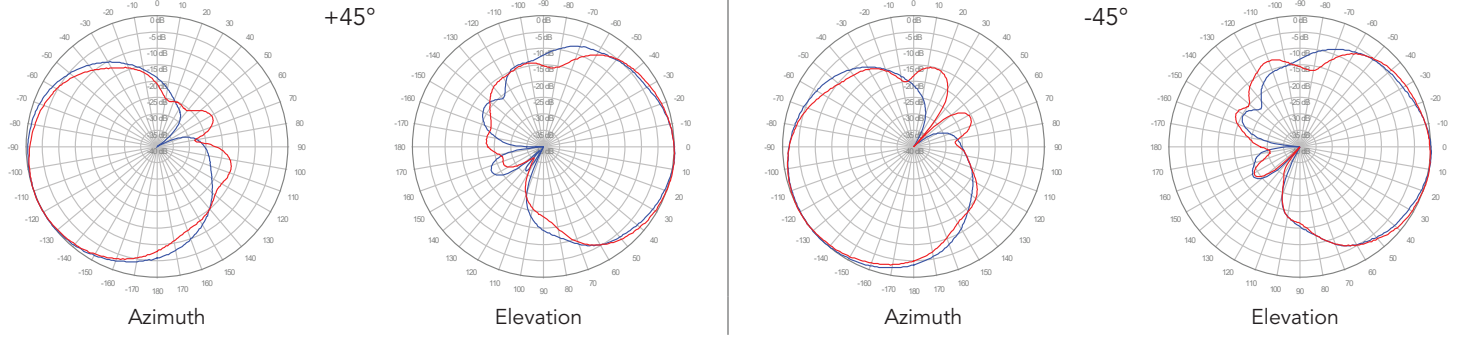
R2, 0° TILT



R3, 0° TILT



R4, 0° TILT

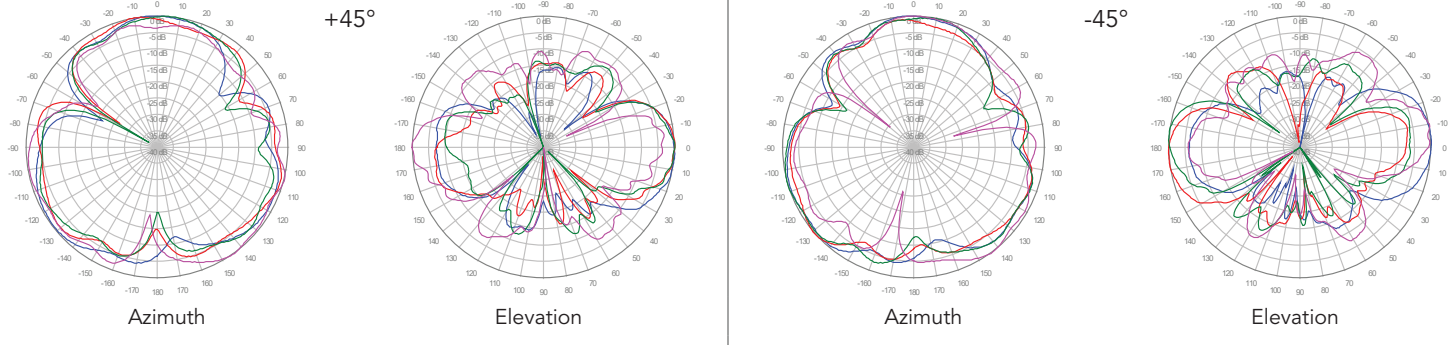


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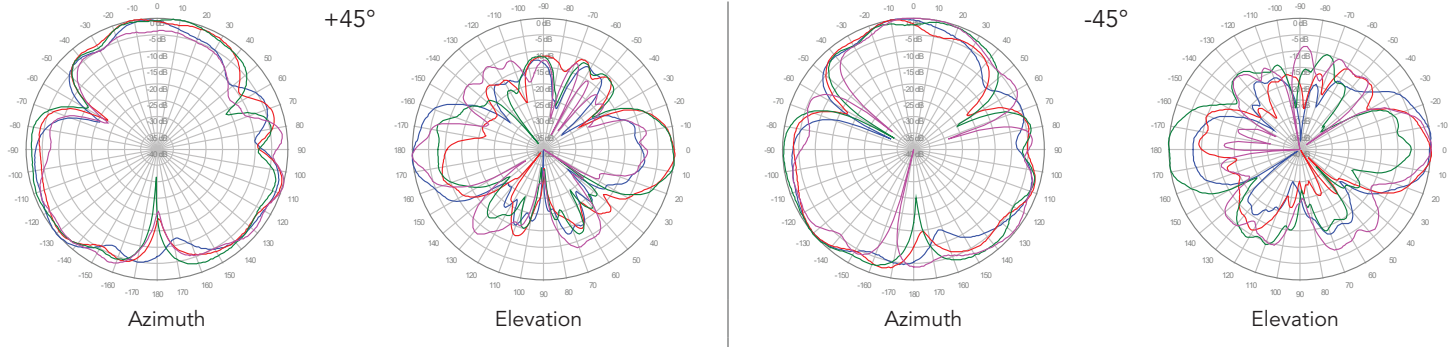
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1800 MHz ———
1900 MHz ———
2100 MHz ———
2600 MHz ———

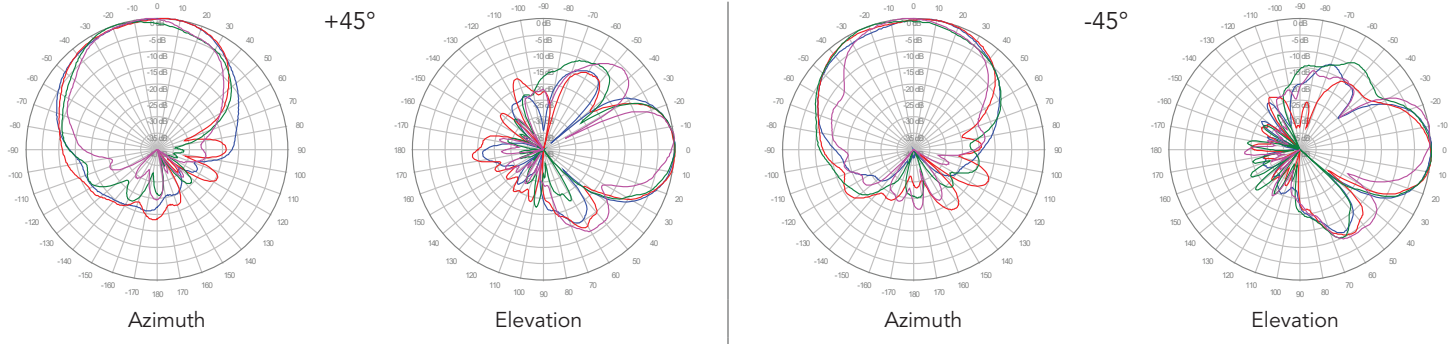
Y1, 2° TILT



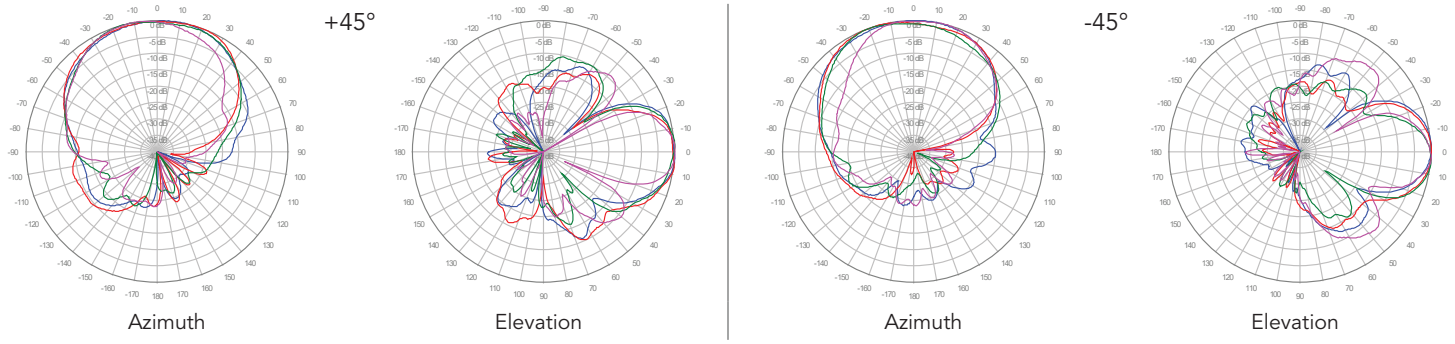
Y2, 2° TILT



Y3, 2° TILT



Y4, 2° TILT

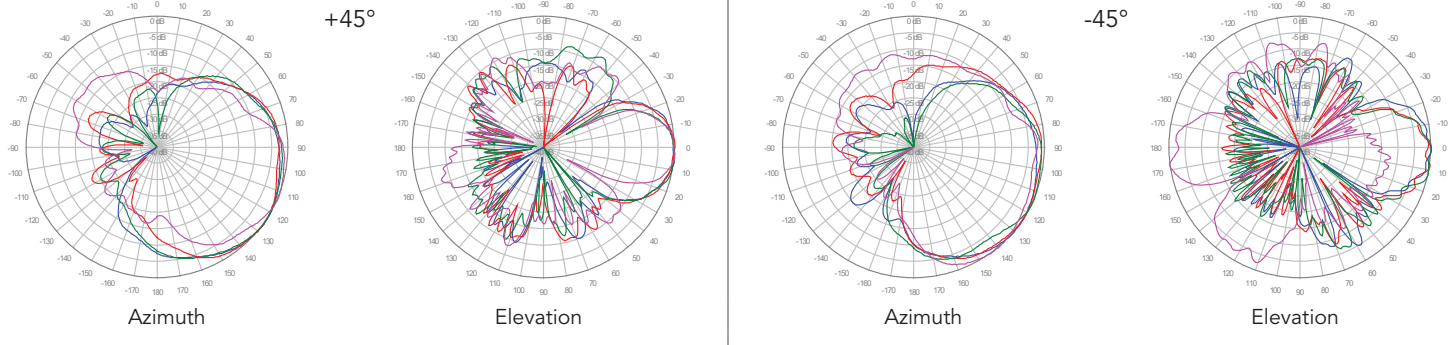


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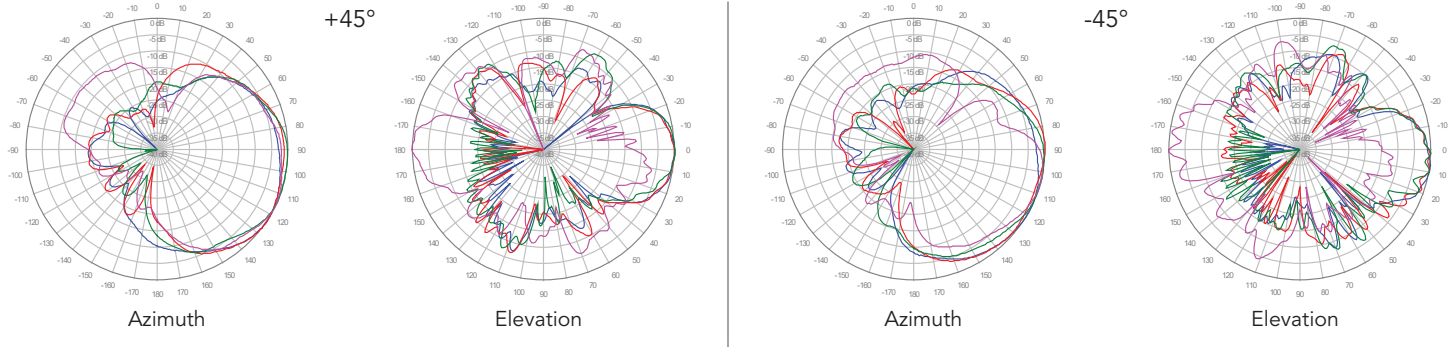
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1800 MHz ———
1900 MHz ———
2100 MHz ———
2600 MHz ———

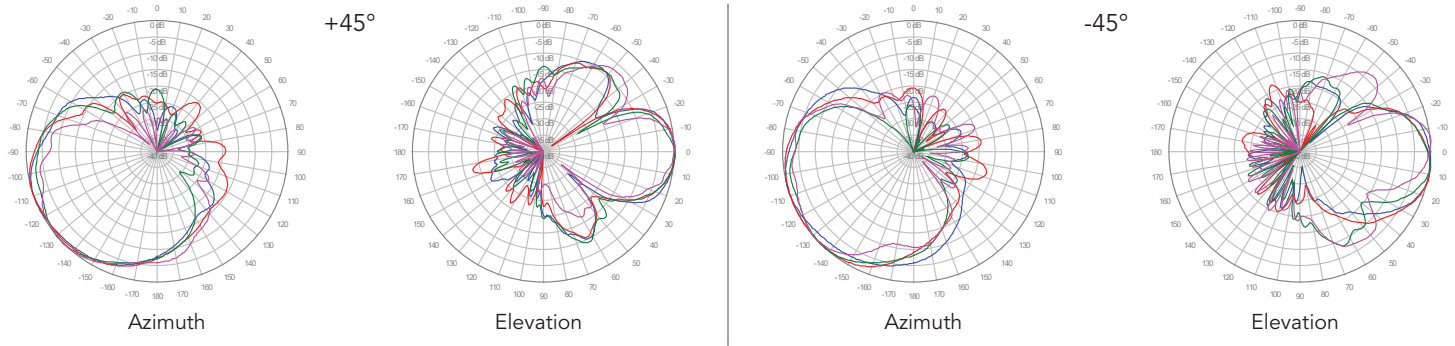
Y5, 2° TILT



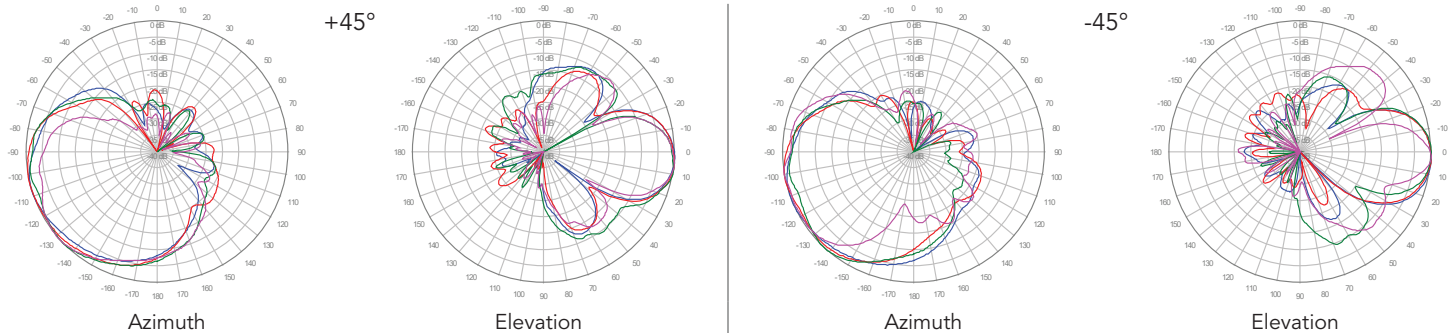
Y6, 2° TILT



Y7, 2° TILT



Y8, 2° TILT

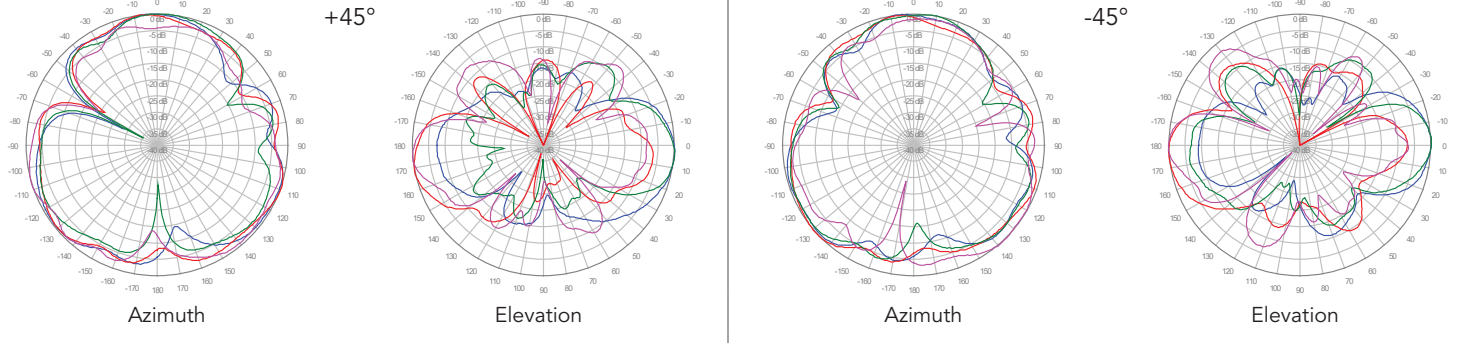


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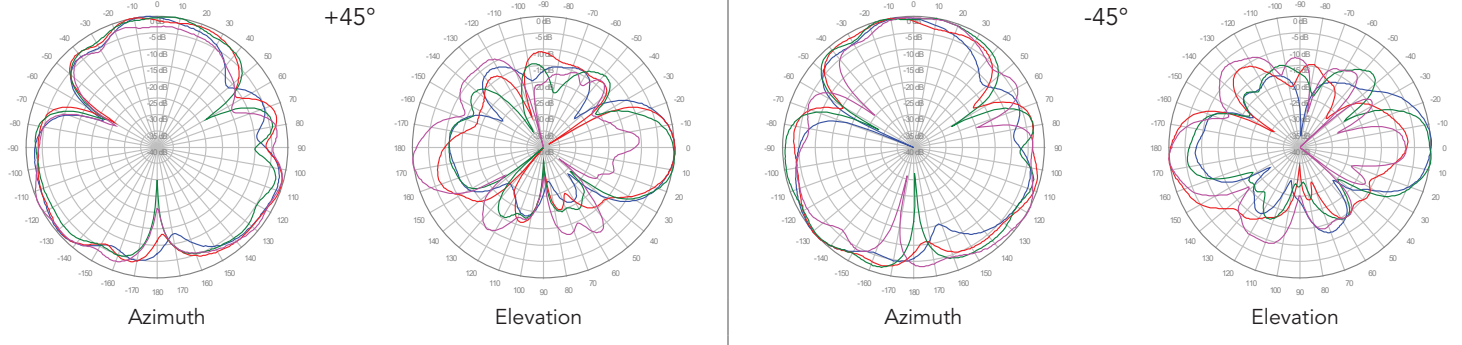
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1800 MHz ————
1900 MHz ————
2100 MHz ————
2600 MHz ————

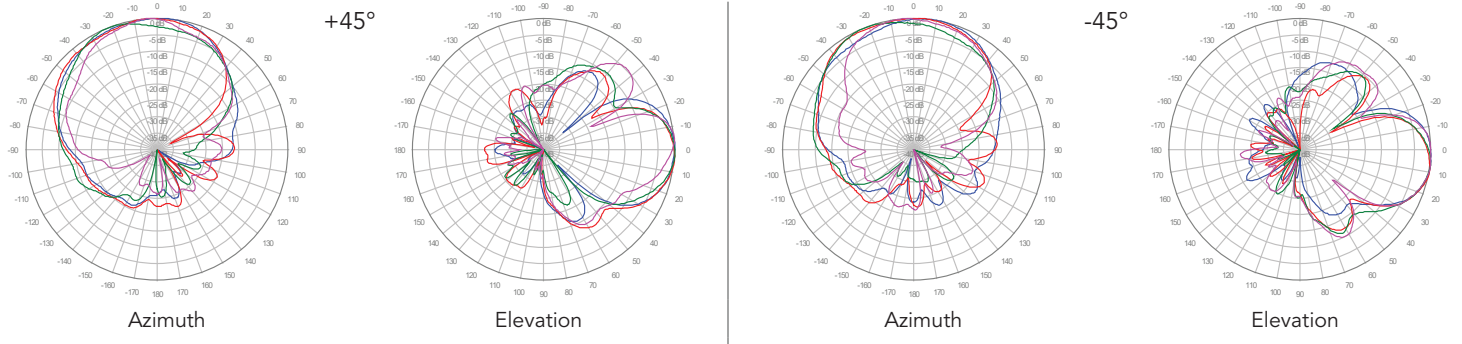
Y1, 4° TILT



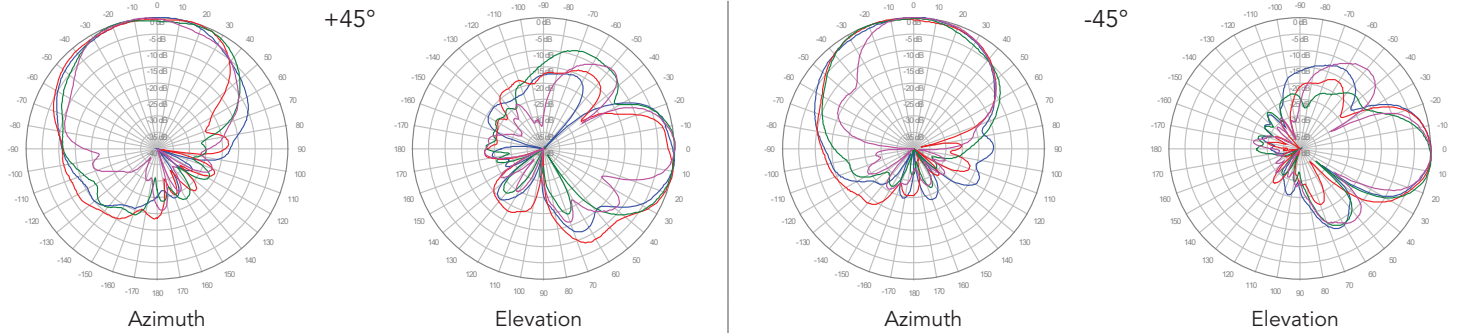
Y2, 4° TILT



Y3, 4° TILT



Y4, 4° TILT

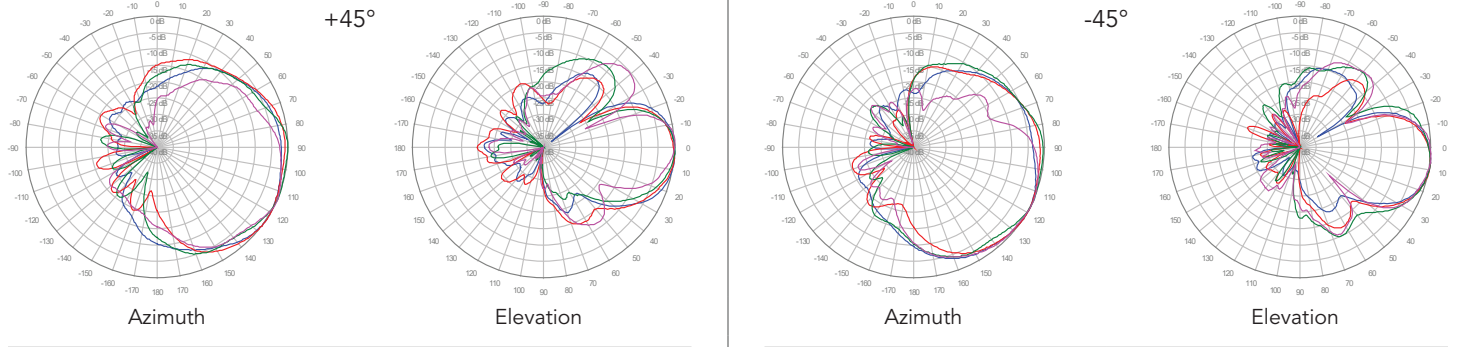


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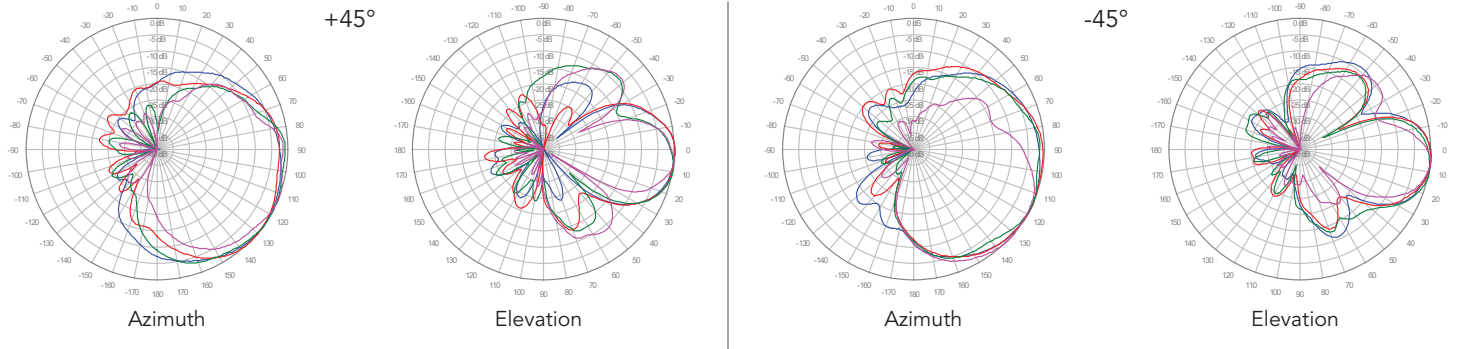
2C4U4MTSP1X06FwxyS4-GPS

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

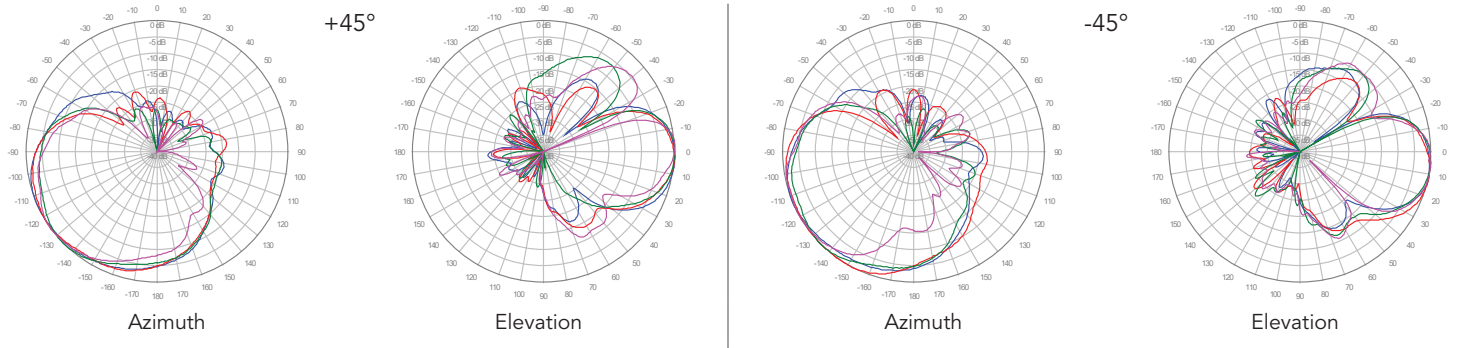
Y5, 4° TILT



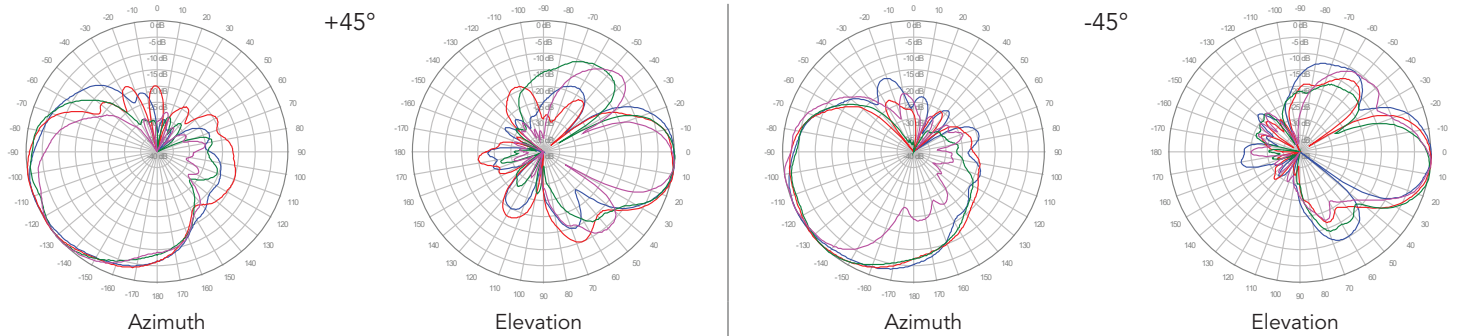
Y6, 4° TILT



Y7, 4° TILT



Y8, 4° TILT

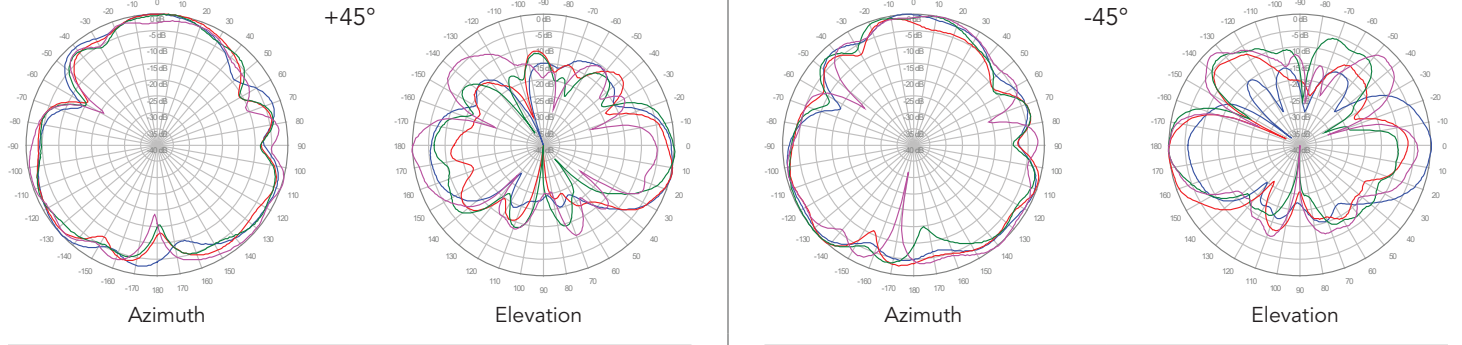


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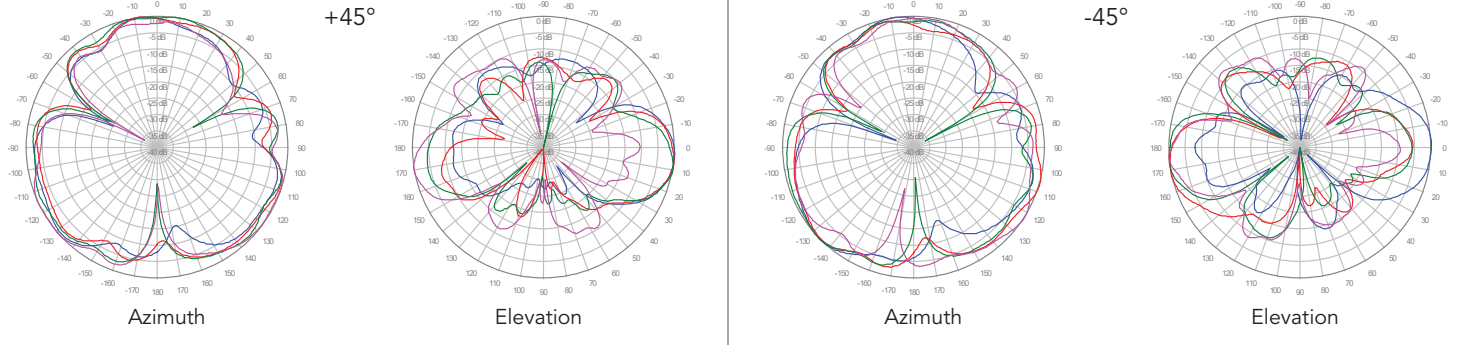
2C4U4MTSP1X06FwxyS4-GPS

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

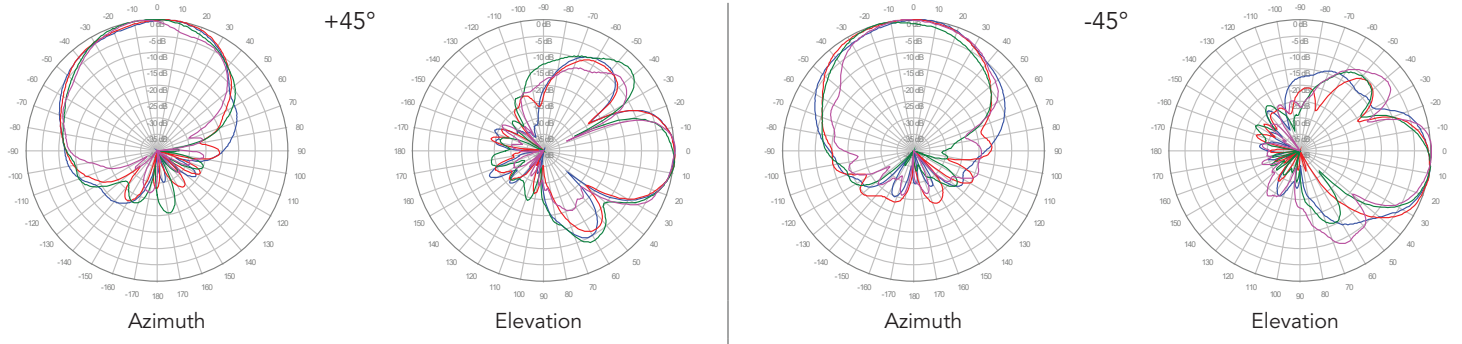
Y1, 6° TILT



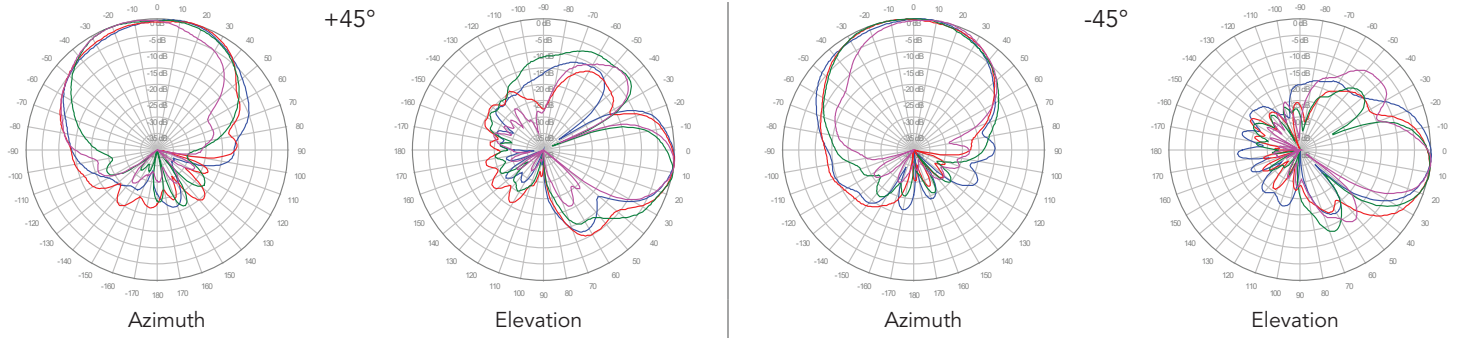
Y2, 6° TILT



Y3, 6° TILT



Y4, 6° TILT

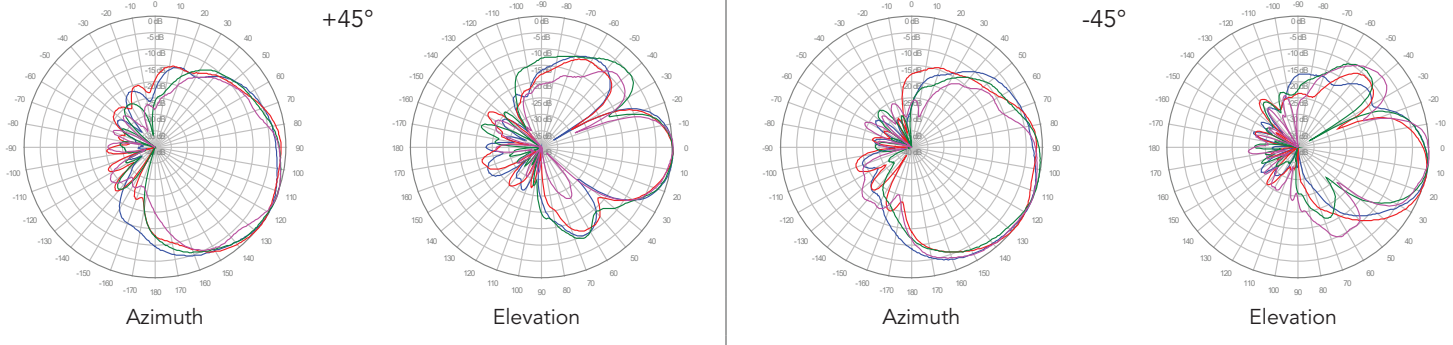


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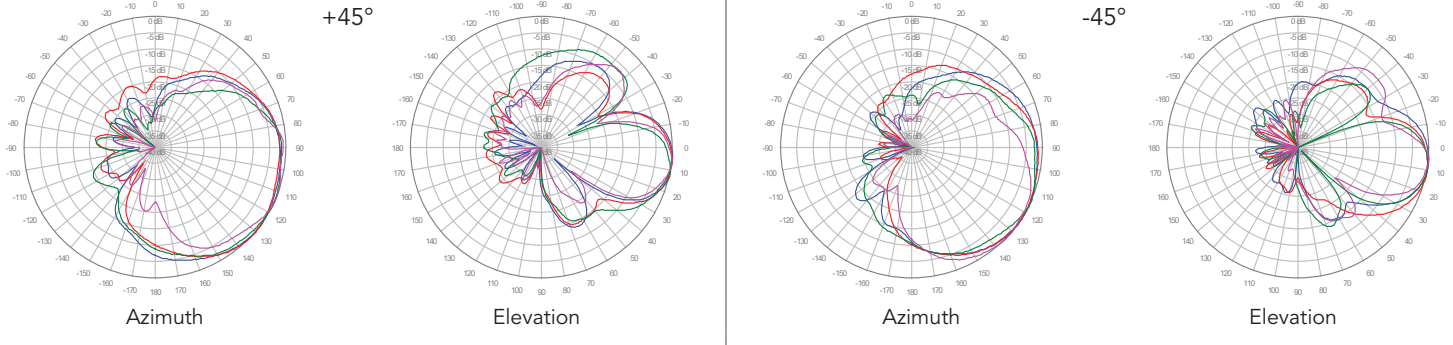
2C4U4MTSP1X06FwxyS4-GPS

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

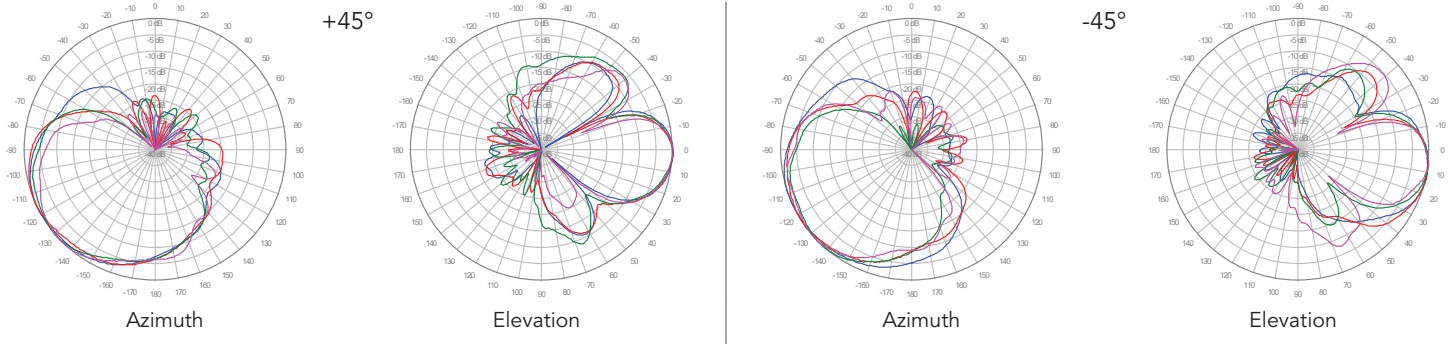
Y5, 6° TILT



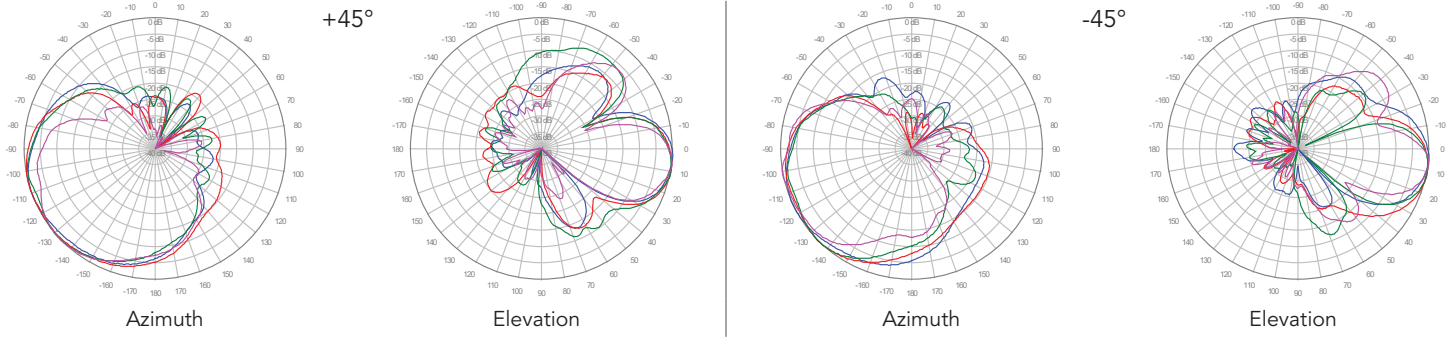
Y6, 6° TILT



Y7, 6° TILT



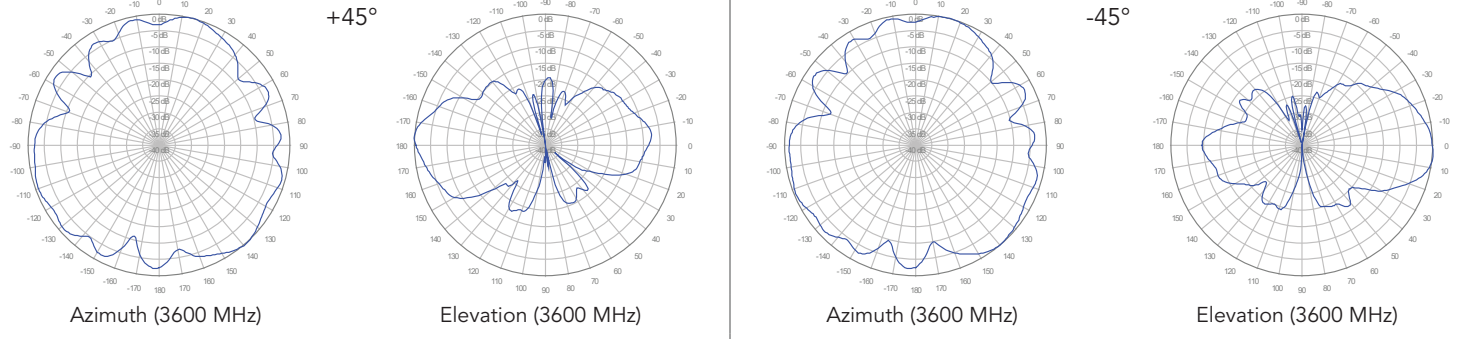
Y8, 6° TILT



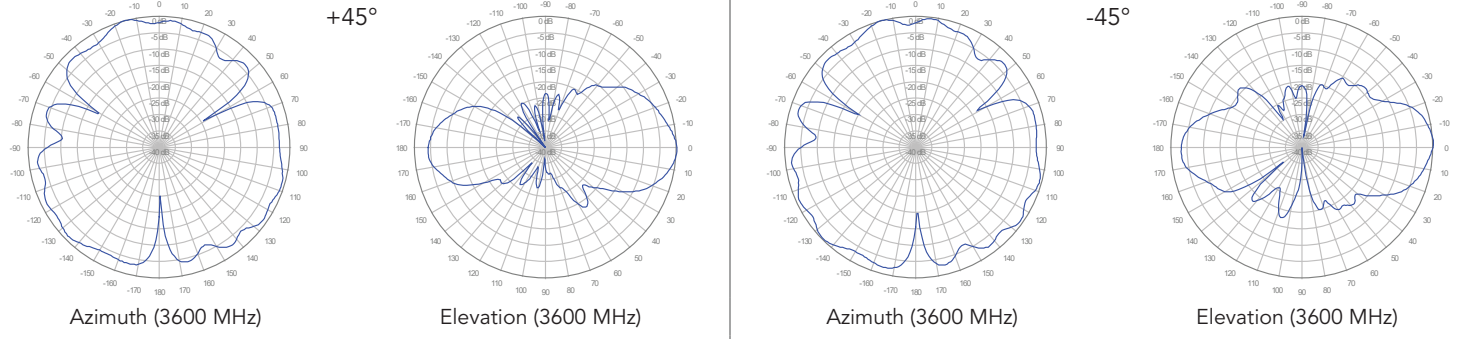
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2C4U4MTSP1X06FwxyS4-GPS

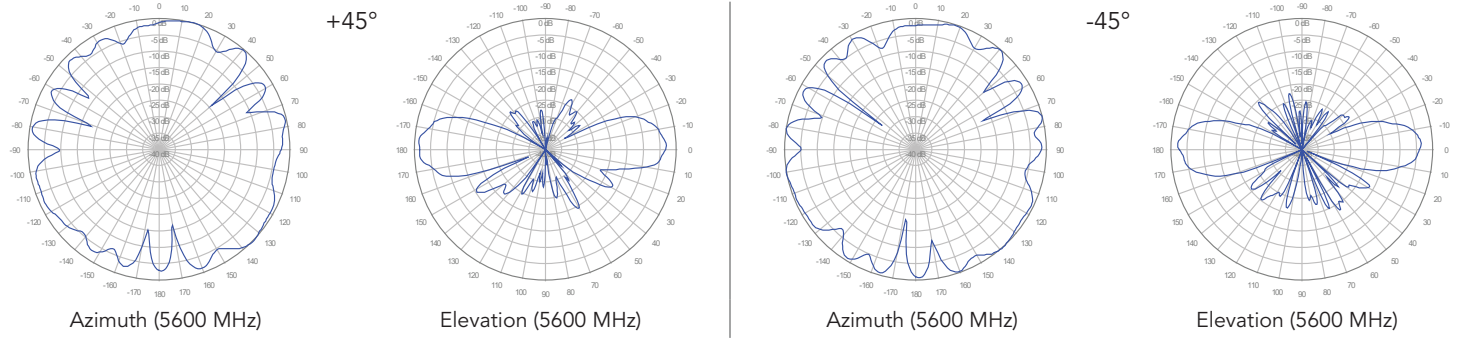
P1, 0° TILT



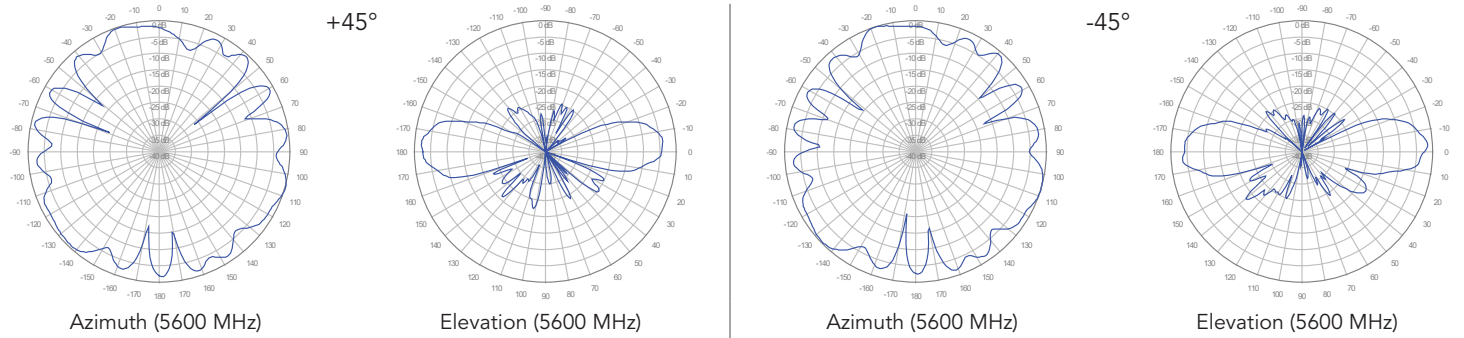
P2, 0° TILT



O1, 0° TILT



O2, 0° TILT



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