

## 2C4U4MD120X06FwxyS4-GPS

### Features

- 4G/5G heart-shape configuration with 20 connectors and a separate port for an integrated GPS unit
- 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
- This antenna meets the requirements of the U-NII|
- 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 MHz ± 10 MHz	(2x) 696-960	(4x) 1695-2700	(2x) 3300-4200
Array	---		■ R1 ■ R2	■ Y1 ■ Y2 ■ Y3 ■ Y4	■ P1 ■ P2	■ O1 ■ O2
Connector	1 PORT		4 PORTS	8 PORTS	4 PORTS	4 PORTS
Polarization	RIGHT HAND CIRCULAR		XPOL	XPOL	XPOL	XPOL
Azimuth Beamwidth (avg)	---		201°	187°	168°	205°
Electrical Downtilt	---		0°	2°, 4°, 6°	0°	0°
Configuration	HEART-SHAPE CONFIGURATION WITH INTEGRATED GPS UNIT					
Connector Type	(20x) 4.3-10 FEMALE and (1x) N-TYPE FEMALE FOR GPS					
Dimensions	608 x Ø371 mm (24.0 x Ø14.61 in)					
Radome Color Options	GREY, BROWN or BLACK					

### ELECTRICAL SPECIFICATIONS Low Band

■ R1 ■ R2

Frequency Range	MHz	(2x) 696-960	
Frequency Sub-Range	MHz	696-806	806-960
Polarization	---	(2x) ±45°	
Gain	BASTA	dBi	3.8
	MAX	dBi	4.2
Azimuth Beamwidth (3 dB)	degrees	206.1° ± 9.5°	196.9° ± 11.9°
Elevation Beamwidth (3 dB)	degrees	70°	70°
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	
Isolation	Intraband	dB	> 25
	Interband	dB	> 28
Input Power	Watts	500W	

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## 2C4U4MD120X06FwxyS4-GPS

### ELECTRICAL SPECIFICATIONS Mid Band

■ Y1   ■ Y2   ■ Y3   ■ Y4

Frequency Range		MHz	(4x) 1695-2700			
Frequency Sub-Range		MHz	1695-1880	1850-1990	1920-2200	2300-2700
Polarization		---	(4x) ±45°			
Gain	BASTA	dBi	7.5	7.5	7.8	8.0
	MAX	dBi	7.8	7.8	8.0	8.2
Azimuth Beamwidth (3 dB)		degrees	185.9° ± 12.2°	189.3° ± 13.9°	188.1° ± 13.8°	185.4° ± 22.6°
Elevation Beamwidth (3 dB)		degrees	38°	34°	35°	28°
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			
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	6.2 ± 0.6	
	MAX	dBi	6.8	
Azimuth Beamwidth (3 dB)		degrees	168.8° ± 16.6°	
Elevation Beamwidth (3 dB)		degrees	37.3° ± 10.8°	
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	

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## 2C4U4MD120X06FwxyS4-GPS

### ELECTRICAL SPECIFICATIONS LAA Band

■ O1 ■ O2

Frequency Range		MHz	(2x) 5150-5925
Polarization		---	(2x) ±45°
Gain	BASTA	dBi	5.0 ± 0.6
	MAX	dBi	5.6
Azimuth Beamwidth (3 dB)		degrees	205.7° ± 39.3°
Elevation Beamwidth (3 dB)		degrees	22.4° ± 6.1°
Electrical Downtilt		degrees	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

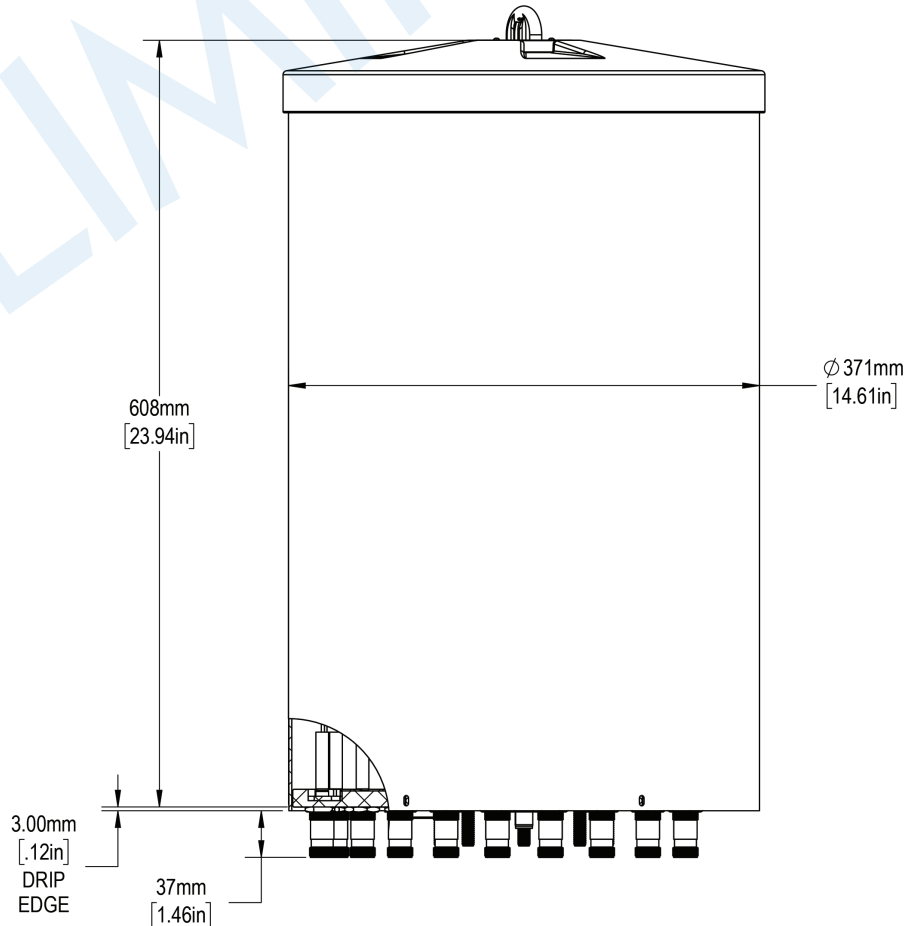
Frequency Range	1575.42 MHz ± 10 MHz
Polarization	Right Hand Circular
Nominal Gain	3 dBic at 90°; -2 dBic at 20°
Current Draw	22 mA @ 5V
Out-of-Band Rejection	> 55 dB at 1559 MHz; > 60 dB at 1625 MHz
Amplifier Gain	28 dB ± 3 dB
Nominal Impedance	50 ohm
Noise Figure	3.9 dB
DC Voltage	2.7-5.5 VDC
VSWR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

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## 2C4U4MD120X06FwxyS4-GPS

### MECHANICAL SPECIFICATIONS

Antenna	Height	mm (in)	608 (24.0)
	Diameter	mm (in)	371 (14.6)
Net Weight - Antenna Only		kg (lbs)	~ 11.3 (25.0)
Windload	Calculation	km/h (mph)	160 (100)
	Frontal	N (lbf)	191 (43)
Survival Wind Speed		km/h (mph)	241 (150)
Wind Area		m <sup>2</sup> (ft <sup>2</sup> )	0.22 (2.4)
Volume		m <sup>3</sup> (ft <sup>3</sup> )	0.07 (2.3)
Connector	Type	---	(20x) 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

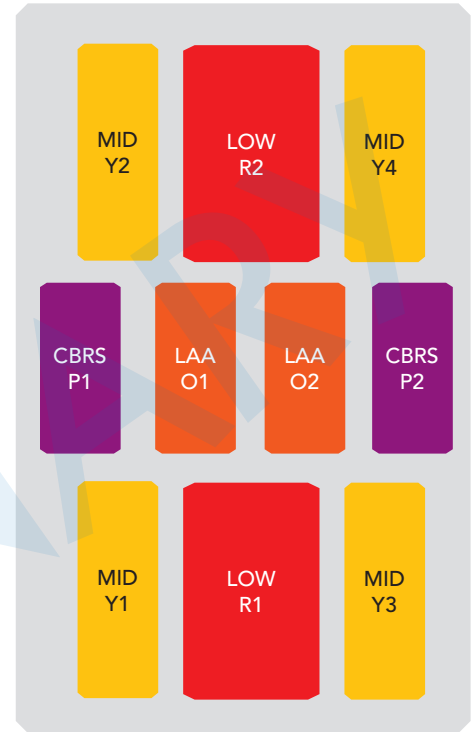


Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## 2C4U4MD120X06FwxyS4-GPS

### 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
MID BAND	1695-2700	Y1	5-6 (2x) 4.3-10 Female
	1695-2700	Y2	7-8 (2x) 4.3-10 Female
	1695-2700	Y3	9-10 (2x) 4.3-10 Female
	1695-2700	Y4	11-12 (2x) 4.3-10 Female
CBRS BAND	3300-4200	P1	13-14 (2x) 4.3-10 Female
	3300-4200	P2	15-16 (2x) 4.3-10 Female
LAA BAND	5150-5925	O1	17-18 (2x) 4.3-10 Female
	5150-5925	O2	19-20 (2x) 4.3-10 Female
GPS BAND	1575.42 MHz ± 10 MHz	---	21 (1x) N-Type Female



The illustration is not shown to scale.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

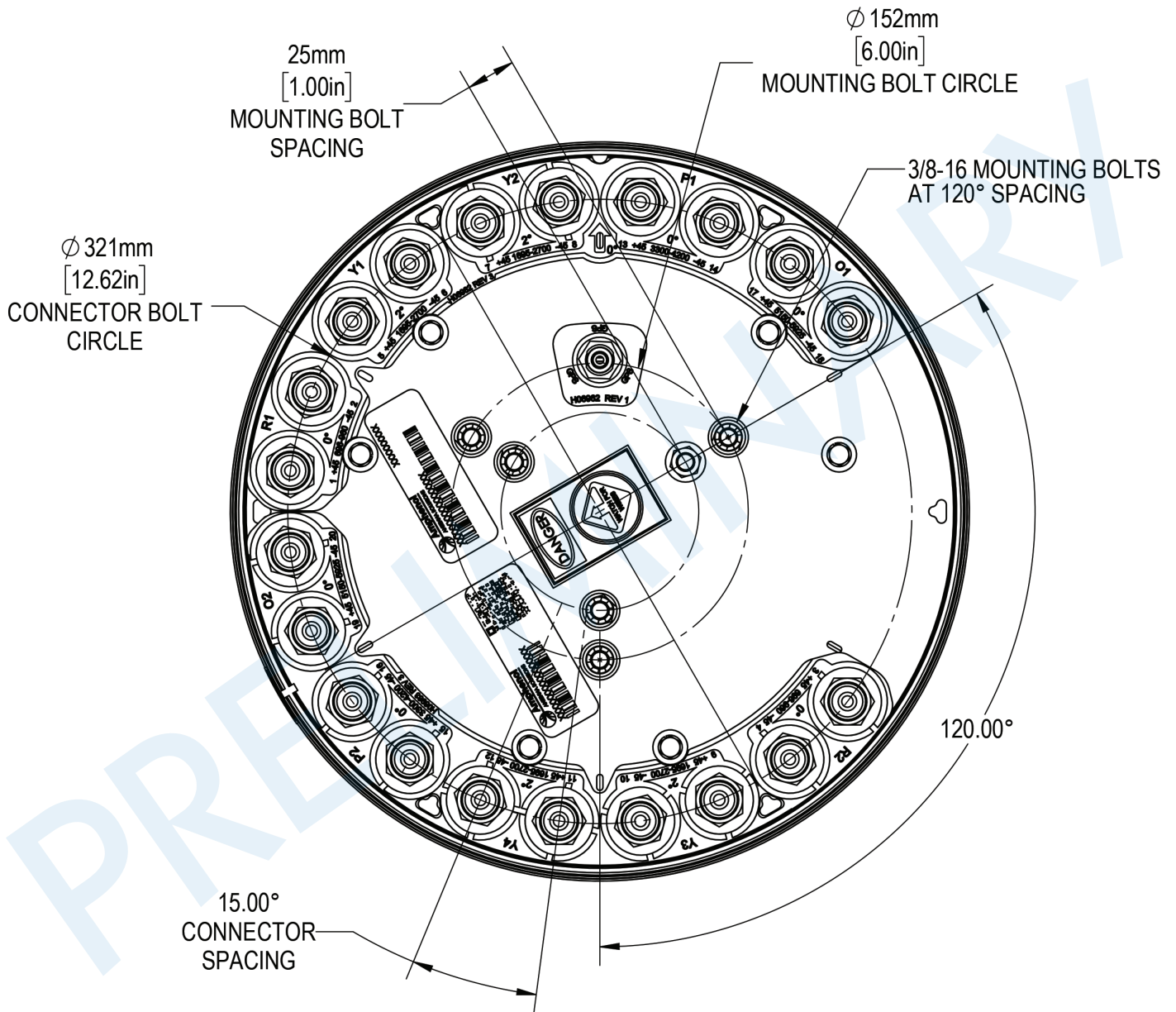
## 2C4U4MD120X06FwxyS4-GPS

### BOTTOM VIEW - LABELING



Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

2C4U4MD120X06FwxyS4-GPS



**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.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## 2C4U4MD120X06FwxyS4-GPS

**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.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.



## 2C4U4MD120X06Fwxy<sup>s</sup>4-GPS

### 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		D	120	X	06	F	wxy	s	4	BK BR	-GPS
(2x) 696-960	(4x) 1695-2700	(2x) 3300-4200	(4x) 5150-5925	Dual Sector	~120° Heart-Shape	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

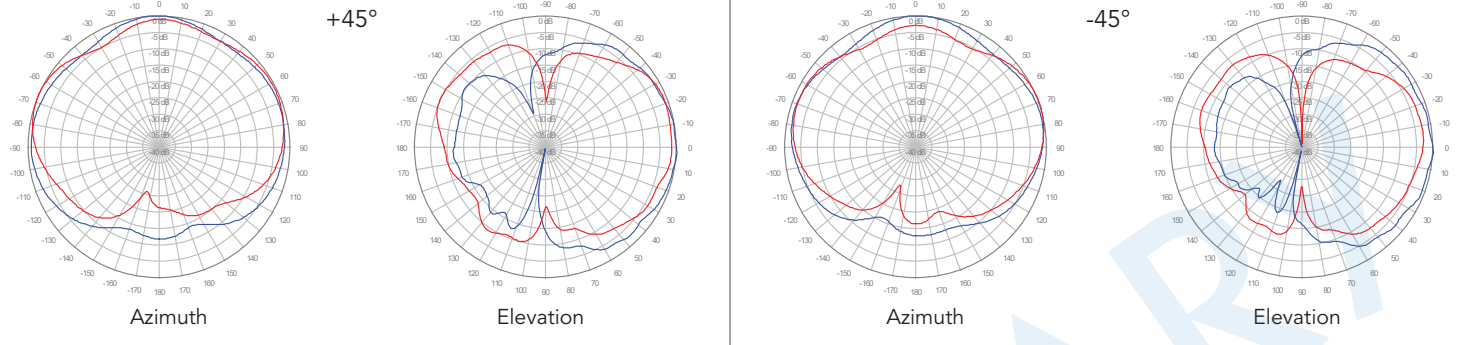
SELECT RADOME COLOR	SELECT DEGREE OF ELECTRICAL DOWNTILT FOR EACH BAND				ORDER MODEL NUMBER
	LOW BAND	MID BAND	CBRS BAND	LAA BAND	
Grey Pantone 420 C	0°	2°	0°	0°	2C4U4MD120X06F020s4-GPS
	0°	4°	0°	0°	2C4U4MD120X06F040s4-GPS
	0°	6°	0°	0°	2C4U4MD120X06F060s4-GPS
Brown Pantone 476 C	0°	2°	0°	0°	2C4U4MD120X06F020s4BR-GPS
	0°	4°	0°	0°	2C4U4MD120X06F040s4BR-GPS
	0°	6°	0°	0°	2C4U4MD120X06F060s4BR-GPS
Black RAL 9011	0°	2°	0°	0°	2C4U4MD120X06F020s4BK-GPS
	0°	4°	0°	0°	2C4U4MD120X06F040s4BK-GPS
	0°	6°	0°	0°	2C4U4MD120X06F060s4BK-GPS

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

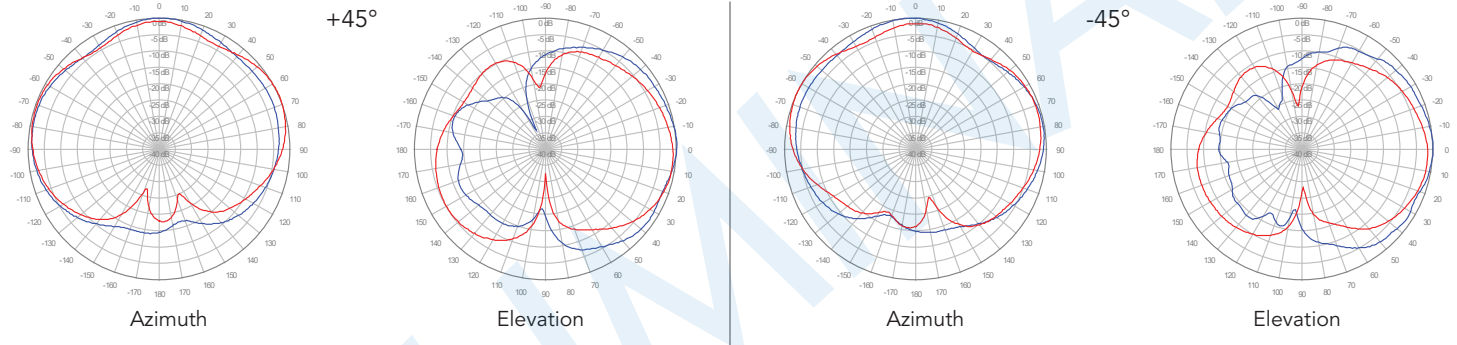
750 MHz ————  
850 MHz ————

2C4U4MD120X06FwxyS4-GPS

■ R1, 0° TILT



■ R2, 0° TILT

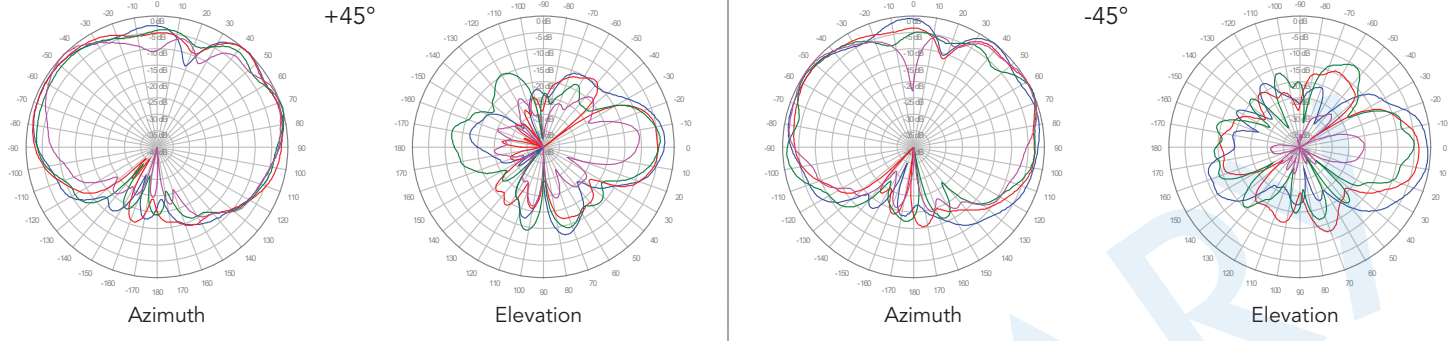


Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

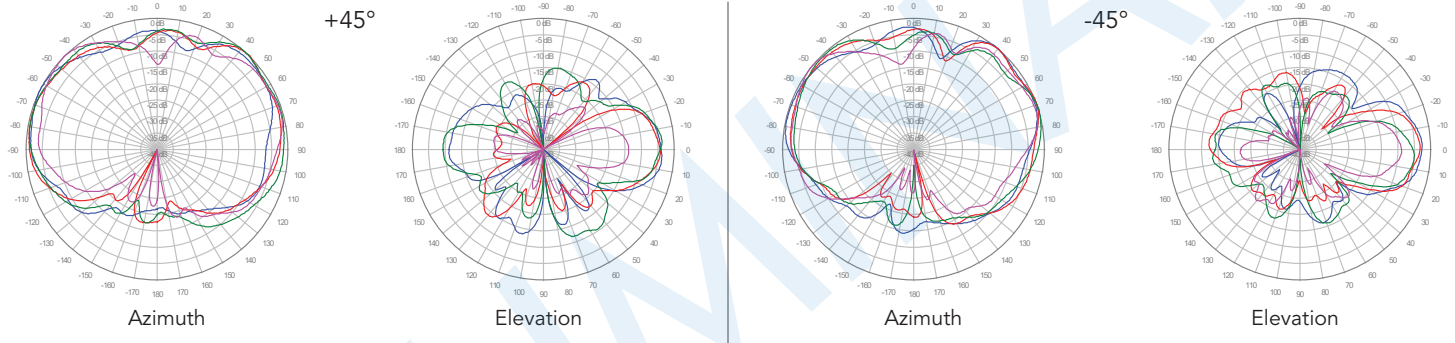
## 2C4U4MD120X06FwxyS4-GPS

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

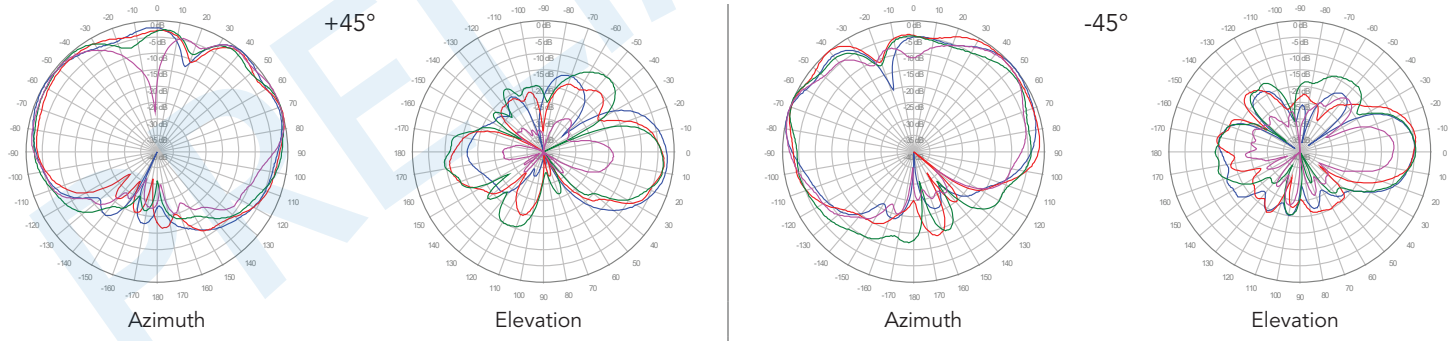
### Y1, 2° TILT



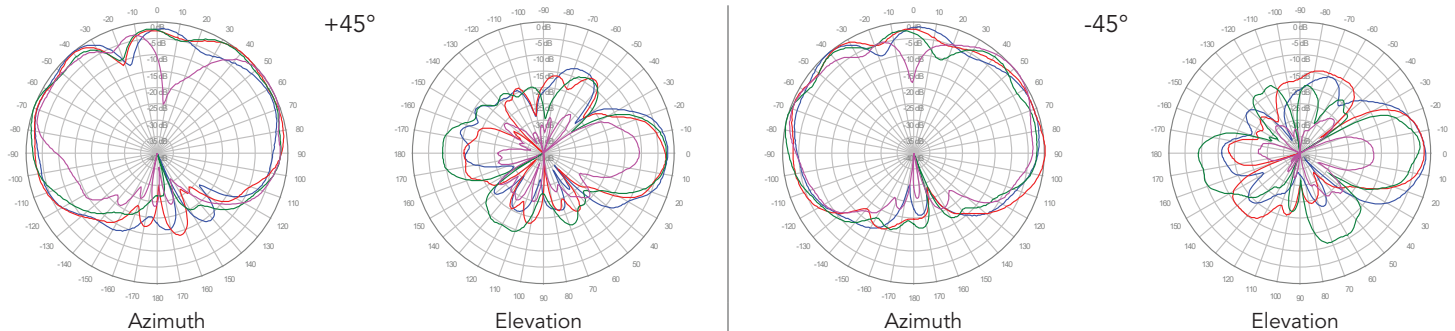
### Y2, 2° TILT



### Y3, 2° TILT



### Y4, 2° TILT

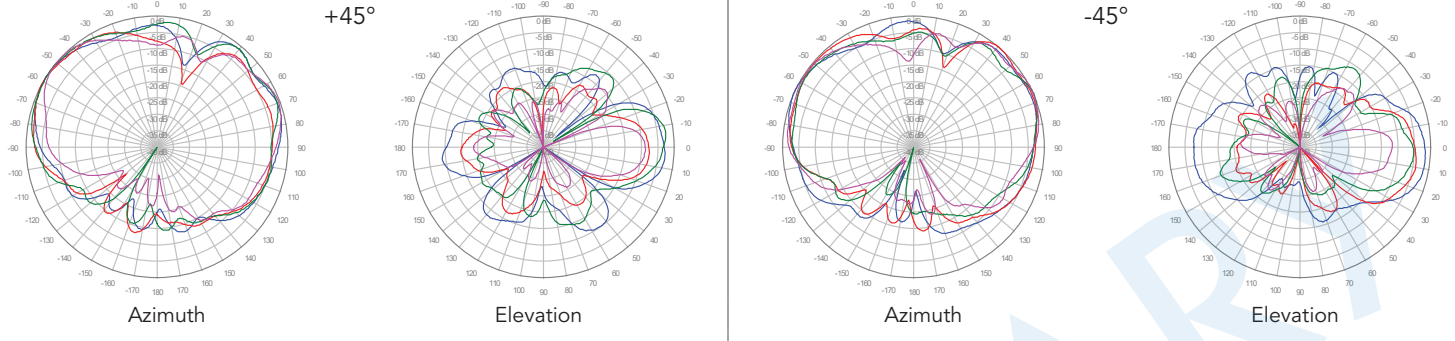


Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

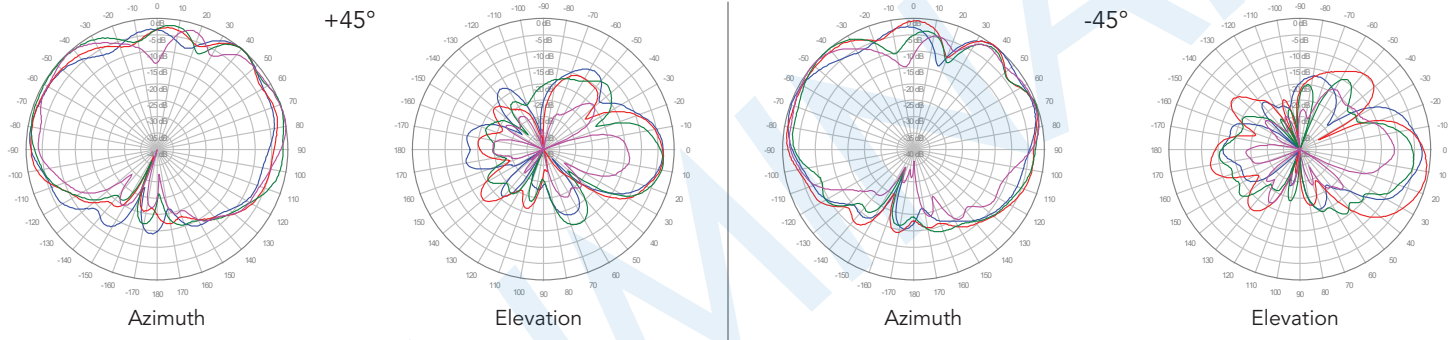
2C4U4MD120X06Fwxy<sub>s</sub>4-GPS

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

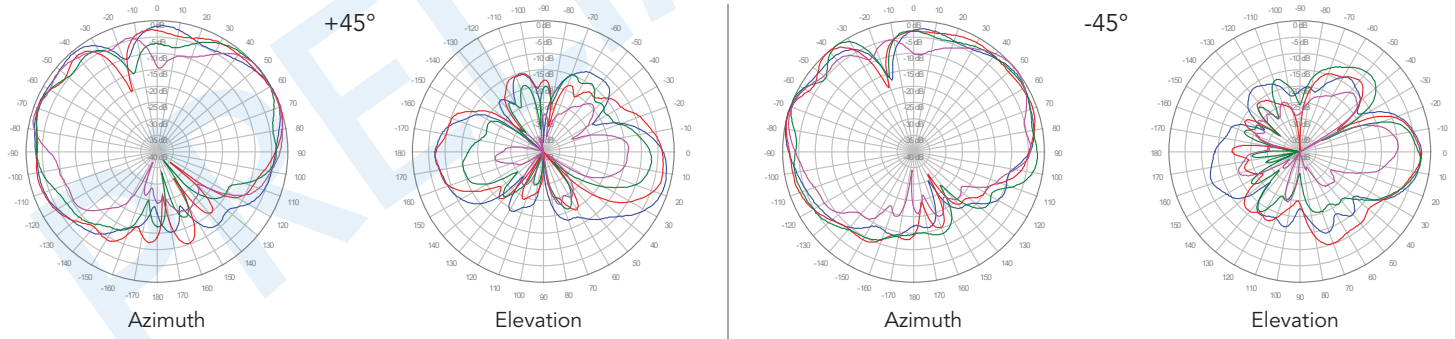
■ Y1, 4° TILT



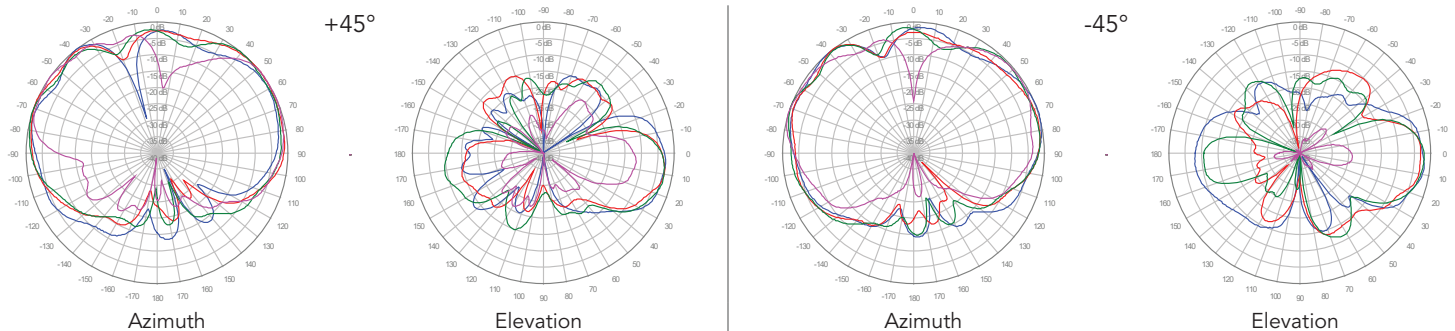
■ Y2, 4° TILT



■ Y3, 4° TILT



■ Y4, 4° TILT

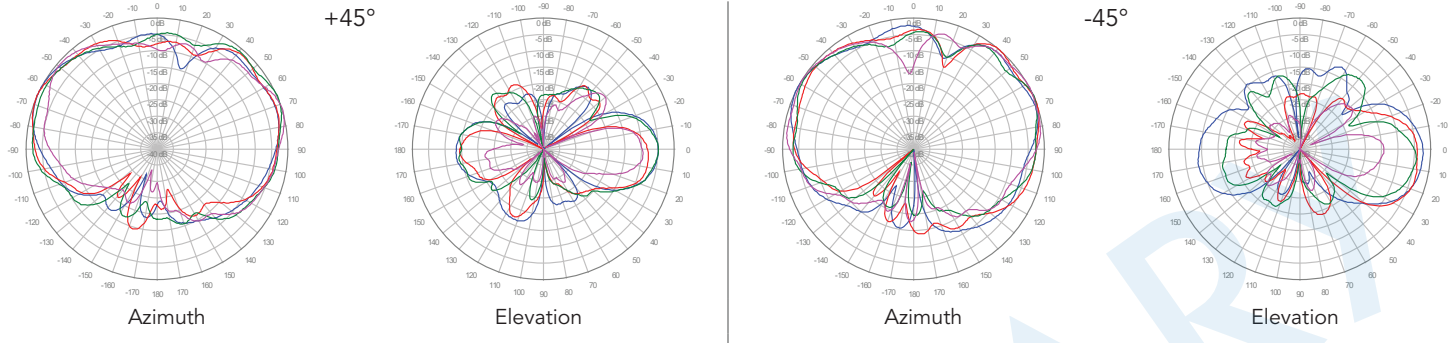


Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

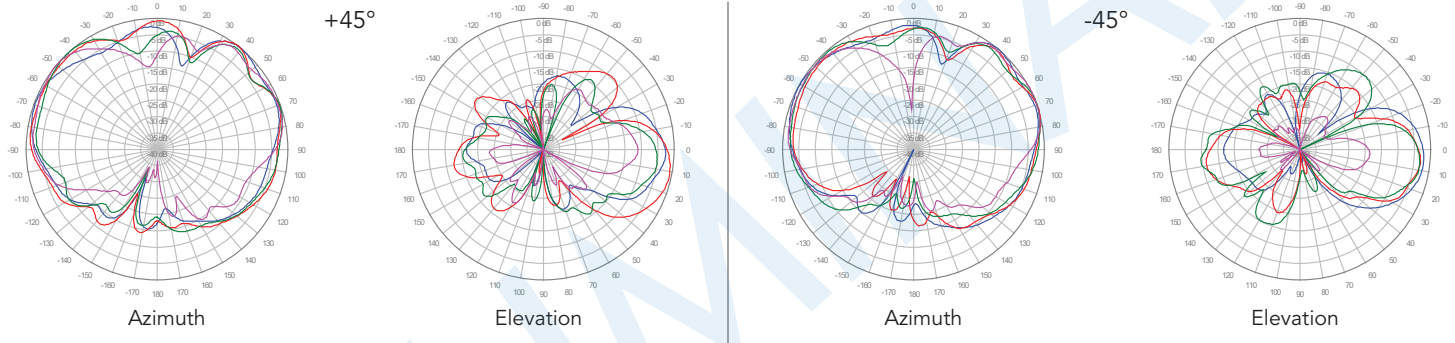
2C4U4MD120X06FwxyS4-GPS

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

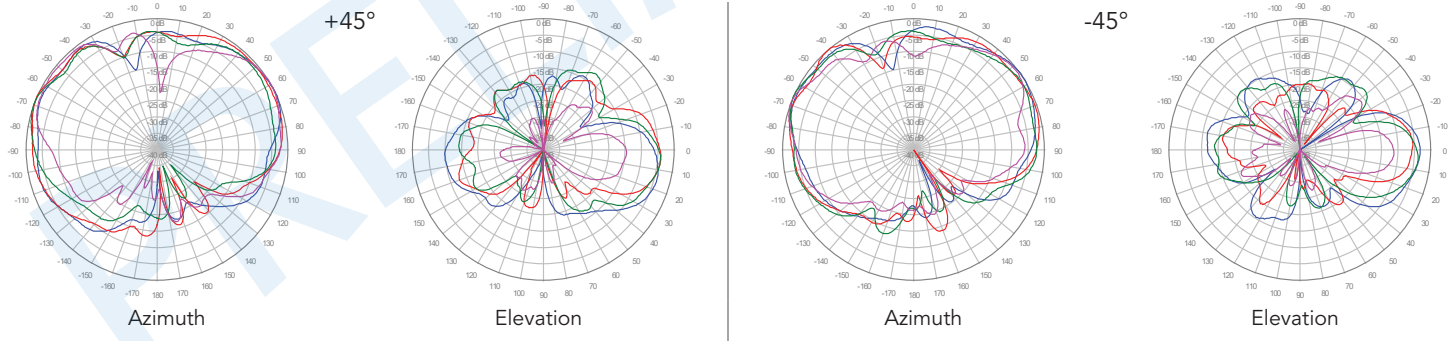
■ Y1, 6° TILT



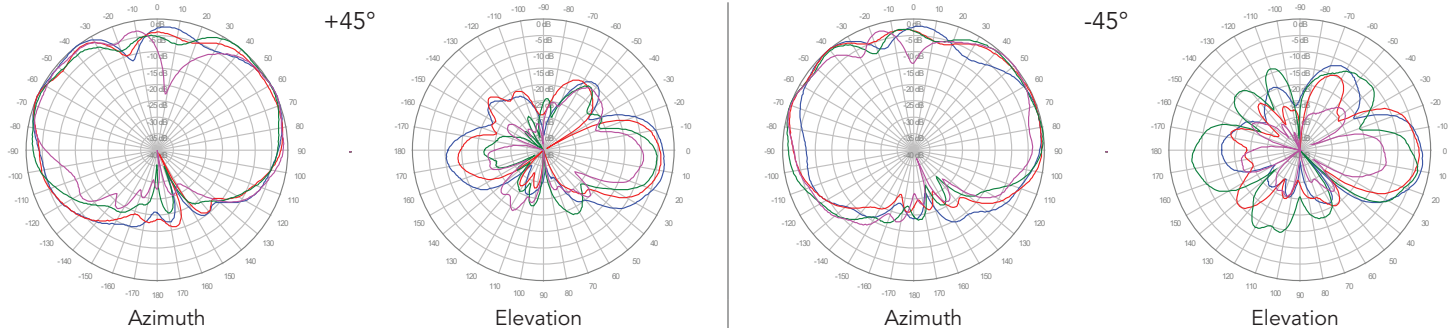
■ Y2, 6° TILT



■ Y3, 6° TILT



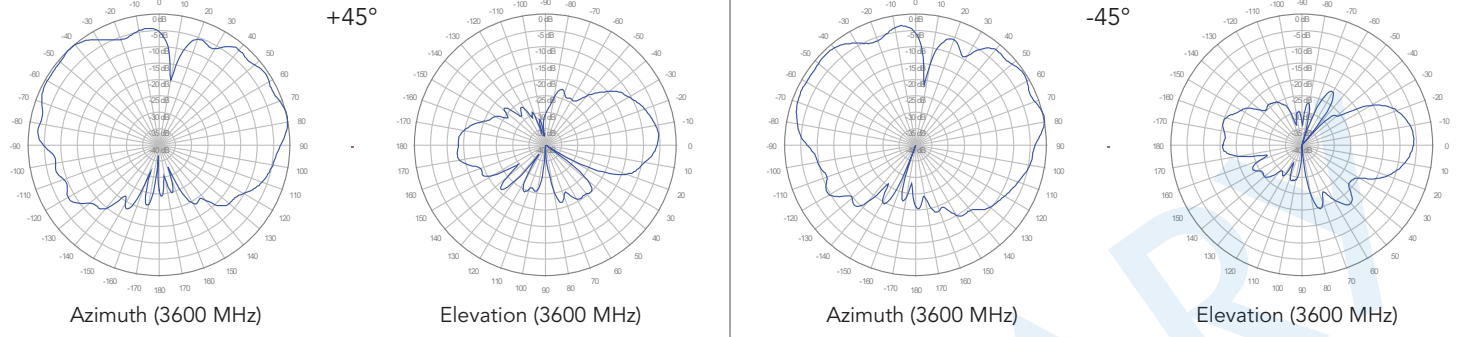
■ Y4, 6° TILT



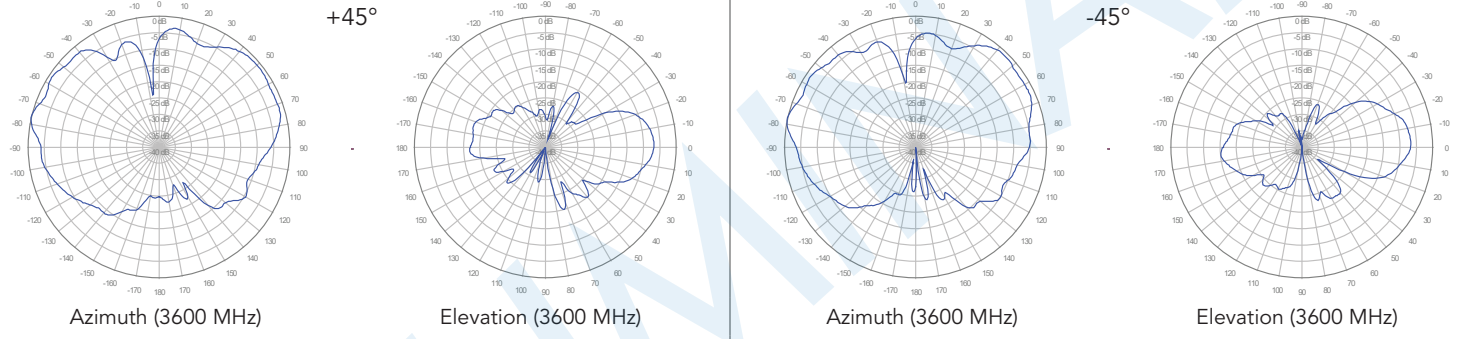
Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

2C4U4MD120X06FwxyS4-GPS

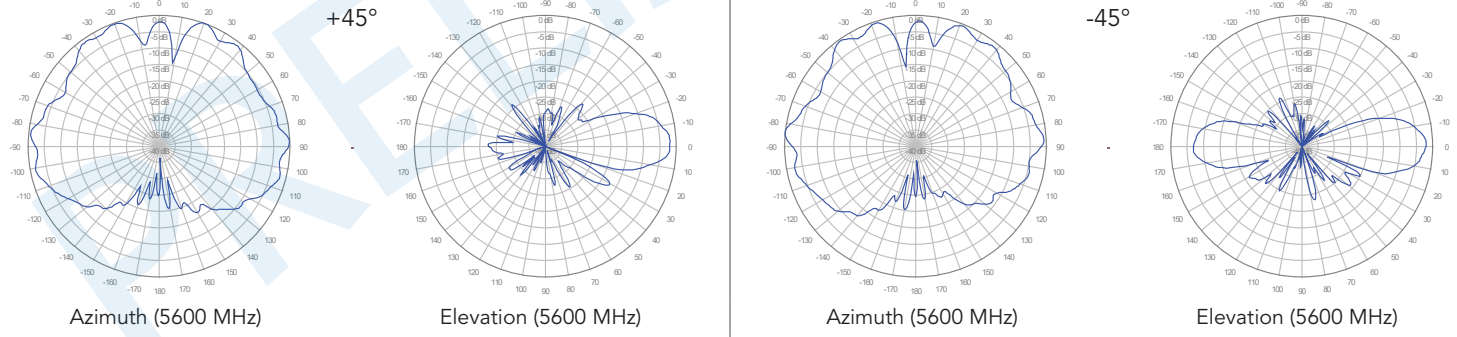
**P1, 0° TILT**



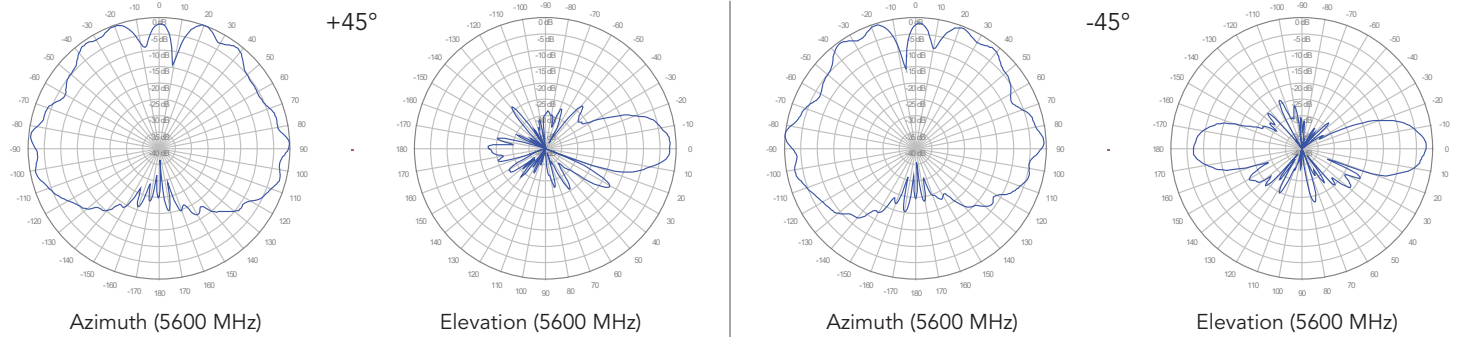
**P2, 0° TILT**



**O1, 0° TILT**



**O2, 0° TILT**



Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.