

## 2C4U3MD120X06Fwxys4



### Features

- 120° heart-shape configuration with 18 connectors
- Ideal for multi-carrier or 4x4 MIMO deployments
- Broadband networks 696-960, 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)	(2x) 696-960	(4x) 1695-2700	(2x) 3300-4200	(1x) 5150-5925	Optional GPS BAND 1575.42 ± 10
	Array	■ R1, ■ R2	■ Y1, ■ Y2, ■ Y3, ■ Y4	■ P1, ■ P2	■ O1	---
	Connector	4 PORTS	8 PORTS	4 PORTS	2 PORTS	1 PORT
	Polarization	XPOL	XPOL	XPOL	XPOL	RIGHT HAND CIRCULAR
	Azimuth Beamwidth (avg)	163°	155°	100°	124°	---
	Electrical Downtilt	0°	2°, 4°, 6°	0°	0°	---
	Configuration	HEART-SHAPE CONFIGURATION				---
	Maximum Continuous Power Per Port @ 50° C (122° F)	500 WATTS	300 WATTS	100 WATTS	50 WATTS	---
	Maximum Total Continuous Power at 50° C (122° F)	4900 WATTS				---
	Connector Type	(18x) 4.3-10 FEMALE CONNECTORS				(1x) N-TYPE FEMALE
	Dimensions	608 x Ø371 mm (24.0 x Ø14.6 in)				---
	Radome Color Options	GREY, BROWN or BLACK				---

### ELECTRICAL SPECIFICATIONS

■ R1 ■ R2

Frequency Range		MHz	(2x) 696-960	
Frequency Sub-Range		MHz	696-806	806-960
Polarization		---	(2x) ±45°	
Gain	BASTA	dBi	4.8 ± 0.6	5.1 ± 0.7
	MAX	dBi	5.4	5.8
Azimuth Beamwidth (3 dB)		degrees	180.2° ± 26°	150° ± 27°
Elevation Beamwidth (3 dB)		degrees	77.5° ± 27.5°	68.1° ± 18°
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 same band; > 30 different band	

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### ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2 ■ Y3 ■ Y4

Frequency Range	MHz	(4x) 1695-2700			
Frequency Sub-Range	MHz	1695-1880	1850-1990	1920-2200	2300-2700
Polarization	---	(4x) $\pm 45^\circ$			
Gain	BASTA	dBi	$7.6 \pm 0.7$	$7.5 \pm 0.8$	$7.4 \pm 0.9$
	MAX	dBi	8.3	8.3	8.3
Azimuth Beamwidth (3 dB)	degrees	$117.7^\circ \pm 28.3^\circ$	$126.6^\circ \pm 30.1^\circ$	$125.8^\circ \pm 34.3^\circ$	$105.9^\circ \pm 31.7^\circ$
Elevation Beamwidth (3 dB)	degrees	$34^\circ \pm 5.8^\circ$	$33^\circ \pm 5.6^\circ$	$32^\circ \pm 5.6^\circ$	$26^\circ \pm 4.0^\circ$
Electrical Downtilt	degrees	(x) $2^\circ, 4^\circ, 6^\circ$			
Impedance	Ohms	50 $\Omega$			
VSWR	---	$\leq 1.5:1$			
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	< -153			
Upper Sidelobe Suppression	dB	N/A			
Isolation	Intraband	dB	> 25		
	Interband	dB	> 28 same band; > 30 different band		

### ELECTRICAL SPECIFICATIONS

■ P1 ■ P2

Frequency Range		MHz	(2x) 3300-4200
Polarization		---	(2x) ±45°
Gain	BASTA	dBi	10.3 ± 0.9
	MAX	dBi	11.2
Azimuth Beamwidth (3 dB)		degrees	98.6° ± 14.9°
Elevation Beamwidth (3 dB)		degrees	30.5° ± 3.6°
Electrical Downtilt		degrees	(y) 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 same band; > 30 different band

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### ELECTRICAL SPECIFICATIONS

 **O1**

Frequency Range		MHz	(1x) 5150-5925
Polarization		---	(1x) $\pm 45^\circ$
Gain	BASTA	dBi	$4.3 \pm 0.7$
	MAX	dBi	5.0
Azimuth Beamwidth (3 dB)		degrees	$134^\circ \pm 47.3^\circ$
Elevation Beamwidth (3 dB)		degrees	$19.3^\circ \pm 2.6^\circ$
Electrical Downtilt		degrees	$0^\circ$
Impedance		Ohms	$50\Omega$
VSWR		---	$\leq 1.5:1$
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	$> 28$
U-NII Compliant		---	Yes

### INTEGRATED GPS UNIT OPTIONAL

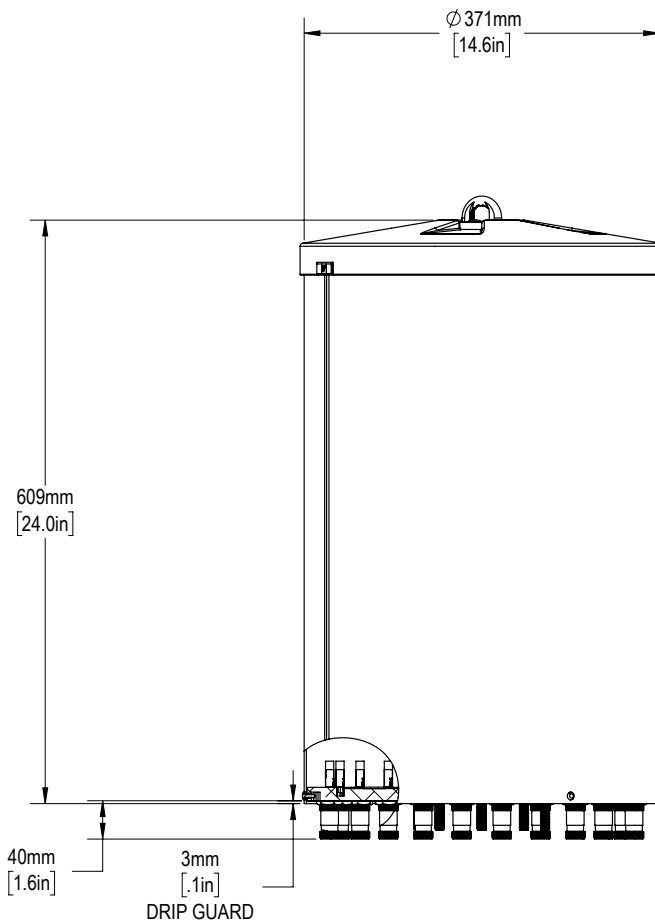
Frequency Range	1575.42 MHz $\pm$ 10 MHz
Polarization	Right Hand Circular
Nominal Gain	3 dBic at $90^\circ$ ; -2 dBic at $20^\circ$
Current Draw	22 mA @ 5V
Out-of-Band Rejection	$> 55$ dB at 1559 MHz; $> 60$ dB at 1625 MHz
Amplifier Gain	$28 \text{ dB} \pm 3 \text{ dB}$
Nominal Impedance	50 ohm
Noise 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)	608 (24.0)
	Diameter	mm (in)	371 (14.6)
Net Weight - Antenna Only		kg (lbs)	13 (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 <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	---	(18x) 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

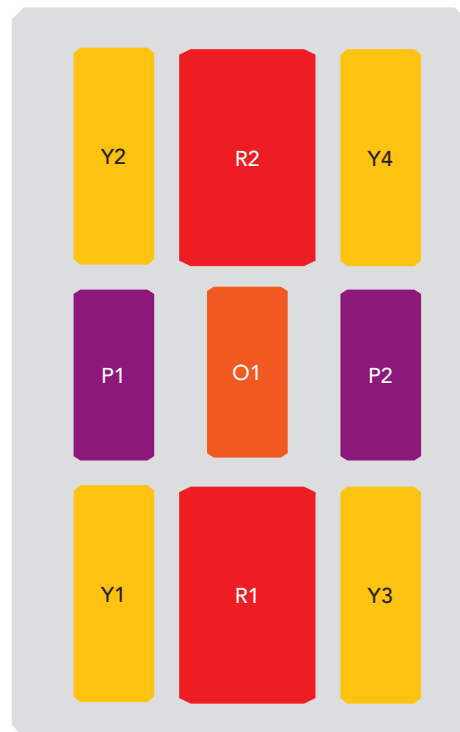


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## 2C4U3MD120X06Fwxys4

### ARRAY LAYOUT Topology

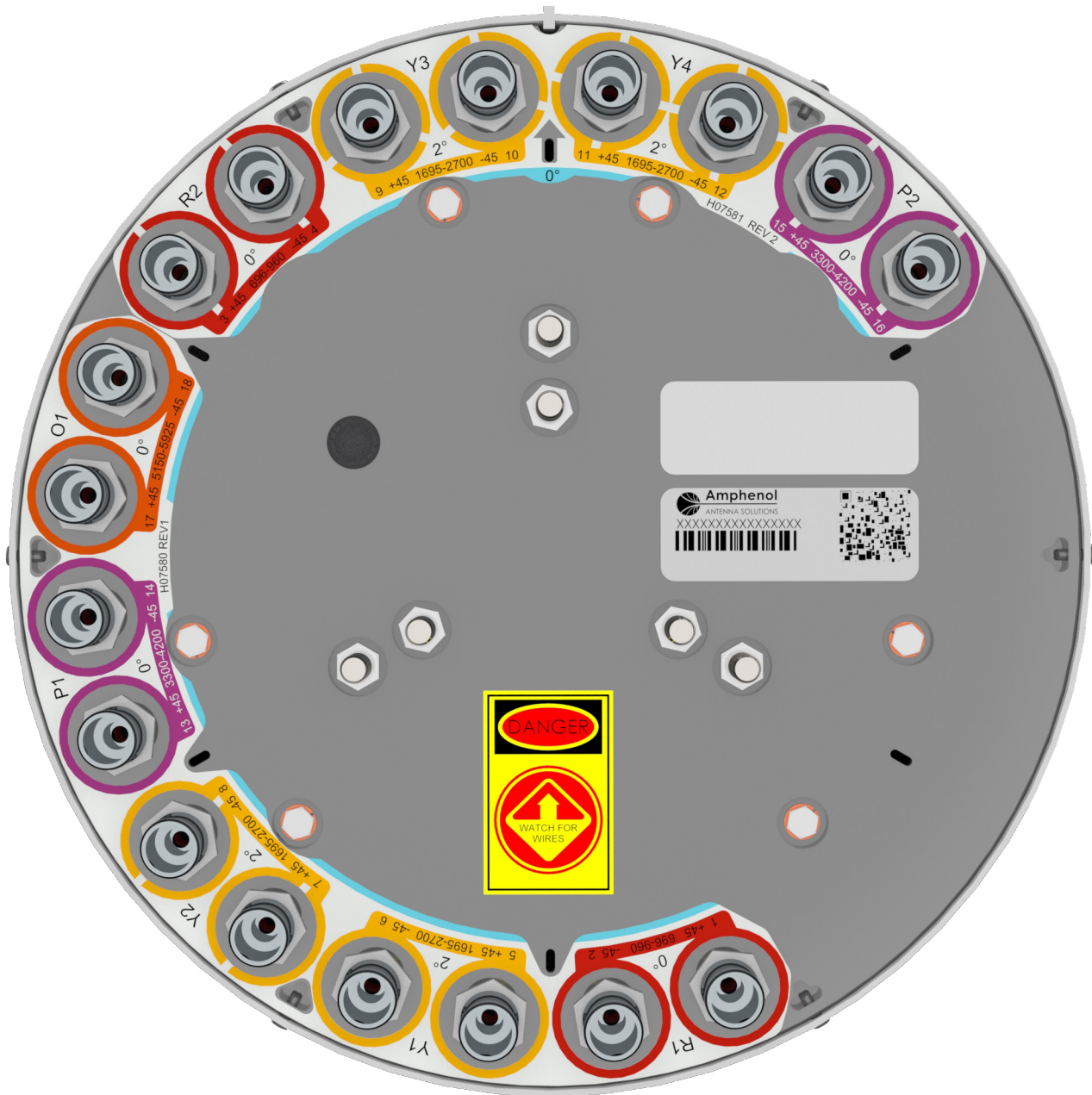
FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
696-960 MHz	<span style="color: red;">■</span> R1	1-2	(2x) 4.3-10 Female
696-960 MHz	<span style="color: red;">■</span> R2	3-4	(2x) 4.3-10 Female
1695-2700 MHz	<span style="color: yellow;">■</span> Y1	5-6	(2x) 4.3-10 Female
1695-2700 MHz	<span style="color: yellow;">■</span> Y2	7-8	(2x) 4.3-10 Female
1695-2700 MHz	<span style="color: yellow;">■</span> Y3	9-10	(2x) 4.3-10 Female
1695-2700 MHz	<span style="color: yellow;">■</span> Y4	11-12	(2x) 4.3-10 Female
3300-4200 MHz	<span style="color: purple;">■</span> P1	13-14	(2x) 4.3-10 Female
3300-4200 MHz	<span style="color: purple;">■</span> P2	15-16	(2x) 4.3-10 Female
5150-5925 MHz	<span style="color: orange;">■</span> O1	17-18	(2x) 4.3-10 Female
Optional GPS BAND 1575.42 MHz	---	---	(1x) N-Type Female



*The illustration is not shown to scale.*

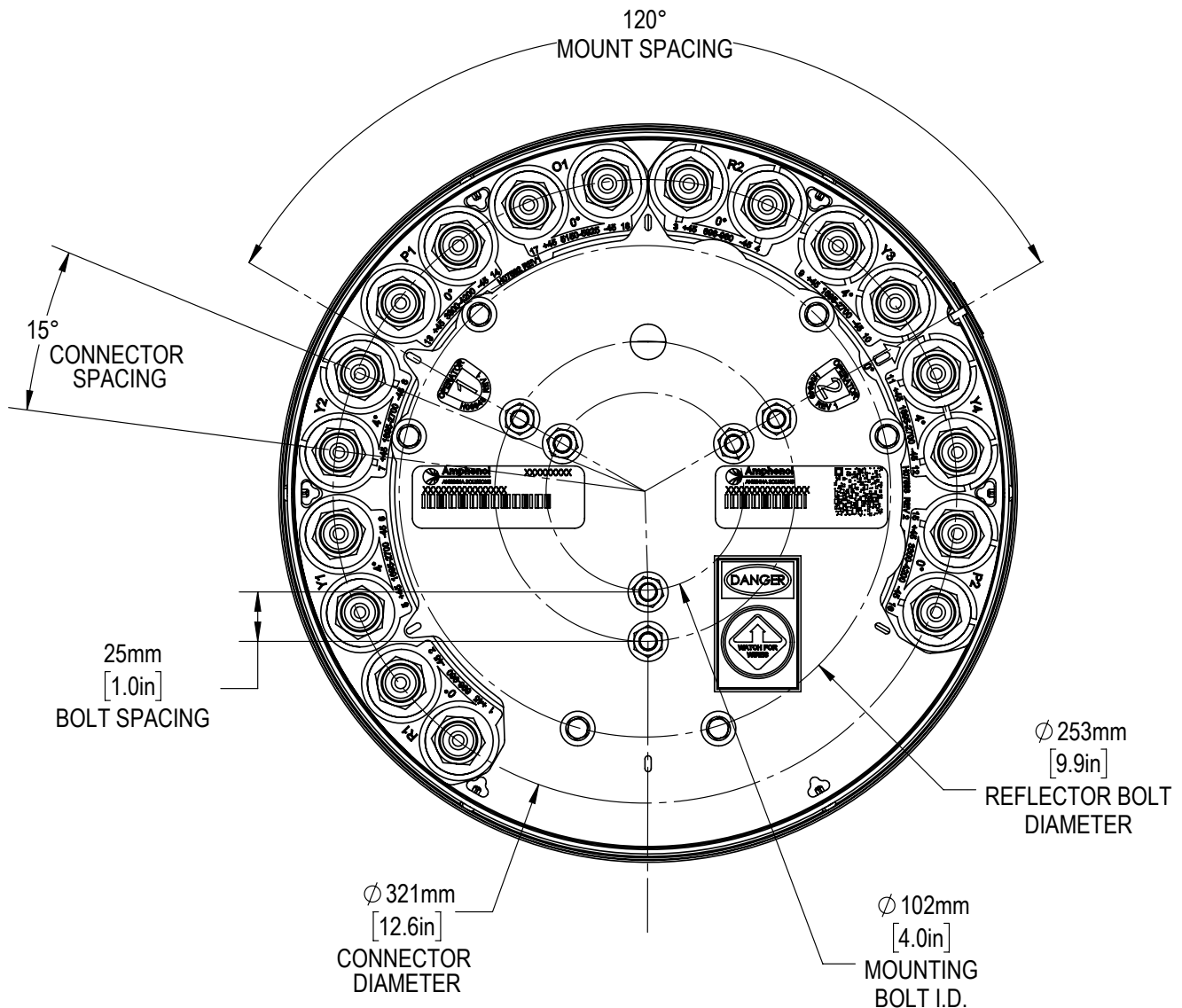
## 2C4U3MD120X06Fwxys4

### BOTTOM VIEW - LABELING



## 2C4U3MD120X06Fwxys4

### 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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## 2C4U3MD120X06Fwxy<sup>s</sup>4

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

NUMBER OF BANDS and OPERATING FREQUENCY				PATTERN TYPE	AZIMUTH BWWIDTH	POLARIZATION	LENGTH	TILT TYPE	TILT OPTIONS	CONNECTOR TYPE	VARIATION	RADOME COLOR OPTIONS
2C	4U	3M		D	120	X	06	F	wxy	s	4	BK BR
(2x) 696-960	(4x) 1695-2700	(2x) 3300-4200	(1x) 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.

### ORDERING OPTIONS Select from the following ordering options

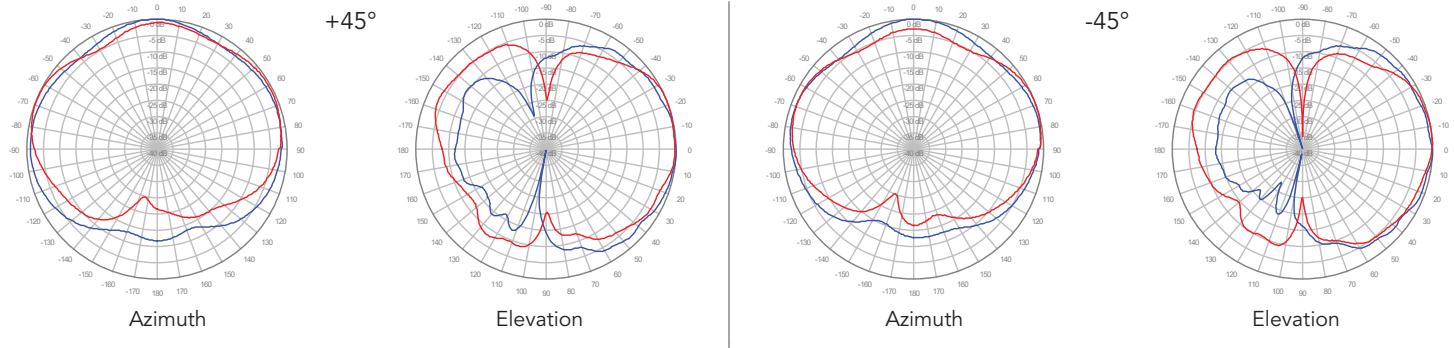
SELECT RADOME COLOR	SELECT DEGREE OF ELECTRICAL DOWNTILT FOR EACH BAND				SELECT ANTENNA TYPE	
	696-960 MHz	1695-2700 MHz	3300-4200 MHz	5150-5925 MHz	WITHOUT GPS UNIT	WITH GPS UNIT
Grey Pantone 420 C	0°	2°	0°	0°	2C4U3MD120X06F020s4	2C4U3MD120X06F020s4-GPS
	0°	4°	0°	0°	2C4U3MD120X06F040s4	2C4U3MD120X06F040s4-GPS
	0°	6°	0°	0°	2C4U3MD120X06F060s4	2C4U3MD120X06F060s4-GPS
Brown Pantone 476 C	0°	2°	0°	0°	2C4U3MD120X06F020s4BR	2C4U3MD120X06F020s4BR-GPS
	0°	4°	0°	0°	2C4U3MD120X06F040s4BR	2C4U3MD120X06F040s4BR-GPS
	0°	6°	0°	0°	2C4U3MD120X06F060s4BR	2C4U3MD120X06F060s4BR-GPS
Black RAL 9011	0°	2°	0°	0°	2C4U3MD120X06F020s4BK	2C4U3MD120X06F020s4BK-GPS
	0°	4°	0°	0°	2C4U3MD120X06F040s4BK	2C4U3MD120X06F040s4BK-GPS
	0°	6°	0°	0°	2C4U3MD120X06F060s4BK	2C4U3MD120X06F060s4BK-GPS

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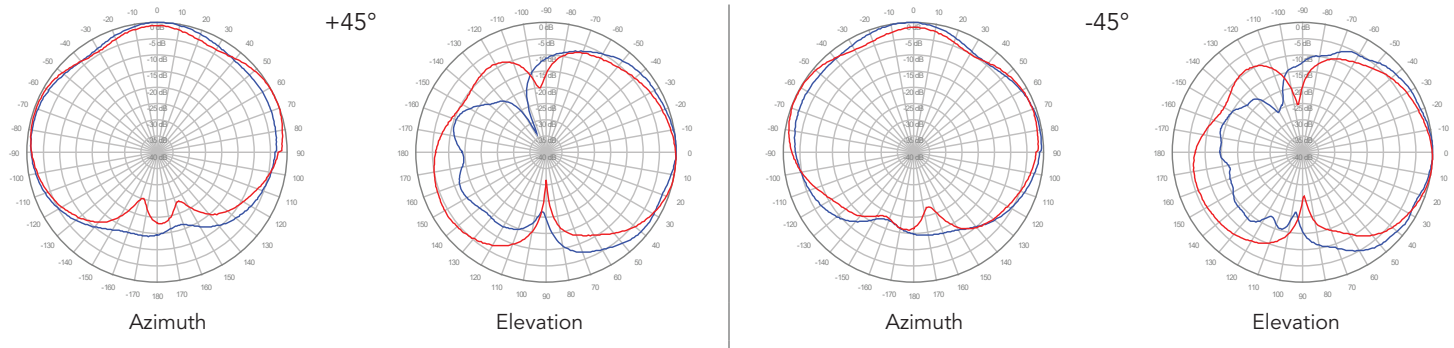
2C4U3MD120X06F**wxy**s4

750 MHz ————  
850 MHz ————

■ **R1, 0° TILT**



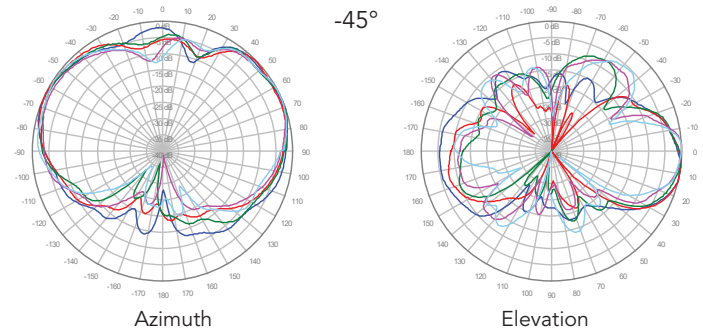
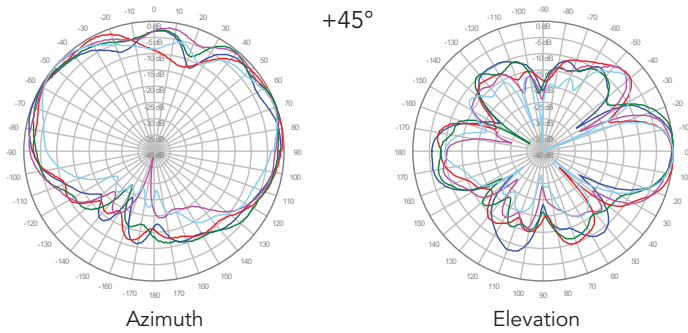
■ **R2, 0° TILT**



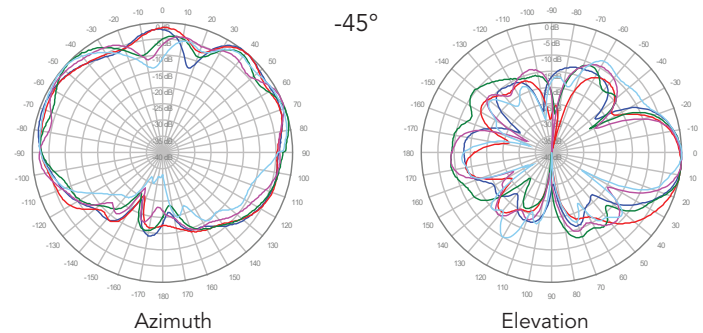
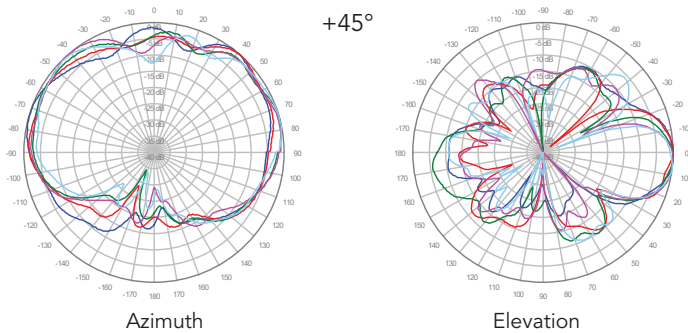
## 2C4U3MD120X06Fwxy<sub>s</sub>4

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

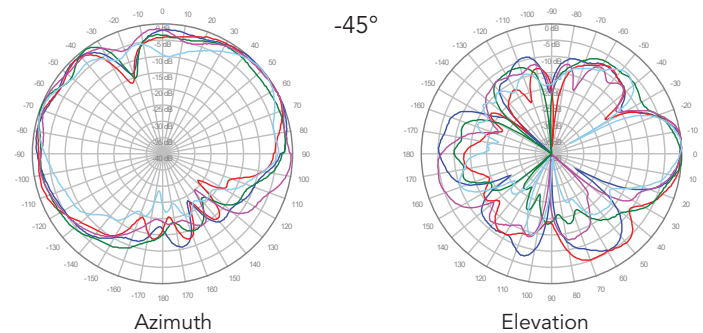
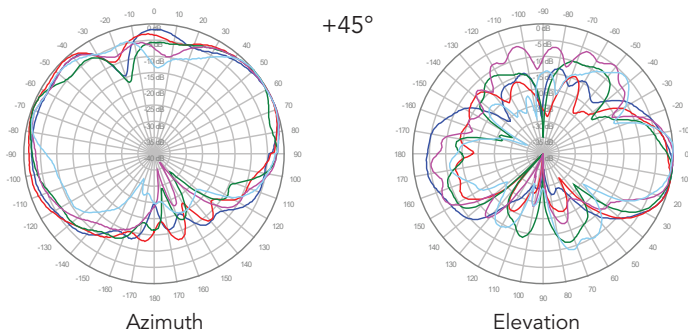
■ Y1, 4° TILT



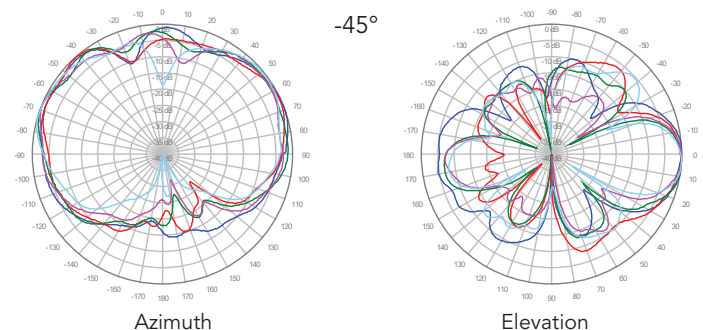
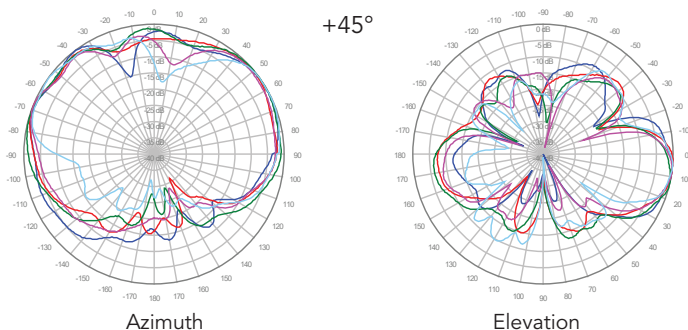
■ Y2, 4° TILT



■ Y3, 4° TILT



■ Y4, 4° TILT

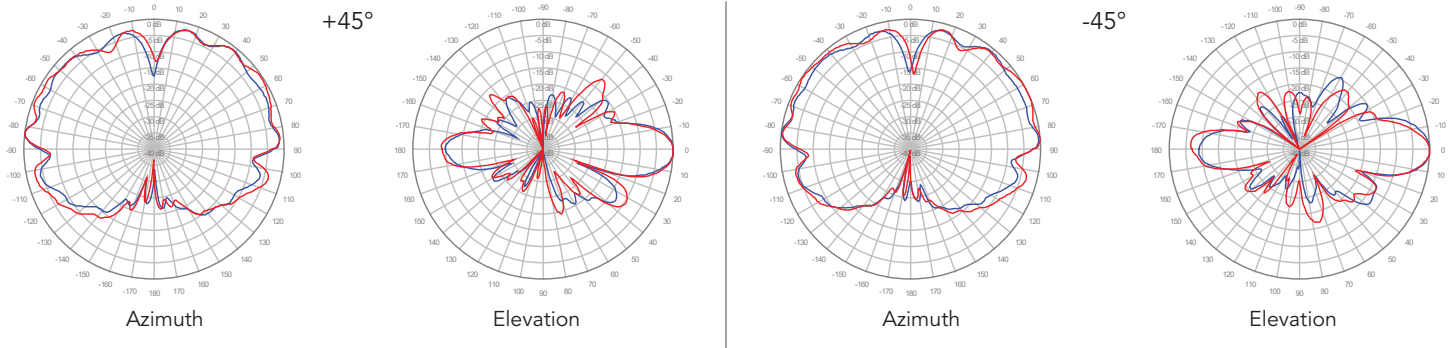


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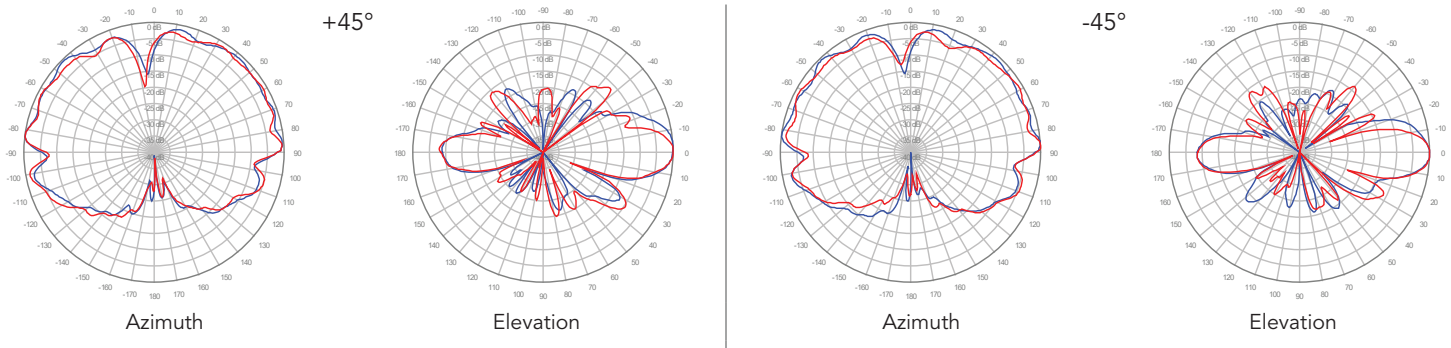
2C4U3MD120X06F**wxy**s4

3600 MHz ————  
4000 MHz ————

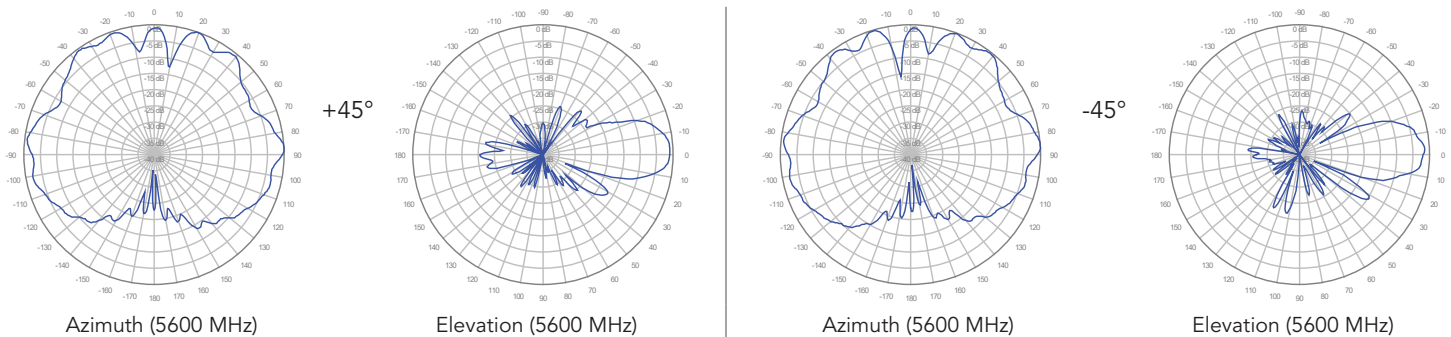
■ **P1, 0° TILT**



■ **P2, 0° TILT**



■ **O1, 0° TILT**



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