

10P656CUV0xGy-T

Features

- 10-port panel antenna with variable tilt on the 696-960 and 1695-2700 MHz Bands and fixed tilt on the 3300-4200 MHz Band.
- Patented RET module controlling all variable tilt angles.
- Configurable with up to (2) internal Smart Bias-Ts. See ordering options.

PRODUCT OVERVIEW	Frequency Range (MHz)	696-960	(2x) 1695-2700	(2x) 3300-4200
	Array	■ R1	■ Y1 ■ Y2	■ P1 ■ P2
	Connector	2 PORTS	4 PORTS	4 PORTS
	Connector Type	4.3-10 Female Long Neck	4.3-10 Female Long Neck	4.3-10 Female Long Neck
	Polarization	XPOL	XPOL	XPOL
	Azimuth Beamwidth (avg)	65°	65°	65°
	Maximum Continuous Power Per Port @ 50° C (122° F)	300 WATTS	300 WATTS	100 WATTS
	Maximum Total Continuous Power at 50° C (122° F)	2200 WATTS		
	Electrical Downtilt	2-12°	2-12°	3°, 6°, 9° Fixed Tilt
	Dimensions	1901 x 300 x 170 mm (74.8 x 11.8 x 6.7 in)		



ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range	MHz	696-960		
Frequency Sub-Range	MHz	696-806	806-960	
Polarization	---	±45°		
Gain	Over all Tilts	dBi	15.2 ± 0.3	14.8 ± 1.1
	Max Gain	dBi	15.5	15.9
Azimuth Beamwidth (3 dB)	degrees	80.8° ± 1.5°	81.5° ± 9.0°	
Elevation Beamwidth (3 dB)	degrees	11.5° ± 0.8°	9.4° ± 0.8°	
Electrical Downtilt	degrees	2-12°		
Impedance	Ohms	50Ω		
VSWR	---	1.5:1		
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)	< -110 (< -153)		
Front-to-Back Ratio ± 30° @ 180° from boresite	dB	> 22.3	> 19.5	
Upper Sidelobe Rejection 20° Sector Above Main Beam	dB	> 20.2	> 17.0	
Cross Polar Discrimination at Mechanical Boresight (0°)	dB	> 19.7	> 18.0	
Interband/Intraband Isolation	dB	25/30	25/30	

Standard values based on NGMN-P-BASTA version 9.6 recommendation.

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ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2

Frequency Range	MHz	(2x) 1695-2700				
Frequency Sub-Range	MHz	1695-1880	1850-1990	1920-2200	2300-2700	
Polarization	---	(2x) ±45°				
Gain	Over all Tilts	dBi	16.8 ± 1.4	17.6 ± 0.6	17.1 ± 1.0	16.3 ± 0.9
	Max Gain	dBi	18.2	18.2	18.1	17.2
Azimuth Beamwidth (3 dB)	degrees	66.7° ± 6.2°	61.1° ± 5.3°	64.7° ± 8.2°	65.1° ± 12.5°	
Elevation Beamwidth (3 dB)	degrees	7.9° ± 0.7°	7.3° ± 0.5°	7.3° ± 0.4°	6.6° ± 0.7°	
Electrical Downtilt	degrees	2-12°				
Impedance	Ohms	50Ω				
VSWR	---	1.5:1				
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)	< -110 (< -153)				
Front-to-Back Ratio ± 30° @ 180° from boresite	dB	> 22.6	> 23.5	> 23.2	> 20.5	
Upper Sidelobe Rejection 20° Sector Above Main Beam	dB	> 17.2	> 17.0	> 16.9	> 12.9	
Cross Polar Discrimination at Mechanical Boresight (0°)	dB	> 17.9	> 16.5	> 15.9	> 13.8	
Interband/Intraband Isolation	dB	25/30	25/30	25/30	25/30	

Standard values based on NGMN-P-BASTA version 9.6 recommendation.

ELECTRICAL SPECIFICATIONS

■ P1 ■ P2

Frequency Range	MHz	(2x) 3300-4200			
Frequency Sub-Range	MHz	3300-3550	3550-3700	3700-4200	
Polarization	---	(2x) ±45°			
Gain	Over all Tilts	dBi	15.2 ± 1.7	16.3 ± 0.9	16.9 ± 0.9
	Max Gain	dBi	16.9	17.2	17.8
Azimuth Beamwidth (3 dB)	degrees	63.2° ± 12.2°	67.3° ± 10.2°	68.2° ± 13.7°	
Elevation Beamwidth (3 dB)	degrees	7.9° ± 0.8°	7.1° ± 1.0°	5.9° ± 1.1°	
Electrical Downtilt	degrees	(y) 3°, 6°, 9°			
Impedance	Ohms	50Ω			
VSWR	---	1.5:1			
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)	< -110 (< -153)			
Front-to-Back Ratio ± 30° @ 180° from boresite	dB	> 21.8	> 23.7	> 25.3	
Upper Sidelobe Rejection 20° Sector Above Main Beam	dB	> 17.3	> 16.8	> 16.9	
Cross Polar Discrimination at Mechanical Boresight (0°)	dB	> 14.3	> 16.5	> 14.4	
Interband/Intraband Isolation	dB	25 /28	25 /28	25 /28	

Standard values based on NGMN-P-BASTA version 9.6 recommendation.

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RET ACTUATOR

Amphenol's **RET-READY** antennas are delivered with the RET Actuator already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation of RET devices or for programming their configuration or for running a calibration process.

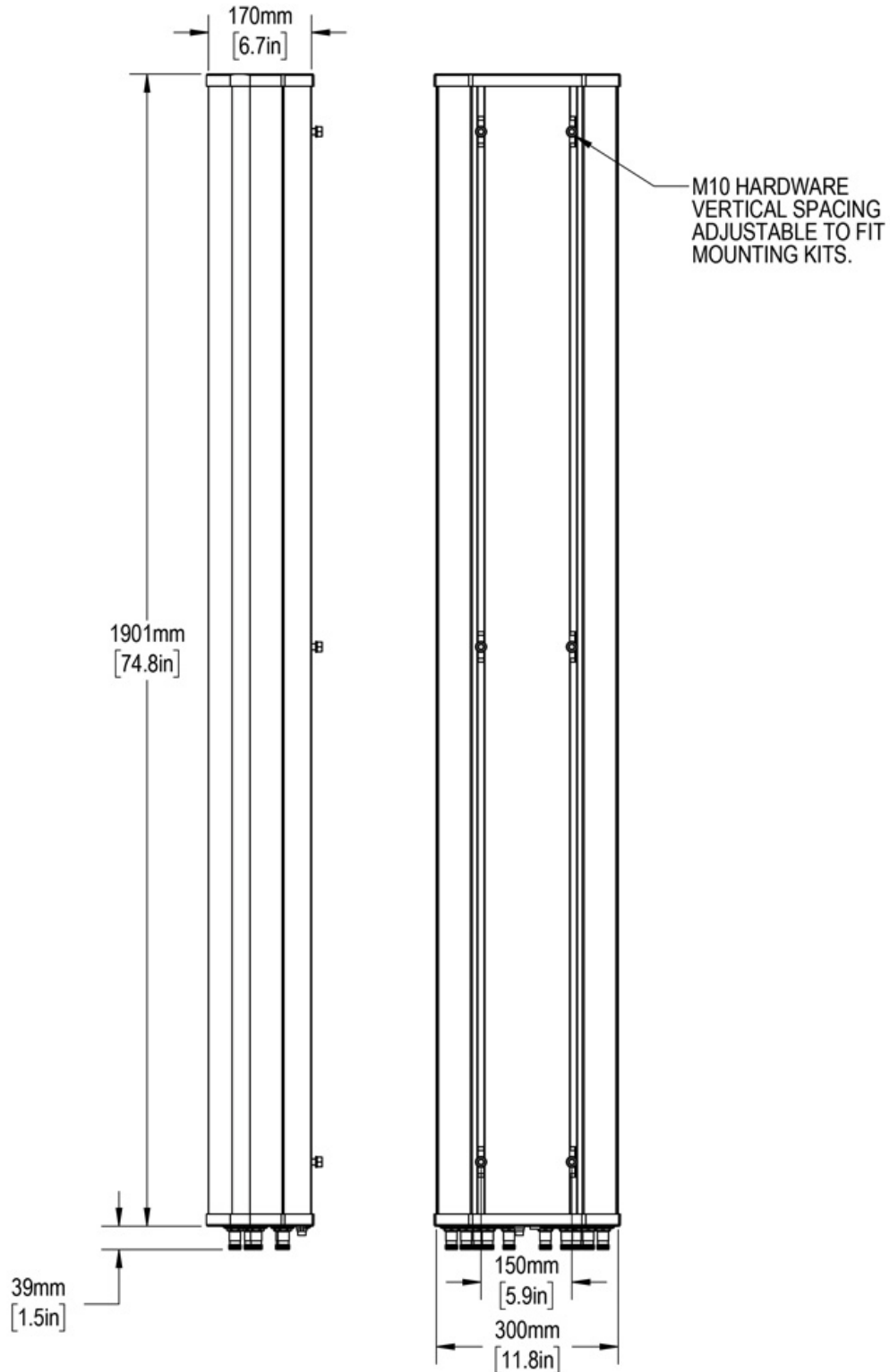
Input Voltage		Vdc	10-30
Power Consumption	Idle State, maximum	Watts	0.5
	Normal Conditions, maximum	Watts	10.0
Protocol		---	3GPP/AISG v2.0 (Single RET)
RET Interface		---	(2x) Female AISG Connectors
Field Replaceable Unit		---	No

MECHANICAL SPECIFICATIONS

Antenna	Length	mm (in)	1901 (74.8)
	Width	mm (in)	300 (11.8)
	Depth	mm (in)	170 (6.7)
Net Weight - Antenna Only		kg (lbs)	18.1 (40)
Windload	Calculation	km/h (mph)	161 (100)
	Frontal	N (lbf)	707 (159)
	Lateral	N (lbf)	419 (94)
Survival Wind Speed		km/h (mph)	241 (150)
Connector	Type	---	4.3-10 Female
	Quantity	---	10
	Position	---	Bottom
Radome Color		---	ANSI 70 Gray
Radome Material		---	UV Stabilized ABS or Hips
Lightning Protection (Grounding Type)		---	Direct Ground

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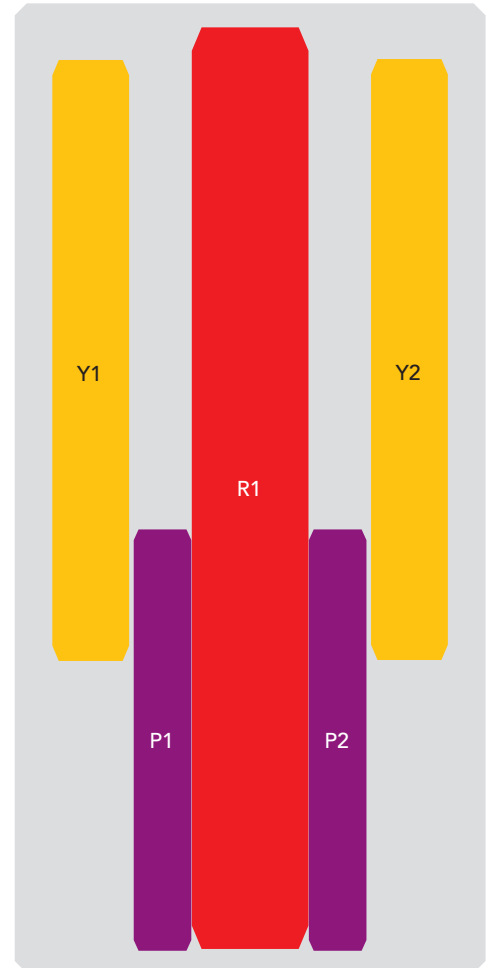


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ARRAY LAYOUT Topology

FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
696-960 MHz	■ R1	1-2	(2x) 4.3-10 Female
1695-2700 MHz	■ Y1	3-4	(2x) 4.3-10 Female
1695-2700 MHz	■ Y2	5-6	(2x) 4.3-10 Female
3300-4200 MHz	■ P1	7-8	(2x) 4.3-10 Female
3300-4200 MHz	■ P2	9-10	(2x) 4.3-10 Female



The illustration is not shown to scale.

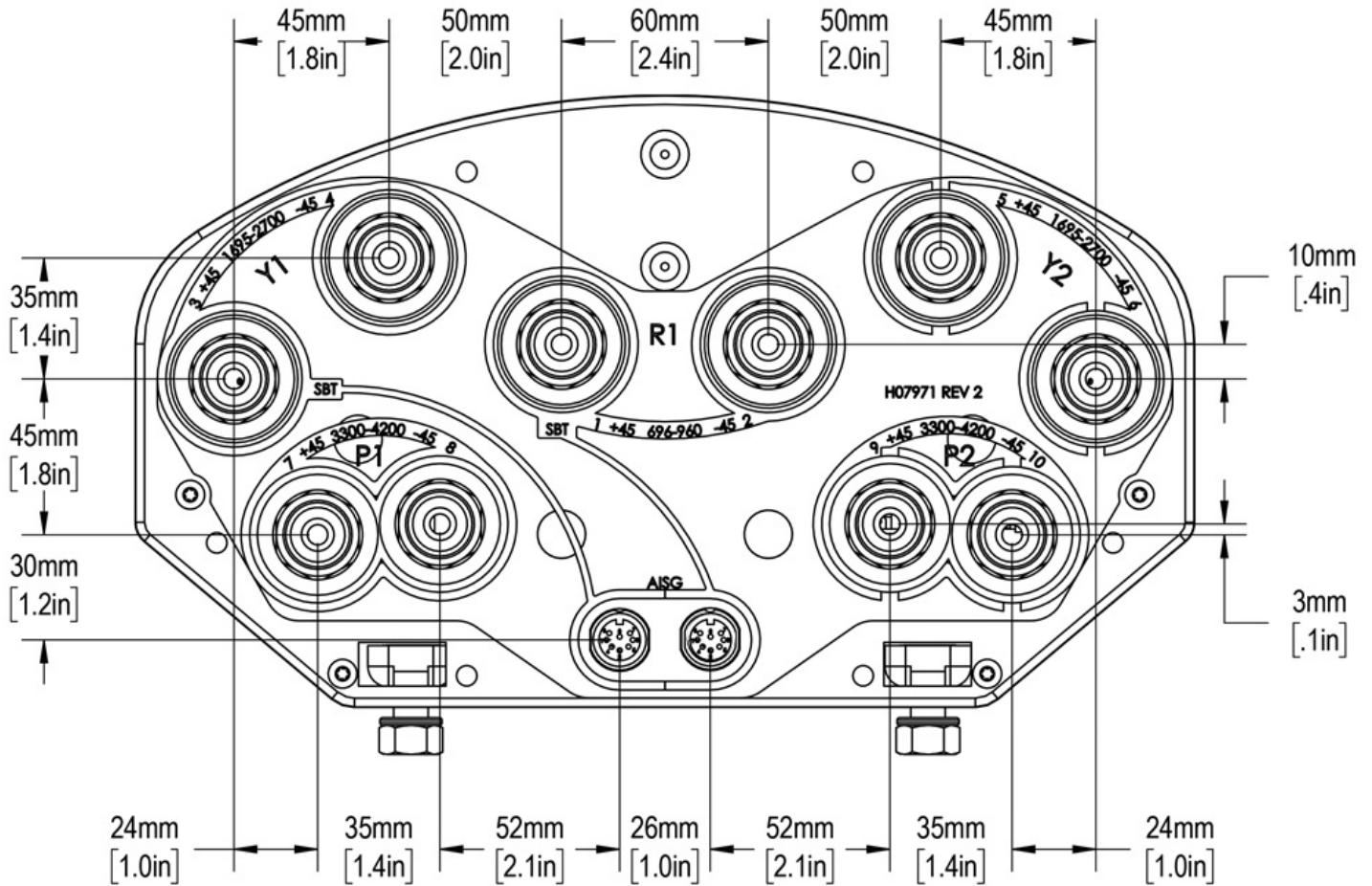
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BOTTOM VIEW - LABELING



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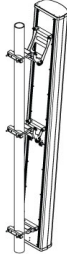

BOTTOM VIEW - CONNECTOR DIAGRAM



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MOUNTING KITS The default mounting kit is included in the price of the antenna. Any other mounting kits are optional and must be ordered separately.

	MODEL NUMBER	DESCRIPTION	FITS PIPE DIAMETER	WEIGHT
DEFAULT MOUNTING KIT <i>Shipped as standard and included in the price of the antenna</i> 	MKS09T02	3-Point, Scissor Tilt, Mounting & Downtilt Bracket Kit	50-115 mm (2.0-4.5 in)	6.4 kg (14 lbs)
OPTIONAL MOUNTING KIT <i>Must be ordered separately</i> 	MKS09P02	3-Point Mounting Bracket Kit	50-115 mm (2.0-4.5 in)	4.1 kg (9 lbs)

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

ANTENNA TYPE OR NUMBER OF PORTS	AZIMUTH BEAMWIDTH	LENGTH IN FEET	OPERATING FREQUENCY			VARIATIONS/ CONFIGURATION	TILT OPTIONS		MOUNTING KIT OPTIONS
							ELECTRICAL DOWNTILT CONTROL	FIXED TILT OPTIONS	
10P	65	6	C	U	V	0x	G	y	-T
10 Port Panel	65°	~ 6 feet	696-960 MHz	1695-2700 MHz	3300-4200 MHz	<p>This antenna can be ordered with or without Smart Bias-T(s).</p> <p>Refer to Ordering Options for the different configurations.</p>	<p>G indicates the antenna is equipped with a Multi-Device Control Unit for remote electrical tilt (RET) on the 696-960 and 1695-2700 Bands.</p>	<p>This letter is a placeholder for fixed tilt options for the 3300-4200 MHz Band.</p> <p>Refer to Electrical Specifications for available tilt options.</p> <p>Or, see Ordering Options.</p>	<p>This antenna is shipped standard with the 3-Point Scissor Tilt Mounting Kit MKS09T02.</p> <p>The antenna can also be ordered with the optional mounting kit MKS09P02.</p> <p>Or, the antenna can be ordered with no mounting kit.</p> <p>Refer to Ordering Options for details.</p>

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ORDERING OPTIONS Select from the following ordering options

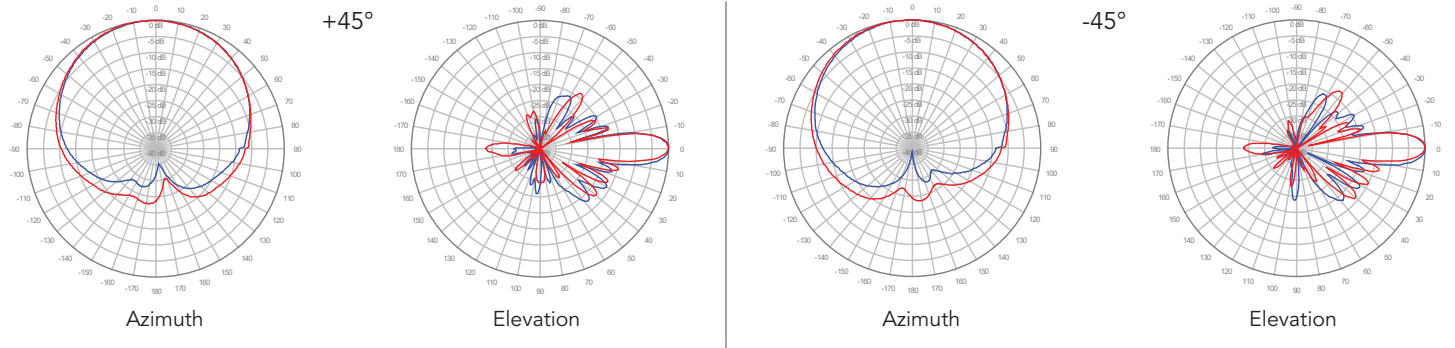
SELECT OPTIONAL SMART BIAS-T CONFIGURATION	SELECT ELECTRICAL DOWNTILT			SELECT MOUNTING KIT	ORDER MODEL NUMBER
	696-960 MHz	1695-2700 MHz	3300-4200 MHz		
Without Smart Bias-T(s)	Variable Tilt	Variable Tilt	3° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV00G3-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV00G3-P
				Antenna Only - No Mounting Kit	10P656CUV00G3
	Variable Tilt	Variable Tilt	6° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV00G6-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV00G6-P
				Antenna Only - No Mounting Kit	10P656CUV00G6
	Variable Tilt	Variable Tilt	9° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV00G9-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV00G9-P
				Antenna Only - No Mounting Kit	10P656CUV00G9
(1) Total Smart Bias-T: (1) Low Band	Variable Tilt	Variable Tilt	3° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV01G3-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV01G3-P
				Antenna Only - No Mounting Kit	10P656CUV01G3
	Variable Tilt	Variable Tilt	6° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV01G6-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV01G6-P
				Antenna Only - No Mounting Kit	10P656CUV01G6
	Variable Tilt	Variable Tilt	9° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV01G9-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV01G9-P
				Antenna Only - No Mounting Kit	10P656CUV01G9
(2) Total Smart Bias-Ts: (1) Low Band, (1) Mid Band	Variable Tilt	Variable Tilt	3° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV02G3-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV02G3-P
				Antenna Only - No Mounting Kit	10P656CUV02G3
	Variable Tilt	Variable Tilt	6° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV02G6-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV02G6-P
				Antenna Only - No Mounting Kit	10P656CUV02G6
	Variable Tilt	Variable Tilt	9° Fixed Tilt	With Default Scissor-Tilt Mounting Kit MKS09T02	10P656CUV02G9-T
				With Optional Pole Mounting Kit MKS09P02	10P656CUV02G9-P
				Antenna Only - No Mounting Kit	10P656CUV02G9

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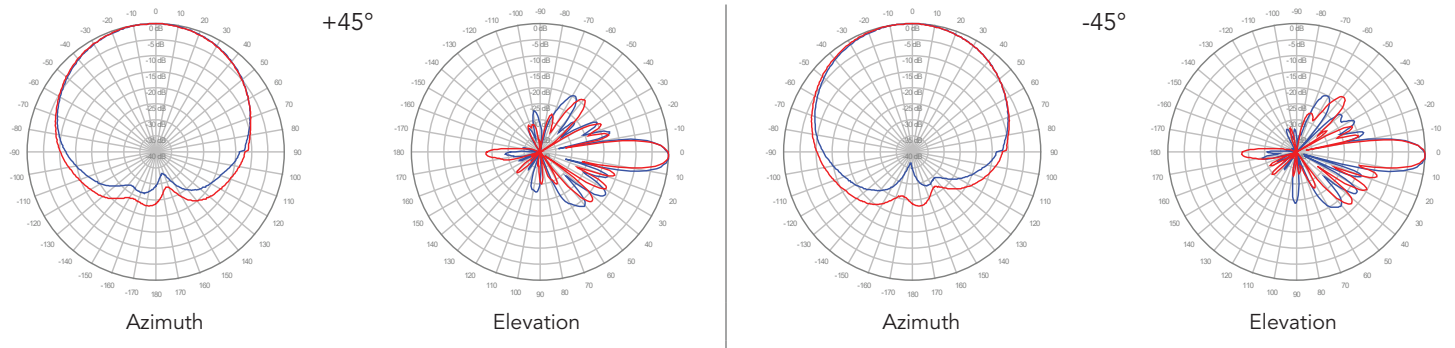
10P656CUV0xGy-T

750 MHz ————
850 MHz ————

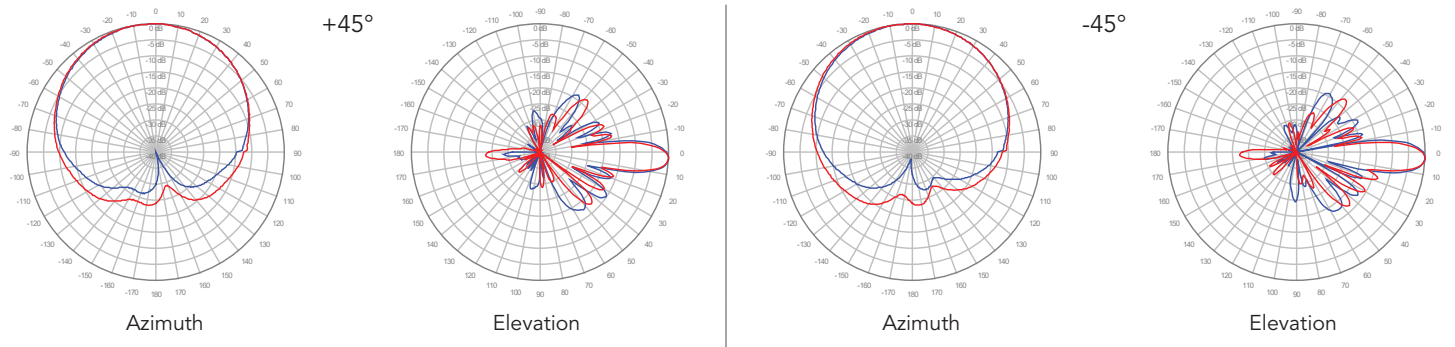
■ R1, 2° TILT



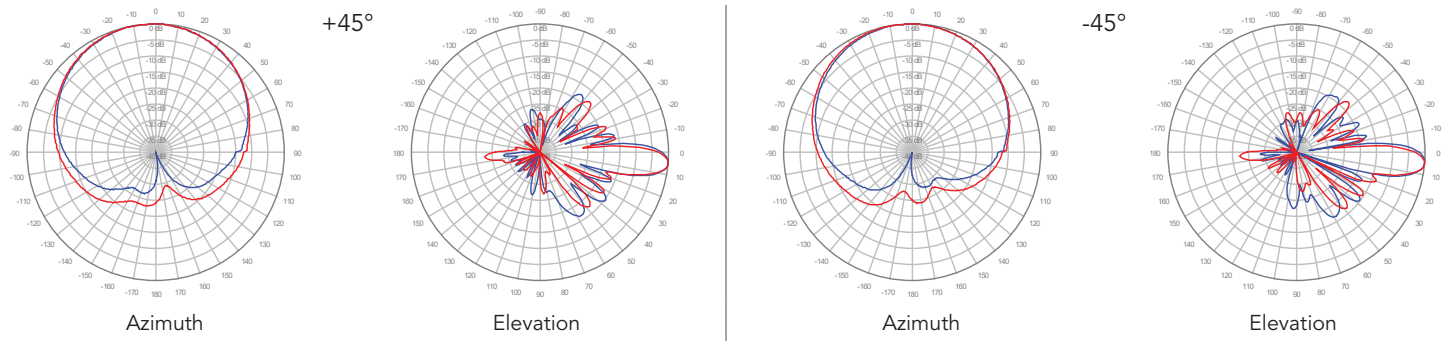
■ R1, 4° TILT



■ R1, 6° TILT



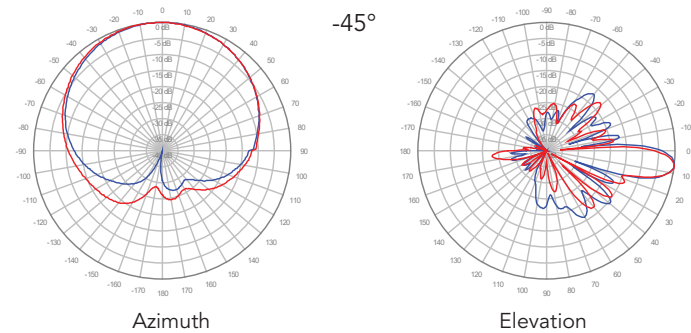
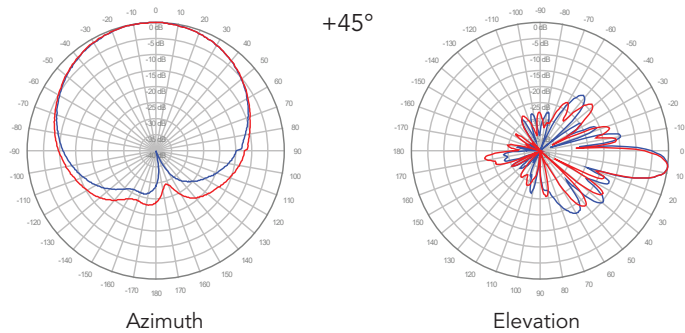
■ R1, 8° TILT



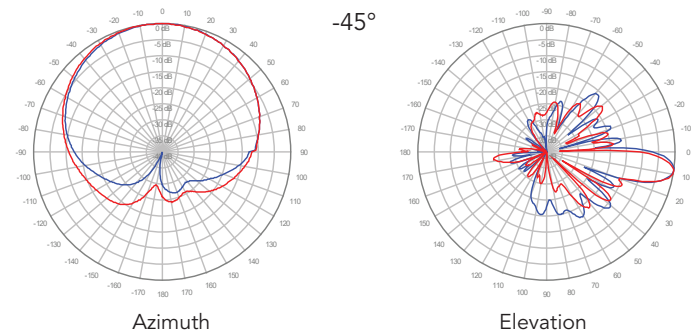
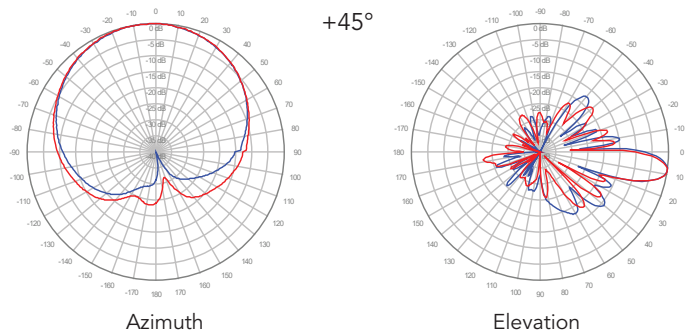
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R1, 10° TILT



R1, 12° TILT

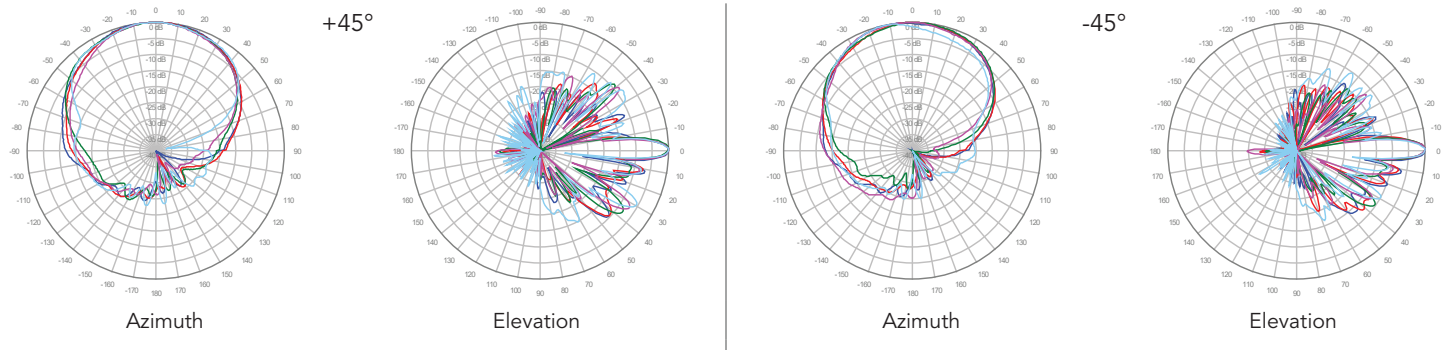


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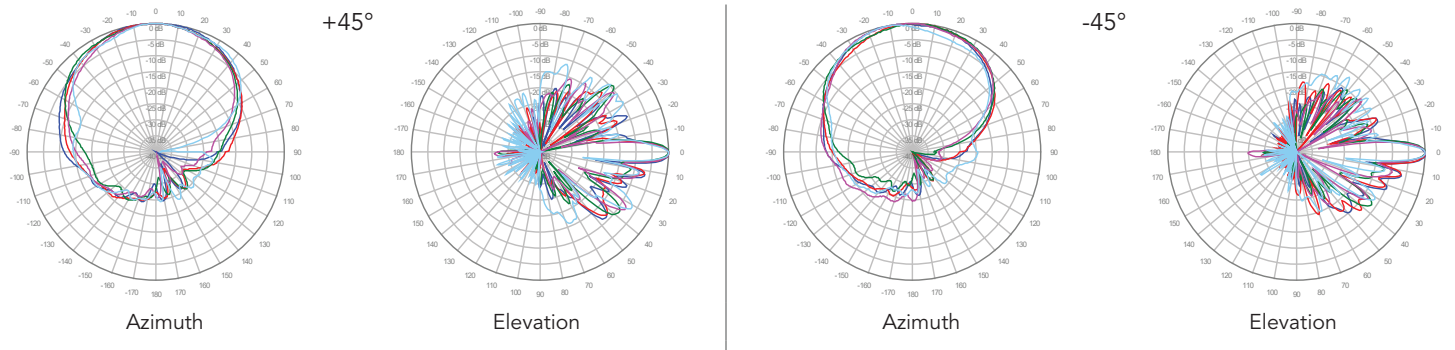
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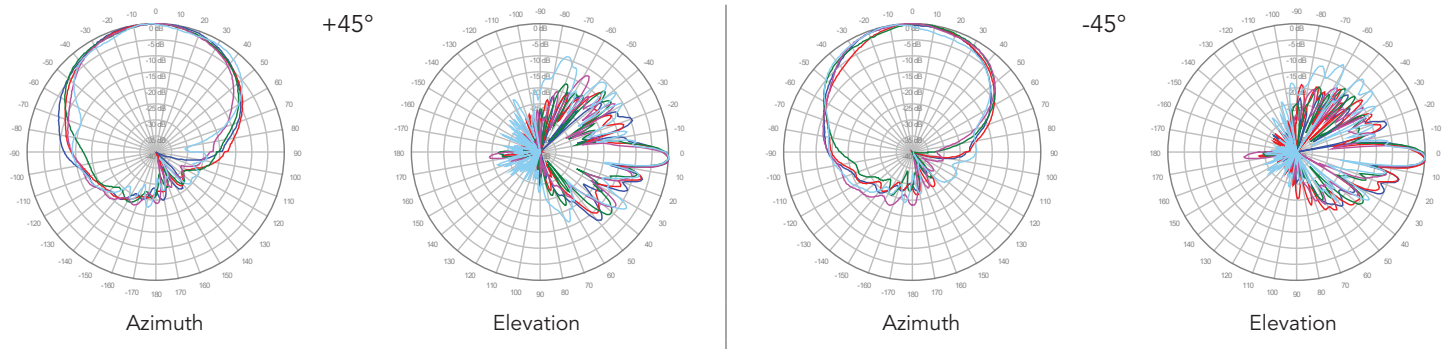
■ Y1, 2° TILT



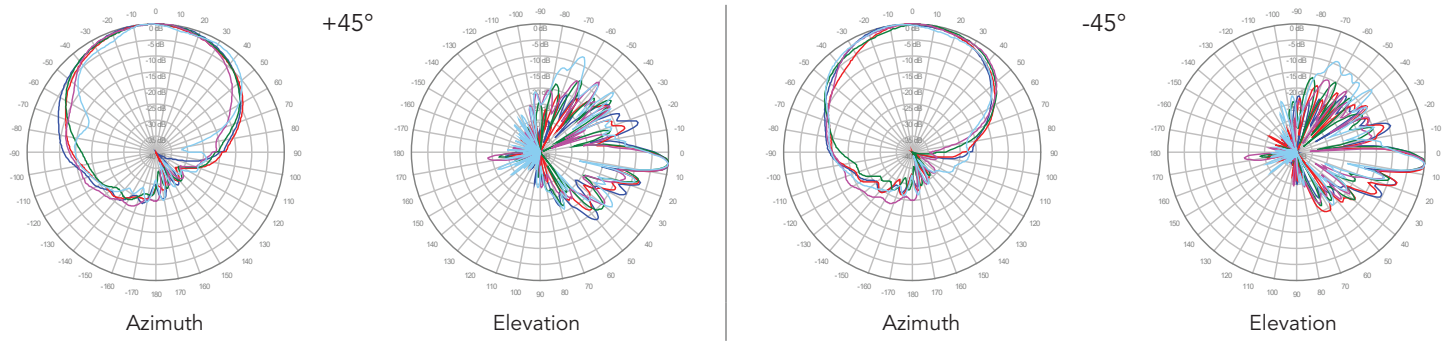
■ Y1, 4° TILT



■ Y1, 6° TILT



■ Y1, 8° TILT

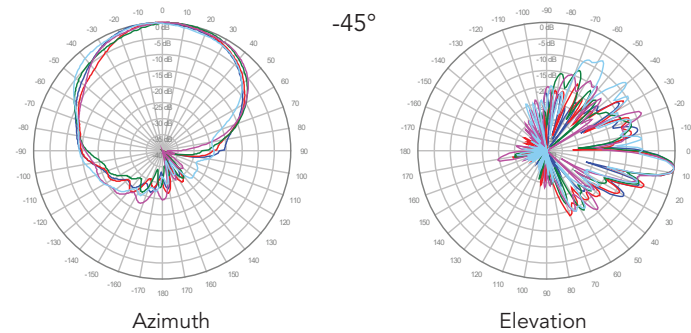
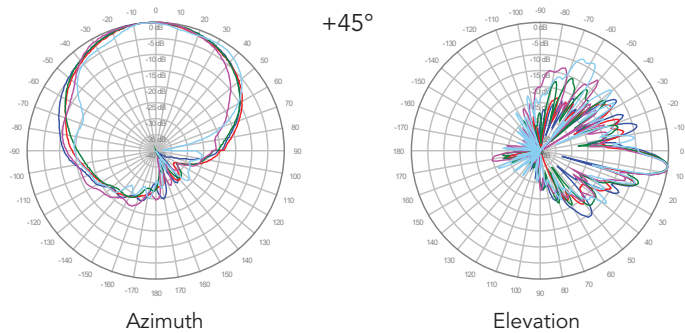


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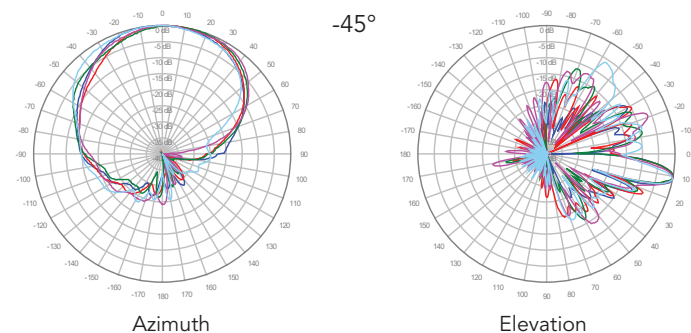
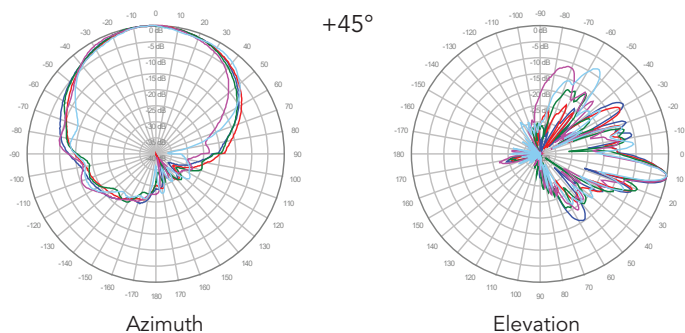
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- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

Y1, 10° TILT



Y1, 12° TILT

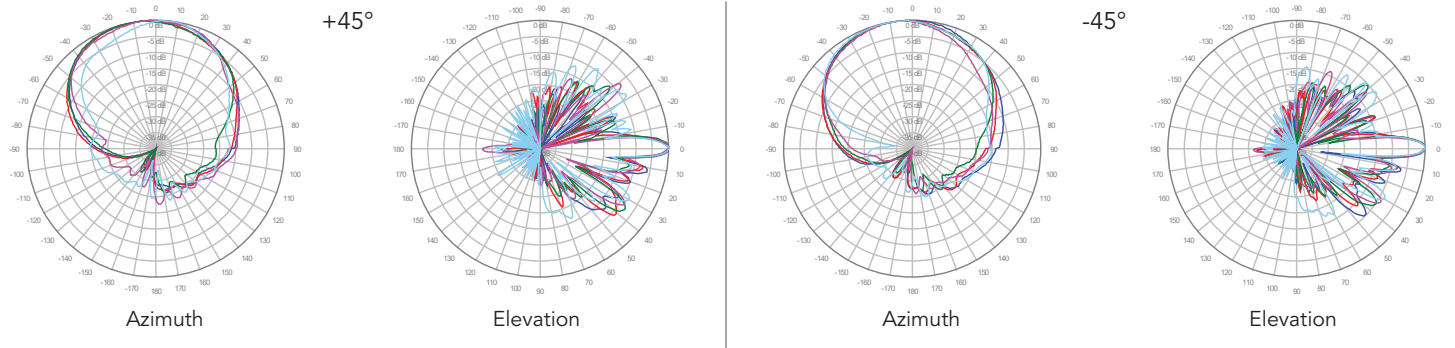


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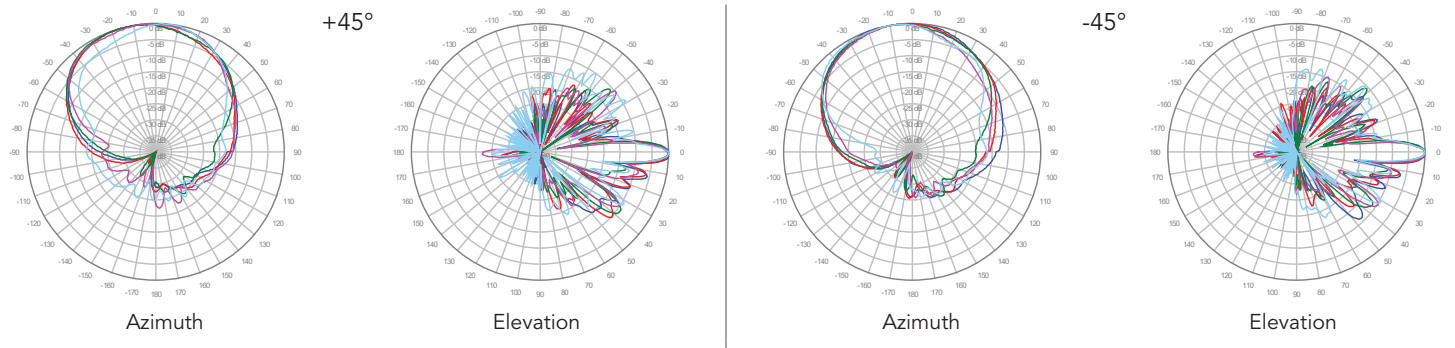
10P656CUV0xGy-T

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

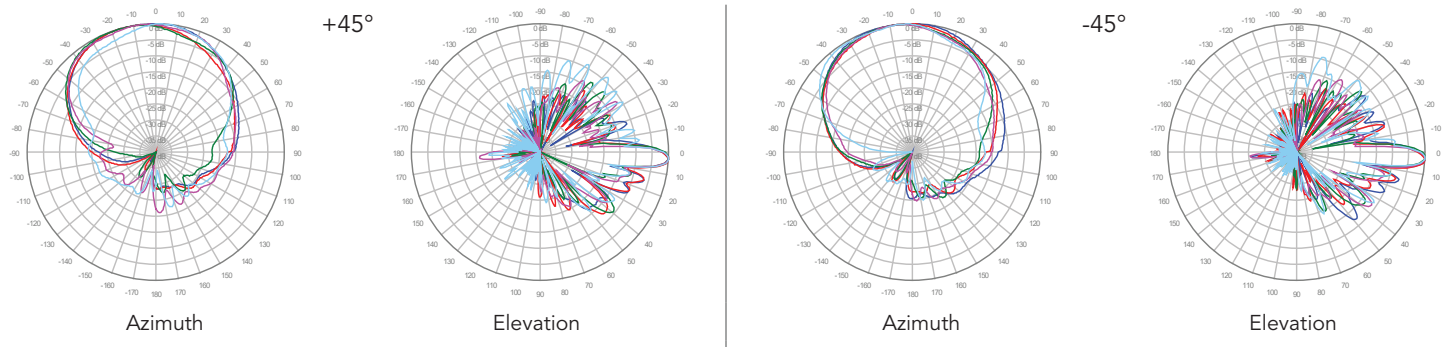
■ **Y2, 2° TILT**



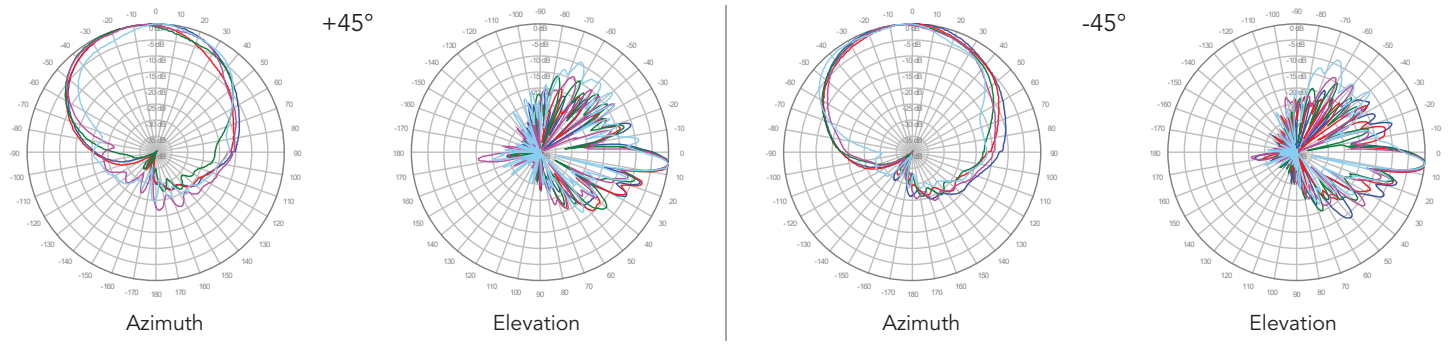
■ **Y2, 4° TILT**



■ **Y2, 6° TILT**



■ **Y2, 8° TILT**

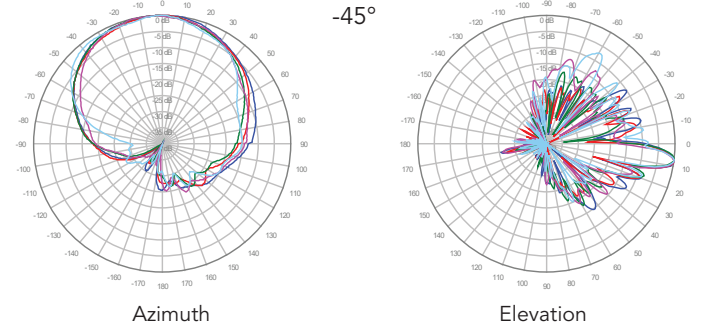
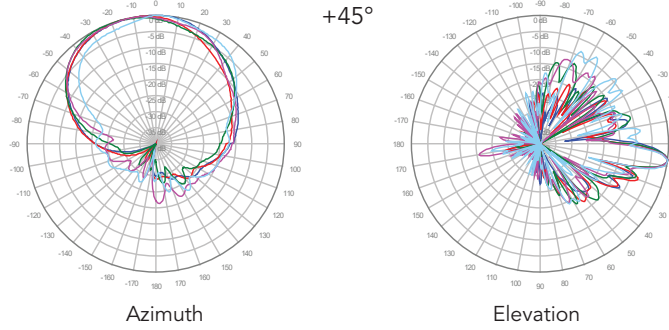


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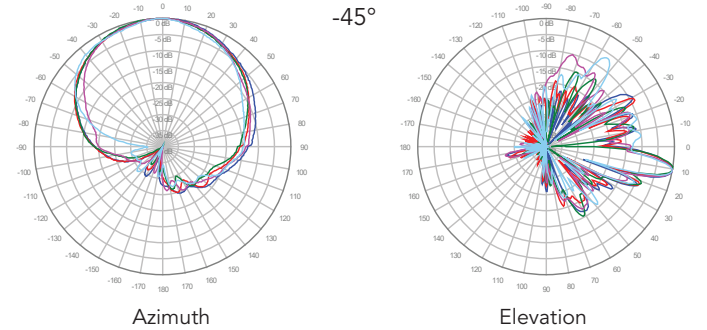
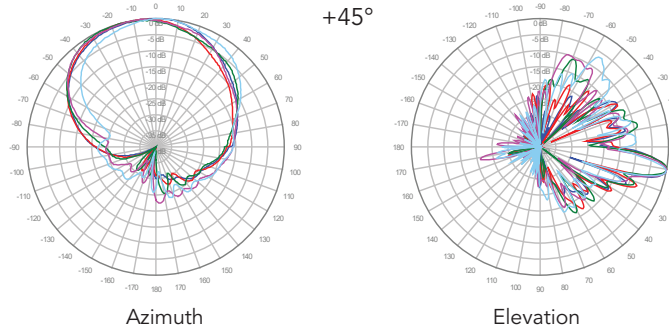
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- 1800 MHz ———
- 1900 MHz ———
- 2100 MHz ———
- 2300 MHz ———
- 2600 MHz ———

■ Y2, 10° TILT



■ Y2, 12° TILT

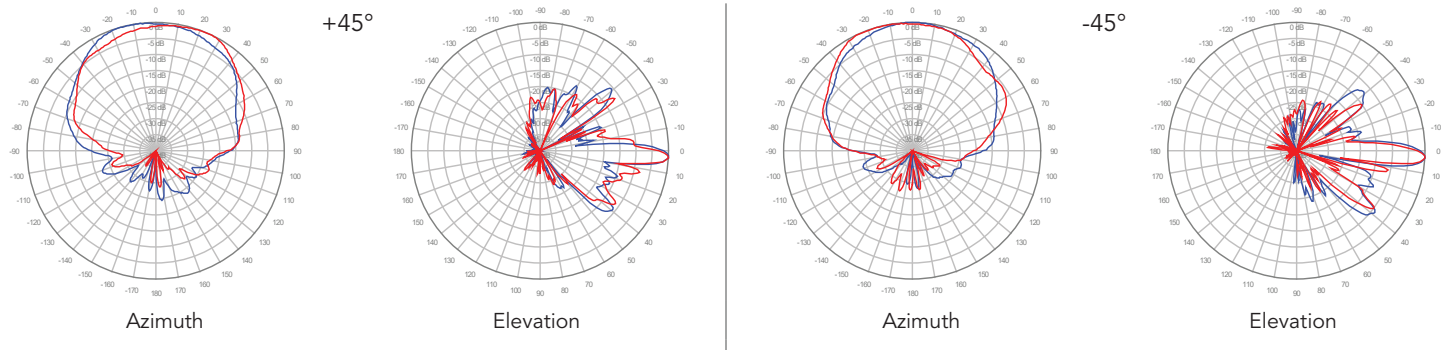


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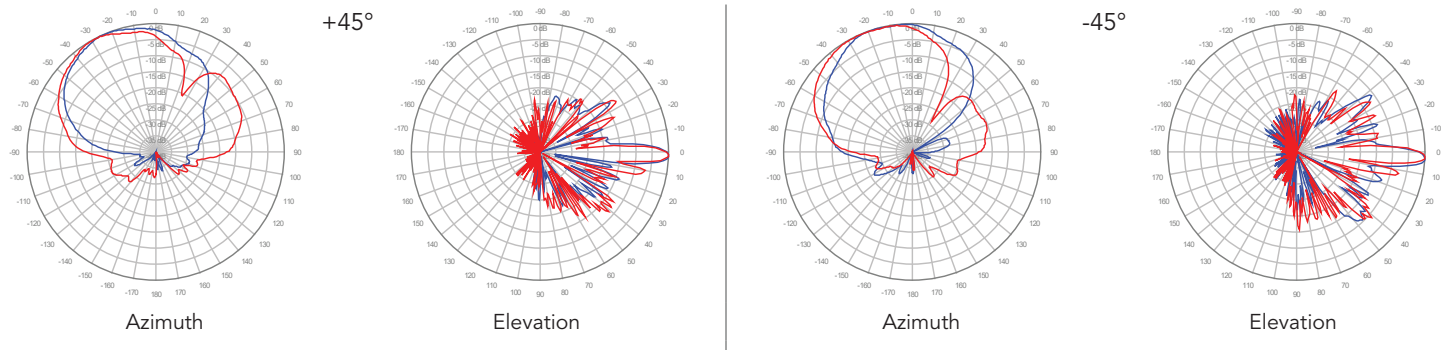
10P656CUV0xGy-T

3600 MHz ————
4000 MHz ————

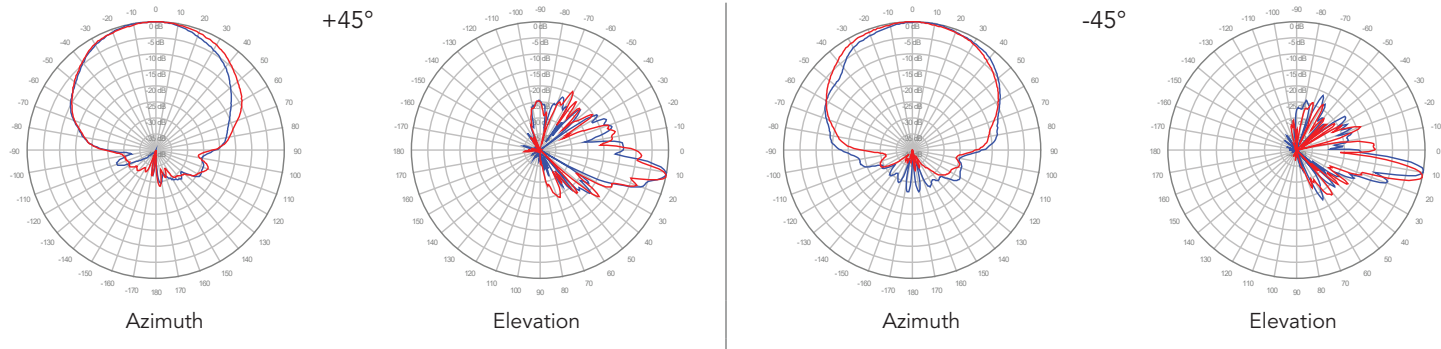
■ P1, 3° TILT



■ P1, 6° TILT



■ P1, 9° TILT

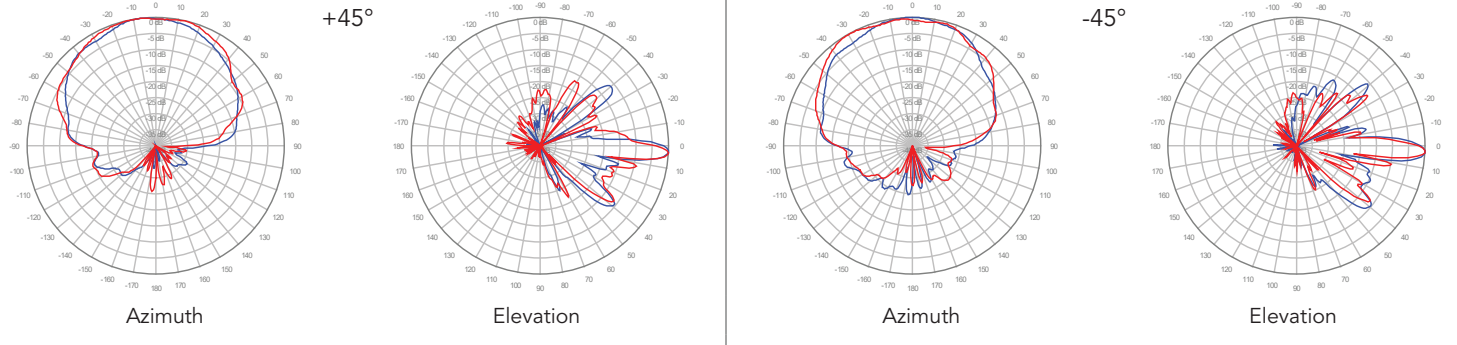


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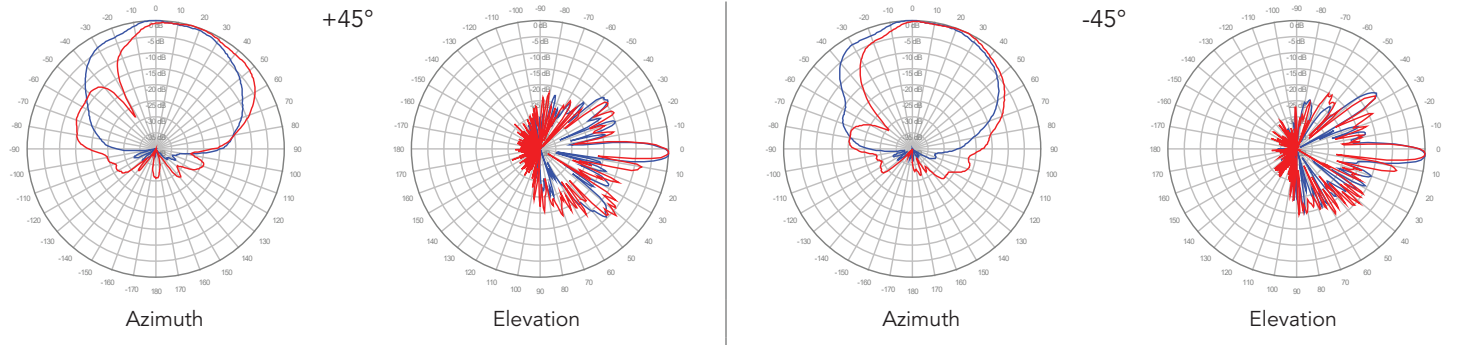
3600 MHz ————
4000 MHz ————

10P656CUV0xGy-T

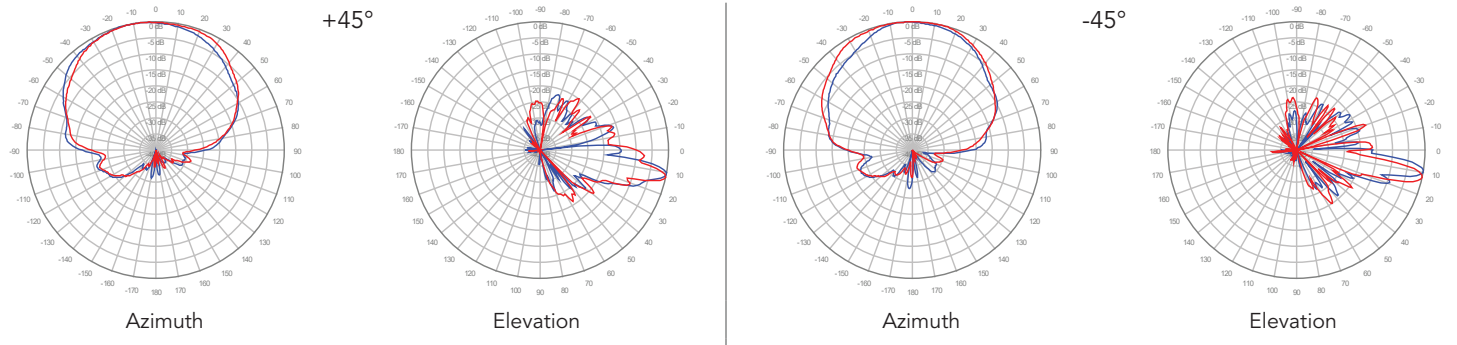
P2, 3° TILT



P2, 6° TILT



P2, 9° TILT



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