

## IBS Antennas

### 380-6000MHz Omni-directional Antenna

- Wideband frequency range: 380-6000MHz
- Low PIM, -150dBc guaranteed
- Very good un-roundness over frequency
- Consistent patterns
- Connector options: N(f) and 4.3-10(f)

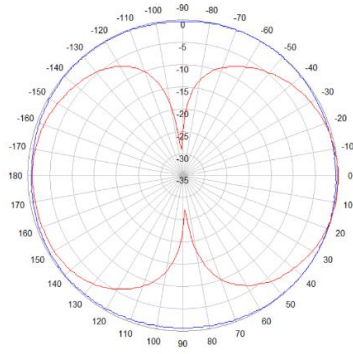


Model Number	ODA-360-NF150				
<b>Electrical</b>					
Frequency Band, MHz	380-520	700-960	1710-2700	3300-3800	4800-6000
Horizontal Beam-width	360	360	360	360	360
Gain, dBi	1	2	3	3	6
VSWR/Return Loss, dB	1.9	1.9	1.8	1.8	1.8
3rd Order IMD @ 2×43dBm	-150 dBc				
Impedance	50 ohm				
Polarization	Vertical				
<b>Mechanical</b>					
Application	Indoor				
Mount Type	Thru-hole ceiling mount				
Number of Ports, all types	1				
Radome Color	White				
Radome material	ABS				
Dimensions	Diameter 298mm * Height 163mm				
Operating Temperature	-40 °C to +60 °C				
Relative Humidity	Up to 100%				
RoHS	Compliant				

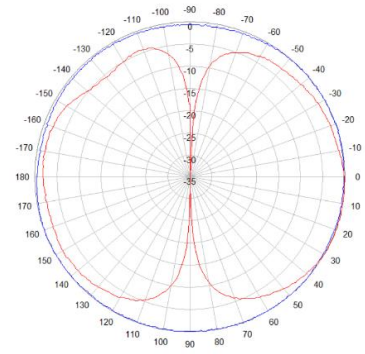
## Patterns

Horizontal Patterns

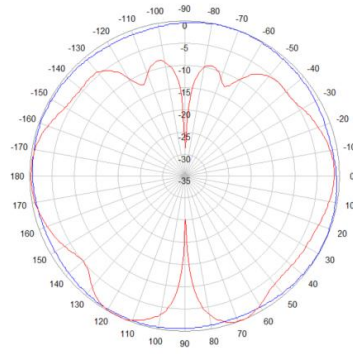
Vertical Patterns



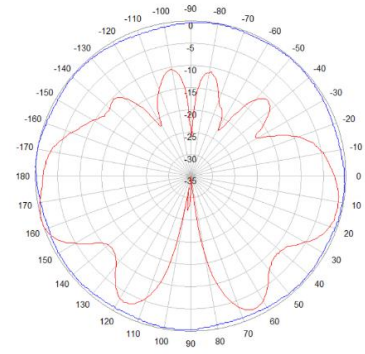
800MHz



2100MHz



3500MHz



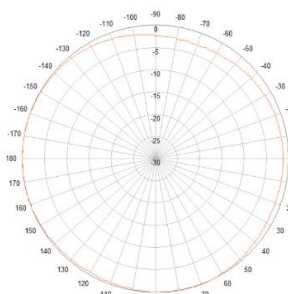
5500MHz

## 617-6000MHz Omni-directional Antenna

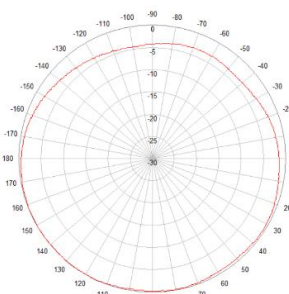
- Wideband frequency range: 617-6000MHz
- Excellent PIM, -153dBc guaranteed
- Very good un-roundness over frequency
- Consistent patterns
- Connector options: N(f) and 4.3-10(f)



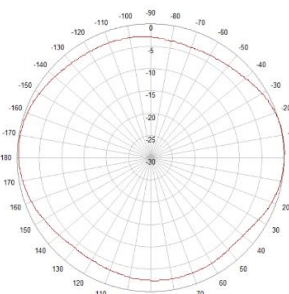
Model Number	ODA-760-NF153				
<b>Electrical</b>					
Frequency Band, MHz	617-960	1400-1600	1695-2700	3300-4200	4800-6000
Horizontal Beamwidth, degrees	360	360	360	360	360
Gain, dBi	1	2	3	3	5
VSWR/Return Loss, dB	1.7	1.6	1.6	1.6	1.6
3rd Order IMD @ 2×43dBm	-153 dBc				
Impedance	50 ohm				
Polarization	Vertical				
<b>Mechanical Specifications</b>					
Application	Indoor				
Mount Type	Thru-hole ceiling mount				
Number of Ports, all types	1				
Radome Color	White				
Radome material	ABS				
Dimensions	Diameter 206 * Height 89mm				
Operating Temperature	-40 °C to +60 °C				
Relative Humidity	Up to 100%				
RoHS	Compliant				



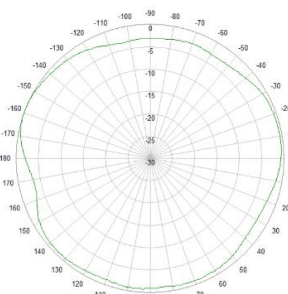
800MHz



2300MHz



3700MHz

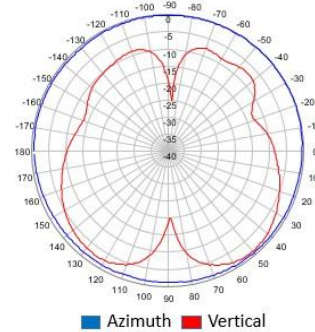


5400MHz

All specifications are subject to change without any notice. Please contact us for the latest information.

## 698-2700MHz Omni-directional Antenna

- Wideband frequency range: 698-2700MHz
- Connector options: N(f) and 4.3-10(f)



Model Number	ODA-727-NF/ ODA-727-NF140		
<b>Electrical</b>			
Frequency Band, MHz	698–800	800–960	1710–2700
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	2	2	5
VSWR	1.7	1.5	
3rd Order IMD @2×43dBm	-140*		
Impedance	50 ohm		
Polarization	Vertical		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	1		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 185 * Height 85mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

\*Only for ODA-727-NF140

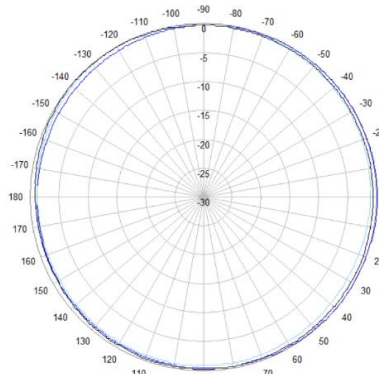
## 698-3800MHz SISO Omni Antenna, Ultra-slim, True-omnidirectional

- Wideband frequency range: 698-3800MHz
- True Omni-directional
- Ultra-thin design
- Connector options: N(f) and 4.3-10(f)

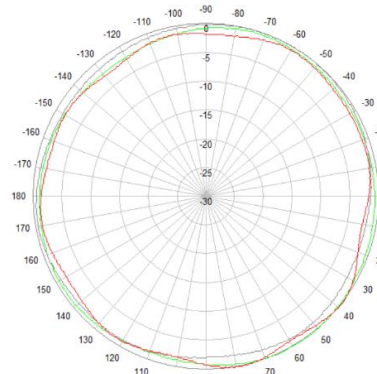


Model Number	ODA2-738-43F		
<b>Electrical</b>			
Frequency Band, MHz	698–960	1710–2700	3300–3800
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	1.8	3.5	4
VSWR	1.8		
3 <sup>rd</sup> Order IMD @ 2×43dBm	-153		
Impedance	50 ohm		
Polarization	Horizontal		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	1		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 307 * Height 18mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

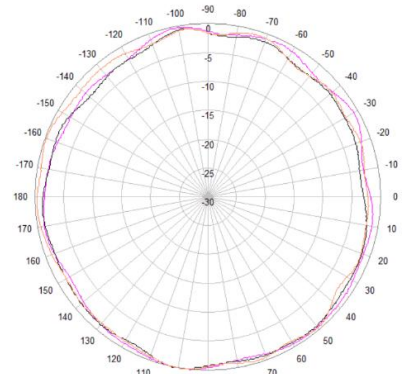
## Patterns



698-960MHz

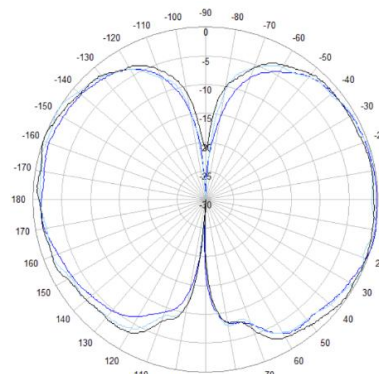


1710-2700MHz

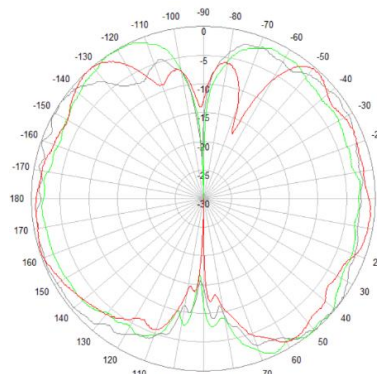


3300-3800MHz

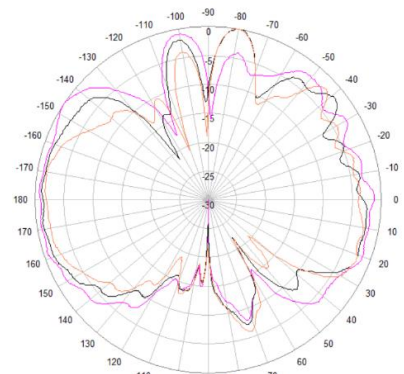
### Horizontal patterns



698-960MHz



1710-2700MHz



3300-3800MHz

### Vertical patterns

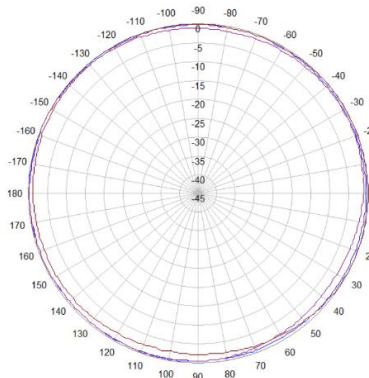
## 1695-6000MHz SISO Omni Antenna, Ultra-slim, True-omnidirectional

- Wideband frequency range: 1695-6000MHz
- True Omni-directional
- Ultra-thin design
- Connector options: N(f) and 4.3-10(f)

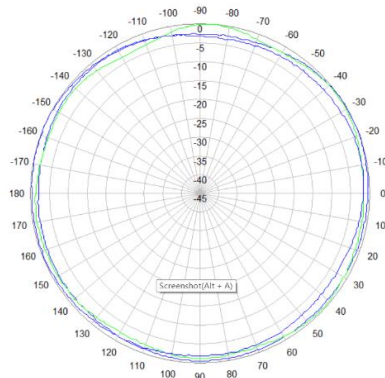


Model Number	ODA1-1760-43F		
<b>Electrical</b>			
Frequency Band, MHz	1695–2700	3300–3800	4900–6000
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	3	4	5.5
VSWR	1.8		
3 <sup>rd</sup> Order IMD @2×43dBm	-153		N/A
Impedance	50 ohm		
Polarization	Horizontal		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	1		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 170 * Height 18mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

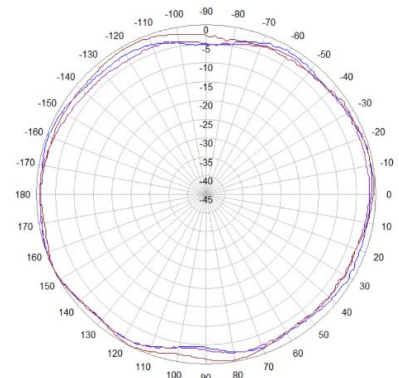
## Patterns



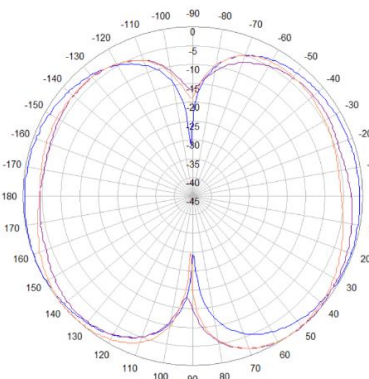
1695-2700MHz



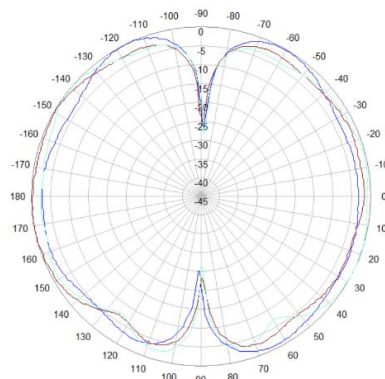
3300-3800MHz  
**Horizontal patterns**



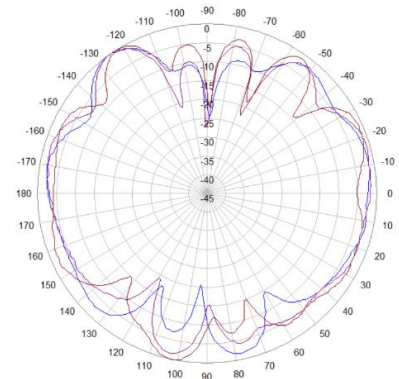
4900-6000MHz



1695-2700MHz



3300-3800MHz  
**Vertical patterns**



4900-6000MHz



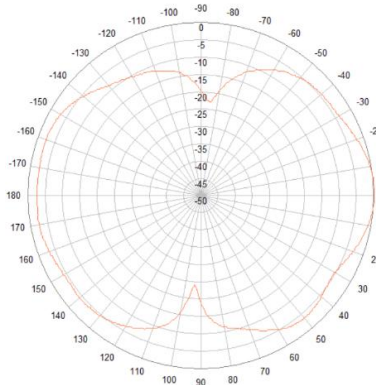
## 1695-6000MHz 2x2 MIMO Flat Omni-directional Antenna

- Wideband frequency range: 1695-6000MHz
- 2x2 MIMO application
- Ultra-thin design
- Connector options: N(f) and 4.3-10(f)

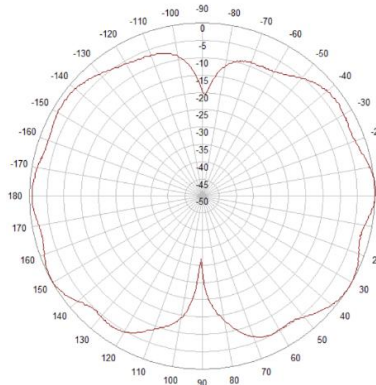


<b>Model Number</b>	<b>ODA2-1760-43F</b>		
<b>Electrical</b>			
Frequency Band, MHz	1695–2700	3300–4200	4800–6000
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	4.5	6	5.5
VSWR	1.8		
Isolation, dB	17	24	
3rd Order IMD @2×43dBm, dBc	-153		N/A
Impedance	50 ohm		
Polarization	Linear		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	2		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 210 * Height 14mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

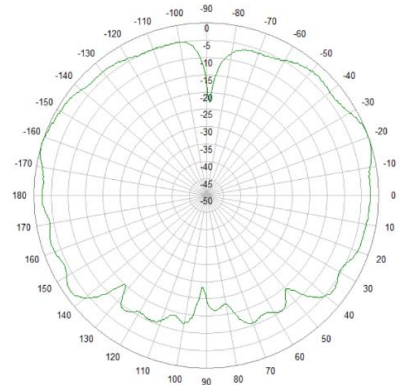
## Patterns



1695-2700MHz

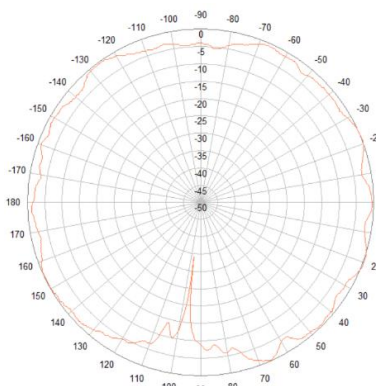


3300-3800MHz

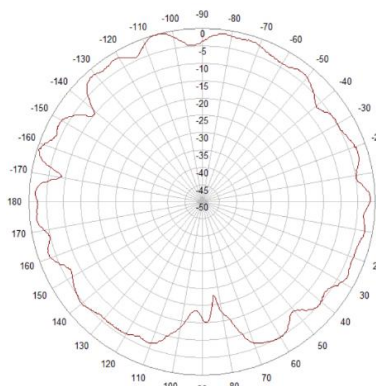


4900-6000MHz

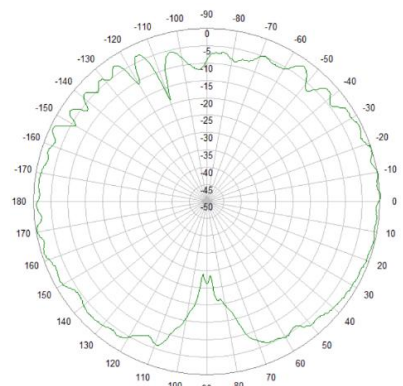
### Horizontal patterns



1695-2700MHz



3300-3800MHz



4900-6000MHz

### Vertical patterns

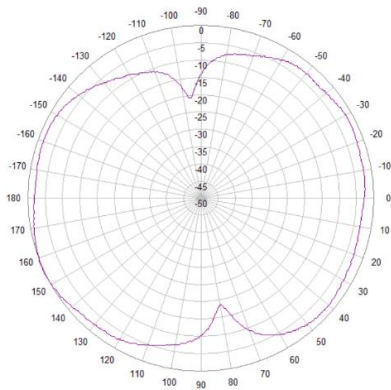
## 1695-6000MHz 4x4 MIMO Flat Omni-directional Antenna

- Wideband frequency range: 1695-6000MHz
- 4x4 MIMO application
- Ultra-thin design
- Connector options: N(f) and 4.3-10(f)

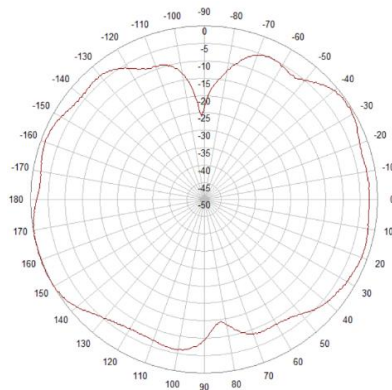


<b>Model Number</b>	<b>ODA3-1760-43F</b>		
<b>Electrical</b>			
Frequency Band, MHz	1695–2700	3300–4200	4800–6000
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	4.4	5.9	5.3
VSWR	1.8		
Isolation, dB	17	24	
3rd Order IMD @2×43dBm, dBc	-153		N/A
Impedance	50 ohm		
Polarization	Linear		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	4		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 210 * Height 14mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

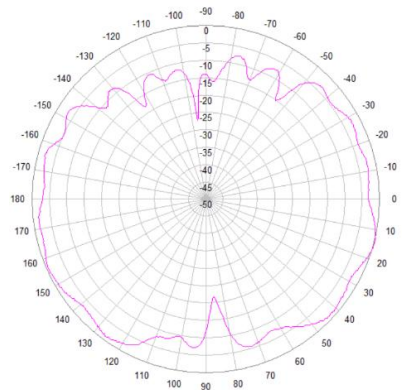
## Patterns



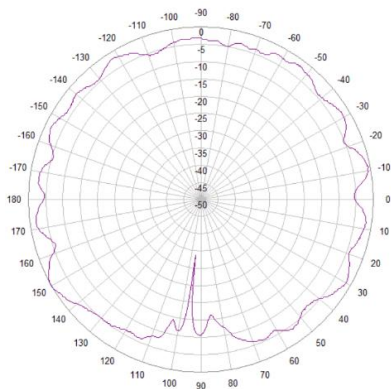
1695-2700MHz



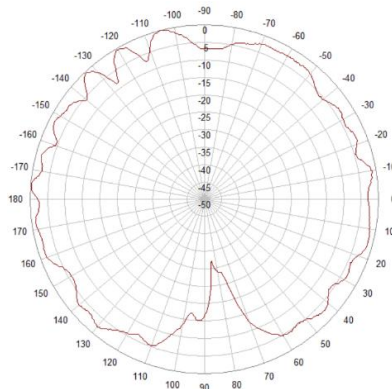
3300-3800MHz  
**Horizontal patterns**



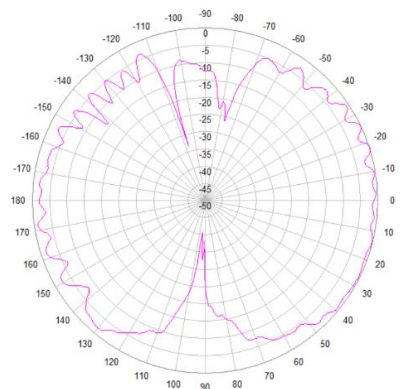
4900-6000MHz



1695-2700MHz



3300-3800MHz  
**Vertical patterns**



4900-6000MHz

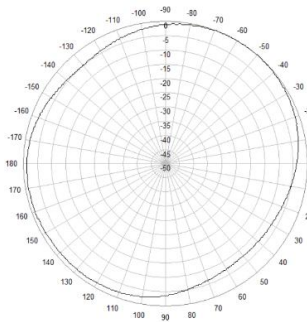
## 617-6000MHz 2x2 MIMO Omni-directional Antenna

- Wideband frequency range: 617-6000MHz
- 2x2 MIMO application
- Low visual impact
- Connector options: N(f) and 4.3-10(f)

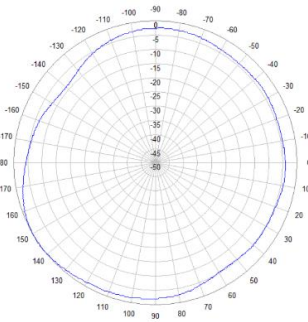


Model Number	MODA-660-43F				
<b>Electrical</b>					
Frequency Band, MHz	617-800	800-960	1710-2700	3300-4000	4800-6000
Horizontal Beamwidth, degrees	360				
Isolation	15	17		19	
Gain, dBi	3.5	4.5	5.5	5.5	5.9
VSWR	1.8				
3rd Order IMD @2×43dBm	-153				
Impedance	50 ohm				
Polarization	Linear				
<b>Mechanical</b>					
Application	Indoor				
Mount Type	Thru-hole ceiling mount				
Number of Ports, all types	2				
Radome Color	White				
Radome material	ABS				
Dimensions	Diameter 207 * Height 59mm				
Operating Temperature	-40 °C to +60 °C				
Relative Humidity	Up to 100%				
RoHS	Compliant				

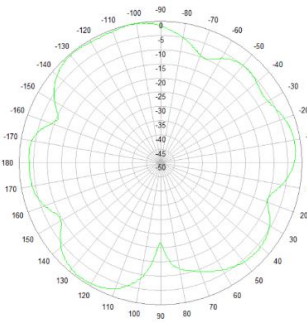
# Patterns



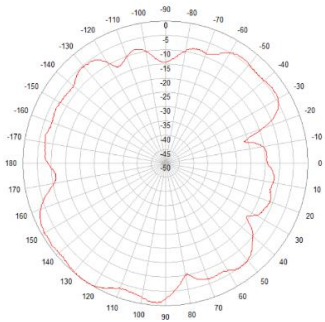
800MHz



2300MHz

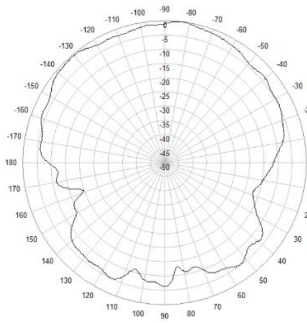


3500MHz

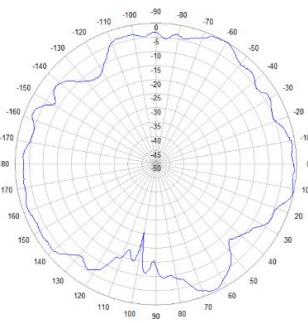


5500MHz

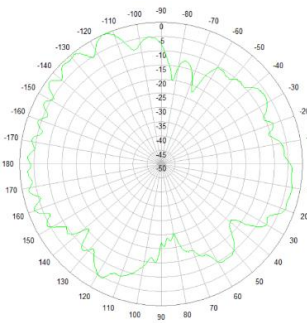
## Horizontal patterns



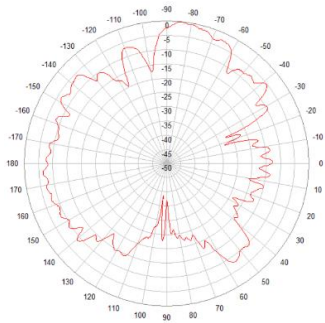
800MHz



2300MHz



3500MHz



5500MHz

## Vertical patterns

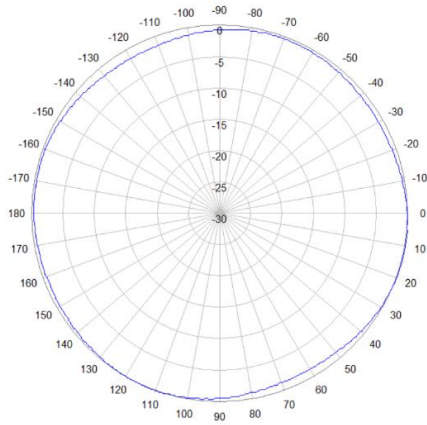
## 698-2700MHz MIMO Omni-directional Antenna

- Wideband frequency range: AWS 700, CDMA 800/1900, GSM 900/1800, UMTS, LTE and WiMAX
- 2x2 MIMO application
- Real Omni-directional
- Connector options: N(f) and 4.3-10(f)

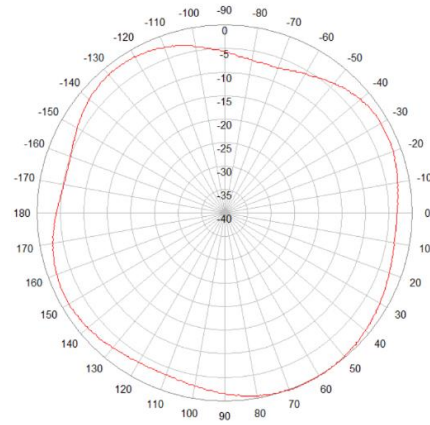


Model Number	MODA1-727-43F			
<b>Electrical</b>				
Frequency Band, MHz	698–800	800–960	1710–2200	2200–2700
Horizontal Beamwidth, degrees	360	360	360	360
Isolation	21	21	23	23
Gain, dBi	2	2	4	4
VSWR	1.8			
3rd Order IMD @ 2×43dBm	-150			
Impedance	50 ohm			
Polarization	Horizontal & Vertical			
<b>Mechanical</b>				
Application	Indoor			
Mount Type	Thru-hole ceiling mount			
Number of Ports, all types	2			
Radome Color	White			
Radome material	ABS			
Dimensions	Diameter 256 * Height 125mm			
Operating Temperature	-40 °C to +60 °C			
Relative Humidity	Up to 100%			
RoHS	Compliant			

## Patterns

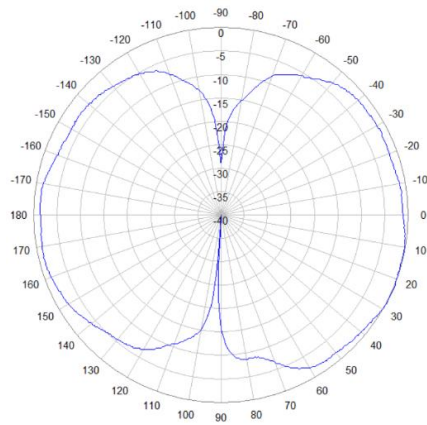


800MHz

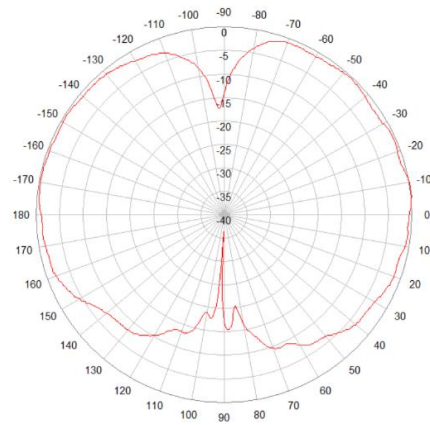


2300MHz

### Horizontal patterns



800MHz



2300MHz

### Vertical patterns



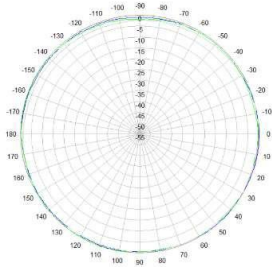
## 1710-6000MHz MIMO Omni-directional Antenna

- Wideband frequency range: 1710-6000MHz
- 2x2 MIMO application
- True Omni-directional
- Connector options: N(f) and 4.3-10(f)

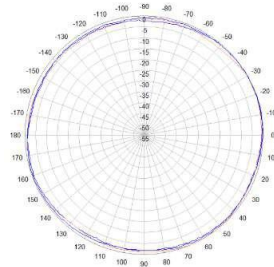


Model Number	MODA1-1759-NF150		
<b>Electrical</b>			
Frequency Band, MHz	1710–2700	3300–3800	4900–5925
Horizontal Beamwidth, degrees	360	360	360
Isolation	23	27	27
Gain, dBi	3	3	5
VSWR	1.8		
3rd Order IMD @2×43dBm	-150		
Impedance	50 ohm		
Polarization	Horizontal & Vertical		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Thru-hole ceiling mount		
Number of Ports, all types	1		
Radome Color	White		
Radome material	ABS		
Dimensions	Diameter 176 * Height 108mm		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

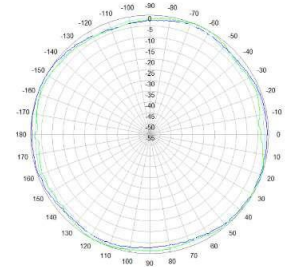
# Patterns



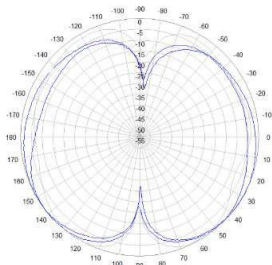
H-POL, 1695-2700MHz



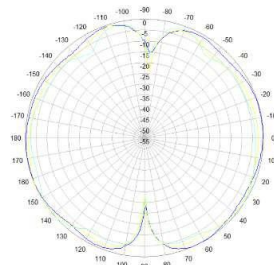
H-POL, 3300-4200MHz  
Horizontal patterns



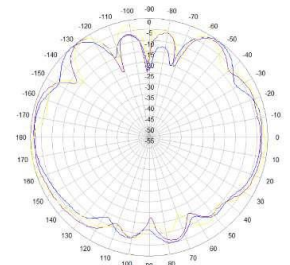
H-POL, 4900-6000MHz



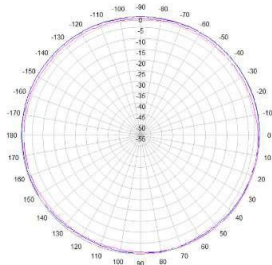
H-POL, 1695-2700MHz



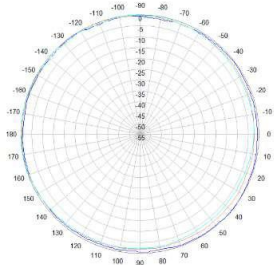
H-POL, 3300-4200MHz  
Vertical patterns



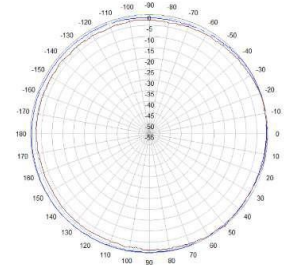
H-POL, 4900-6000MHz



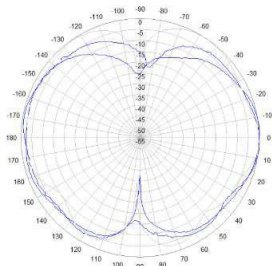
V-POL, 1695-2700MHz



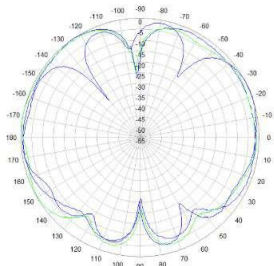
V-POL, 3300-4200MHz  
Horizontal patterns



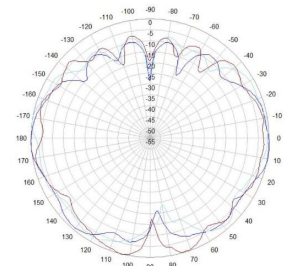
V-POL, 4900-6000MHz



V-POL, 1695-2700MHz



V-POL, 3300-4200MHz  
Vertical patterns



V-POL, 4900-6000MHz

All specifications are subject to change without any notice. Please contact us for the latest information.

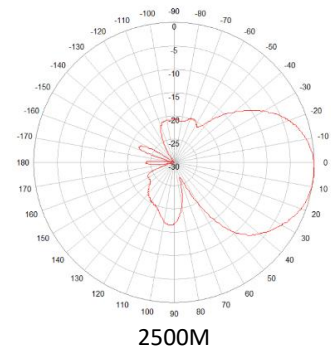
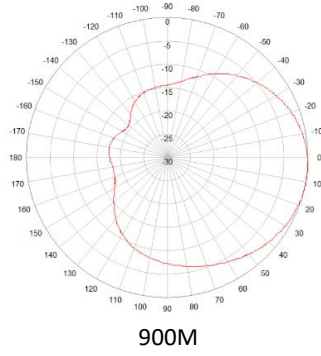
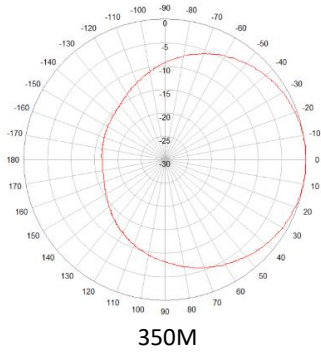
## 350-2700MHz Indoor Directional Panel Antenna

- Wideband frequency range: 350-2700MHz
- Excellent PIM, -153dBc guaranteed
- Connector options: N(f) and 4.3-10(f)

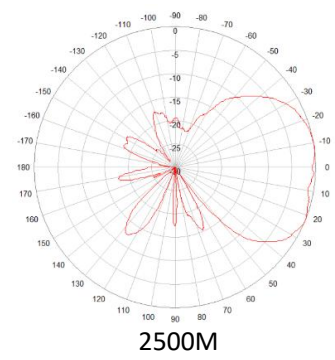
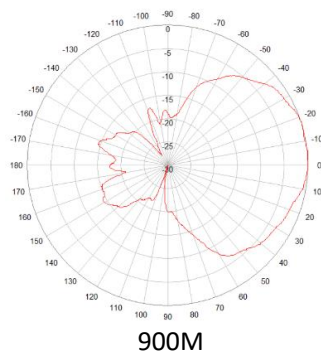
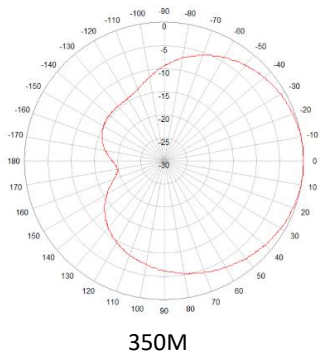


Model Number	DPA-327-43F		
<b>Electrical</b>			
Frequency Band, MHz	350-470	698-960	1710-2700
Horizontal Beamwidth, degrees	95	72	50
Vertical Beamwidth, degrees	60	45	55
Gain, dBi	5.0	7.0	9
VSWR	1.8		
3rd Order IMD @2×43dBm	-153		
Impedance	50 ohm		
Polarization	Vertical		
<b>Mechanical</b>			
Application	Indoor		
Mount Type	Wall mount		
Number of Ports, all types	1		
Radome Color	Grey		
Radome material	Fiberglass		
Dimensions, L x W x D, mm	330*330*90		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

## Patterns



## Azimuth



## Elevation

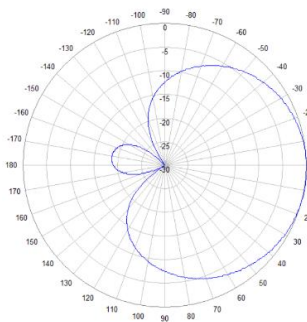
## 698-2700MHz Directional Panel Antenna

- Wideband frequency range: AWS 700, CDMA 800/1900, GSM 900/1800, UMTS, LTE and WiMAX
- Consistent patterns over frequency
- Connector options: N(f) and 4.3-10(f)

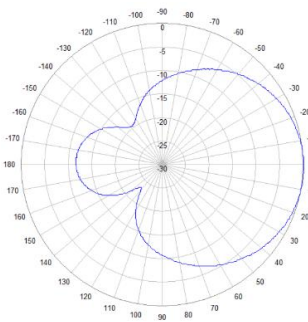


Model Number	DPA-727-43F			
<b>Electrical</b>				
Frequency Band, MHz	698–800	800–960	1710–2200	2200–2700
Horizontal Beamwidth, degrees	90	83	70	88
Vertical Beamwidth, degrees	72	53	50	50
Gain, dBi	6	6	7	7
VSWR	1.5			
3rd Order IMD @2×43dBm	-150			
Impedance	50 ohm			
Polarization	Vertical			
<b>Mechanical</b>				
Application	Indoor			
Mount Type	Wall mount			
Number of Ports, all types	1			
Radome Color	White			
Radome material	ABS			
Dimensions, L x W x D, mm	262*180*66			
Operating Temperature	-40 °C to +60 °C			
Relative Humidity	Up to 100%			
RoHS	Compliant			

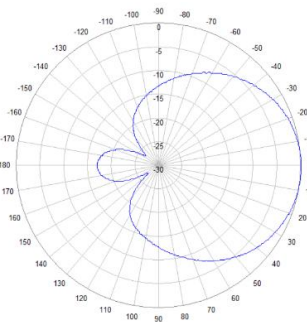
## Patterns



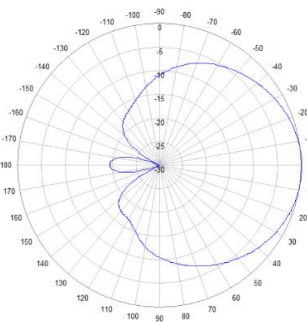
800MHz



960MHz

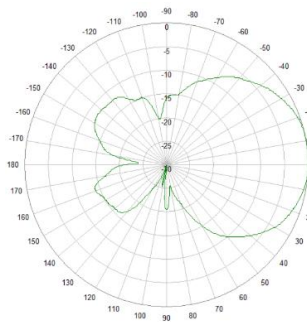


1710MHz

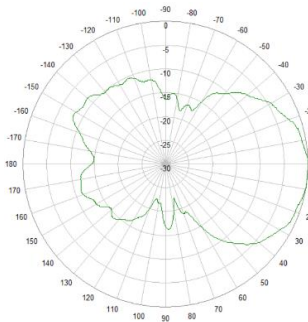


2600MHz

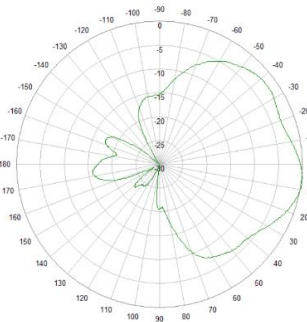
## Azimuth



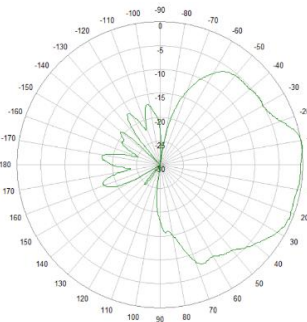
800MHz



960MHz



1710MHz



2600MHz

## Elevation

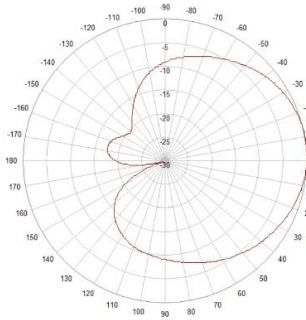
## 617-6000MHz Directional Panel Antenna

- Wideband frequency range:617-6000MHz
- Excellent PIM, -153dBc
- Connector options: N(f) and 4.3-10(f)

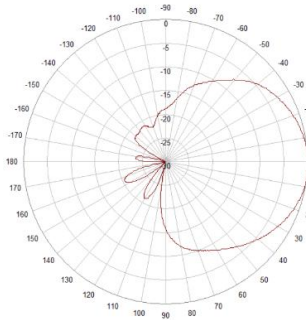


Model Number	DPA-660-43F				
<b>Electrical</b>					
Frequency Band, MHz	617-800	800-960	1710-2700	3300-3800	4800-6000
Horizontal Beamwidth, degrees	89	83	59	59	69
Vertical Beamwidth, degrees	84	70	61	59	51
Gain, dBi	5.4	6.1	7.3	6.5	4.9
VSWR	1.8				
3rd Order IMD @ 2×43dBm	-153			N/A	
Impedance	50 ohm				
Polarization	Vertical				
<b>Mechanical</b>					
Application	Indoor & Outdoor				
Mount Type	Wall mount				
Number of Ports, all types	1				
Radome Color	Grey				
Radome material	PVC				
Dimensions, L x W x D, mm	309 * 295 * 125				
Operating Temperature	-40 °C to +60 °C				
Relative Humidity	Up to 100%				
RoHS	Compliant				

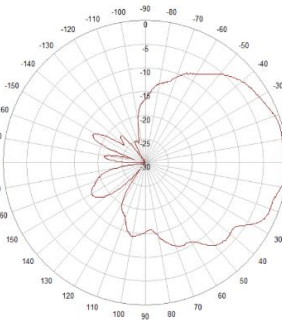
## Patterns



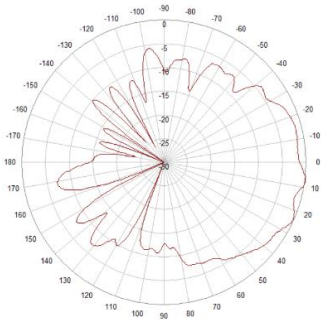
900MHz



2100MHz

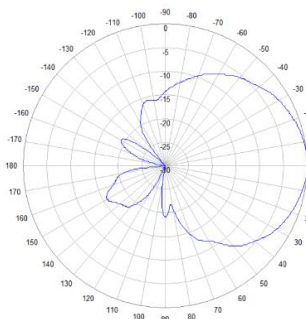


3500MHz

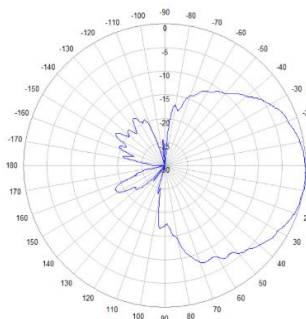


5500MHz

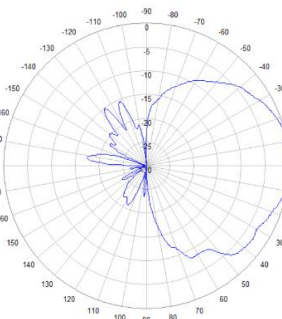
## Azimuth



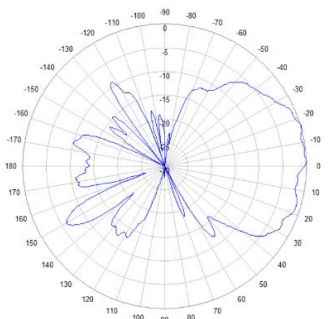
900MHz



2100MHz



3500MHz



5500MHz

## Elevation



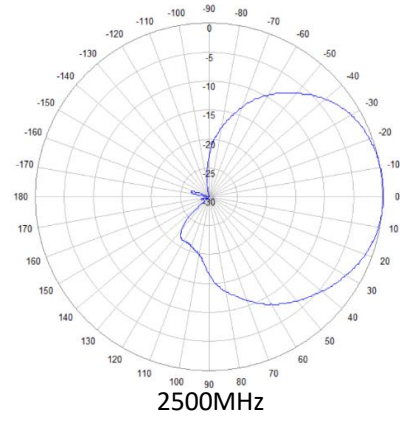
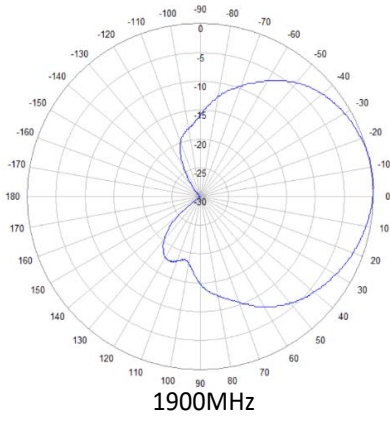
## 1695-2700MHz 4x4 MIMO Directional Panel Antenna

- Frequency range: 1695-2700MHz
- 4x4 MIMO application
- Consistent patterns over frequency
- Connector options: N-type and 4.3-10

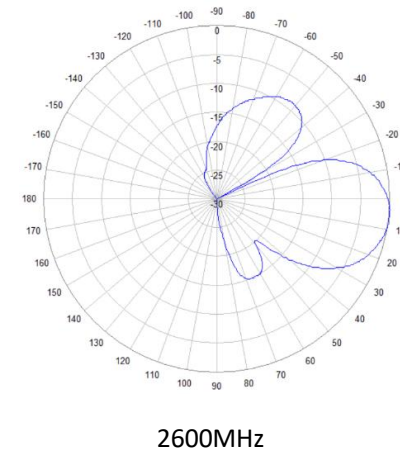
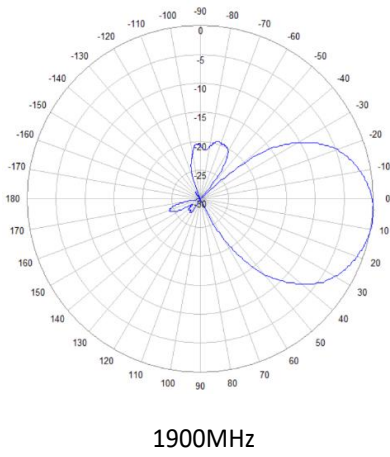


Model Number	OBT1-70X10NF		
<b>Electrical</b>			
Frequency Band, MHz	1695 - 1920	1921-2200	2201 - 2700
Horizontal Beamwidth, degrees	80	70	66
Vertical Beamwidth, degrees	43	38	33
Fixed down-tilt, degrees	6		
Gain, dBi	9.5	10.5	11
F/B ratio, dB	20		
Isolation, dB	21		
VSWR	1.5		
3rd Order IMD @ 2×43dBm	-150		
Impedance	50 ohm		
Polarization	±45°		
<b>Mechanical</b>			
Application	Indoor & Outdoor		
Mount Type	Wall mount / Pole mount		
Number of Ports, all types	4		
Radome Color	Grey		
Radome material	PC		
Dimensions, L x W x D, mm	200 * 200 * 45		
Operating Temperature	-40 °C to +60 °C		
Relative Humidity	Up to 100%		
RoHS	Compliant		

## Patterns



## Azimuth



## Elevation

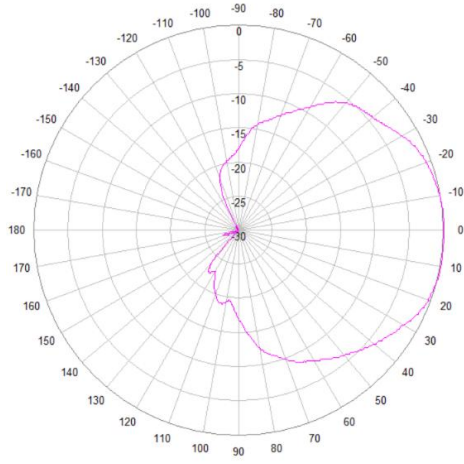
## 3300-3800 / 5150-5925MHz MIMO Panel Antenna

- Frequency range: 3300-3800 / 5150-5925MHz
- Apply to the UNII
- Consistent patterns over frequency
- Connector options: N-type and 4.3-10

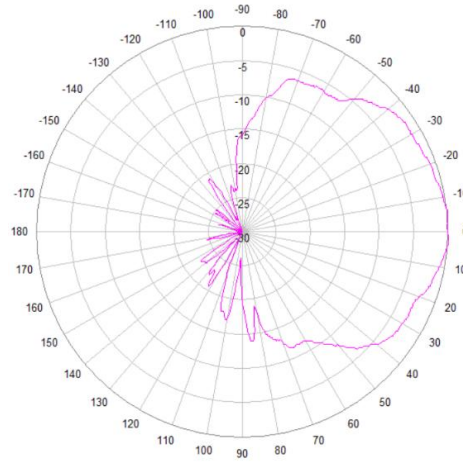


Model Number	OBT1-65X6EI	
<b>Electrical</b>		
Frequency Band, MHz	3300 - 3800	5150 - 5925
Horizontal Beamwidth, degrees	68	65
Vertical Beamwidth, degrees	26	Meets the UNII
Fixed down-tilt, degrees	6	
Gain, dBi	11.5	Meets the UNII
F/B ratio, dB	23	20
Isolation, dB	25	
VSWR	1.5	
3rd Order IMD @2×43dBm	N/A	
Impedance	50 ohm	
Polarization	±45°	
<b>Mechanical</b>		
Application	Indoor & Outdoor	
Mount Type	Wall mount / Pole mount	
Number of Ports, all types	6 ports: 4 for 3300-3800MHz, 2 for 5150-5925MHz	
Radome Color	Grey	
Radome material	PC	
Dimensions, L x W x D, mm	200 * 200 * 45	
Operating Temperature	-40 °C to +60 °C	
Relative Humidity	Up to 100%	
RoHS	Compliant	

## Patterns

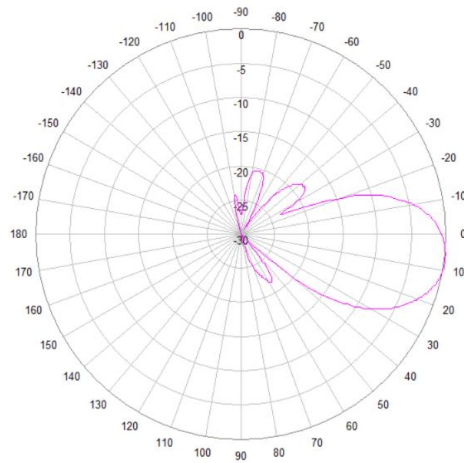


3500MHz

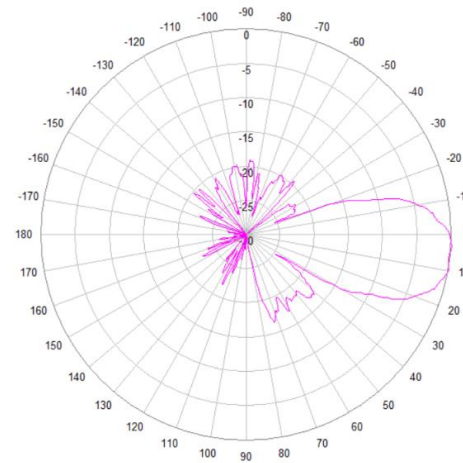


5500MHz

## Azimuth



3500MHz



5500MHz

## Elevation

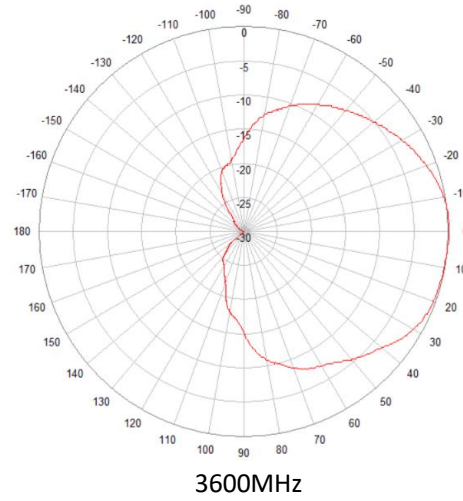
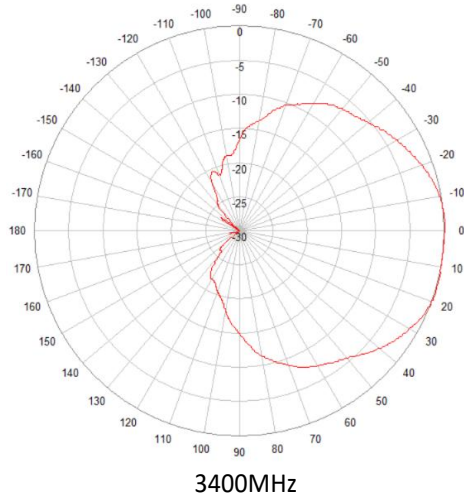
## 3300-4200MHz 4x4 MIMO Panel Antenna

- Frequency range: 3300-4200MHz
- 4x4 MIMO application
- Consistent patterns over frequency
- Connector options: N-type and 4.3-10

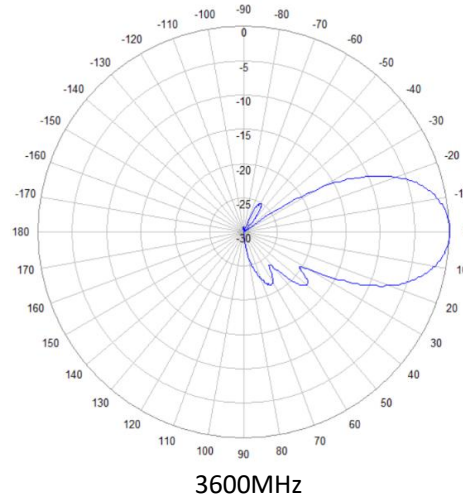
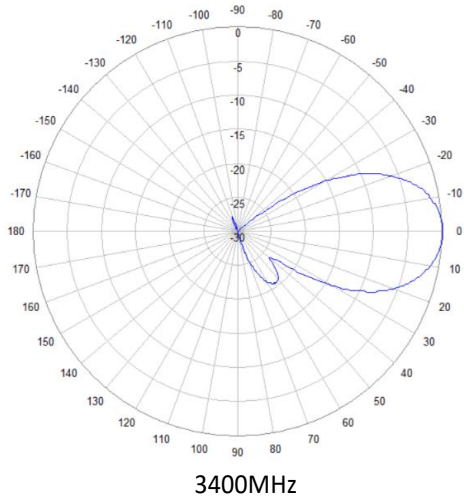


Model Number	H-DDX-00040012065-EF-C4
<b>Electrical</b>	
Frequency Band, MHz	3300 - 4200
Horizontal Beamwidth, degrees	65
Vertical Beamwidth, degrees	30
Fixed down-tilt, degrees	N/A
Gain, dBi	10.5
F/B ratio, dB	25
Isolation, dB	25
VSWR	1.5
3rd Order IMD @ 2×43dBm	N/A
Impedance	50 ohm
Polarization	±45°
<b>Mechanical</b>	
Application	Indoor
Mount Type	Wall mount / Pole mount
Number of Ports, all types	4
Radome Color	White
Radome material	ABS
Dimensions, L x W x D, mm	200 * 200 * 48
Operating Temperature	-40 °C to +60 °C
Relative Humidity	Up to 100%
RoHS	Compliant

## Patterns



## Azimuth



## Elevation

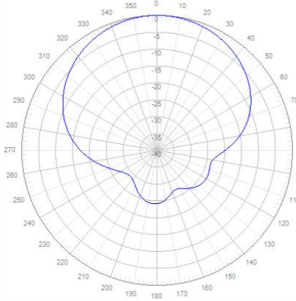
## 698-2700MHz 2x2 MIMO Directional Panel Antenna

- Wideband frequency range: 698-2700MHz
- 2x2 MIMO application
- Consistent patterns over frequency
- Connector options: N(f) and 4.3-10(f)

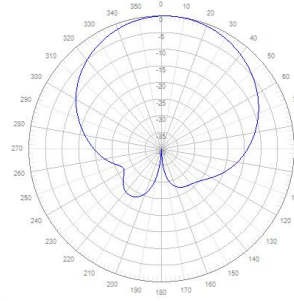


Model Number	MDPA-727-43F			
<b>Electrical</b>				
Frequency Band, MHz	698–800	800–960	1710–2200	2200–2700
Horizontal Beamwidth, degrees	73	73	70	65
Vertical Beamwidth, degrees	70	65	60	70
Gain, dBi	7	7	8	8
Isolation, dB	20	20	22	22
VSWR	1.5			
3rd Order IMD @ 2×43dBm	-150			
Impedance	50 ohm			
Polarization	±45°			
<b>Mechanical</b>				
Application	Indoor			
Mount Type	Wall mount			
Number of Ports, all types	2			
Radome Color	White			
Radome material	ABS			
Dimensions, L x W x D, mm	318*210*73			
Operating Temperature	-40 °C to +60 °C			
Relative Humidity	Up to 100%			
RoHS	Compliant			

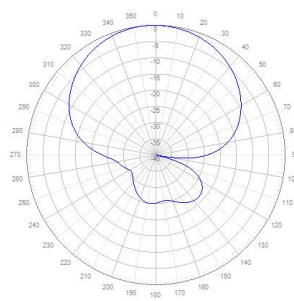
## Patterns



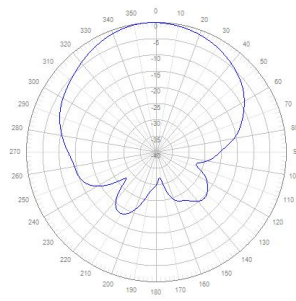
698MHz



960MHz

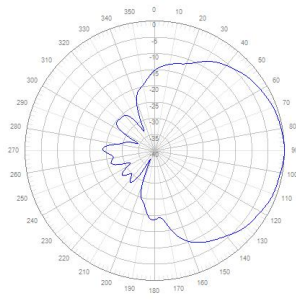


1710MHz

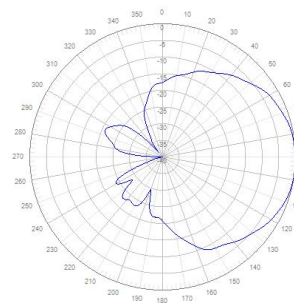


2600MHz

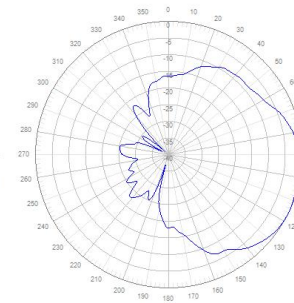
## Azimuth



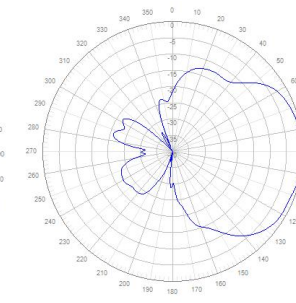
698MHz



960MHz



1710MHz



2600MHz

## Elevation



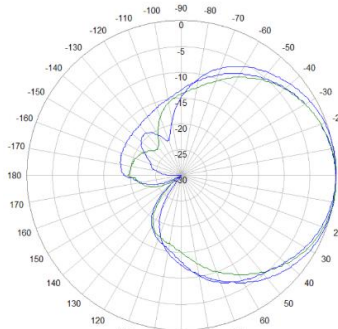
## 698-4000MHz 2x2 MIMO Directional Panel Antenna

- Wideband frequency range: 698-4000MHz
- 2x2 MIMO application
- Consistent patterns over frequency
- Connector options: N(f) and 4.3-10(f)

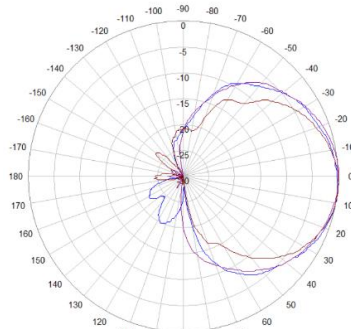


Model Number	MDPA-740-43F				
<b>Electrical</b>					
Frequency Band, MHz	698–800	800–960	1710–2200	2200–2700	3300-4000
Horizontal Beamwidth, degrees	77	73	65	60	60
Vertical Beamwidth, degrees	71	65	60	58	60
Gain, dBi	7	7	8	8	7.5
VSWR	1.8				
Isolation, dB	20	20	22	22	22
3rd Order IMD @ 2×43dBm	-150				N/A
Impedance	50 ohm				
Polarization	±45°				
<b>Mechanical</b>					
Application	Indoor				
Mount Type	Wall mount				
Number of Ports, all types	2				
Radome Color	Off-white				
Radome material	ABS				
Dimensions, L x W x D, mm	305*199*80				
Operating Temperature	-40 °C to +60 °C				
Relative Humidity	Up to 100%				
RoHS	Compliant				

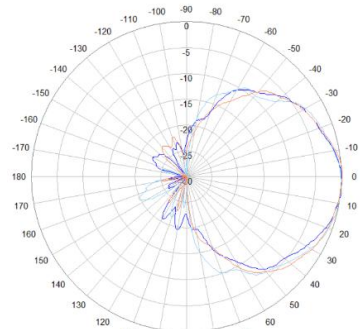
## Patterns



698-960MHz

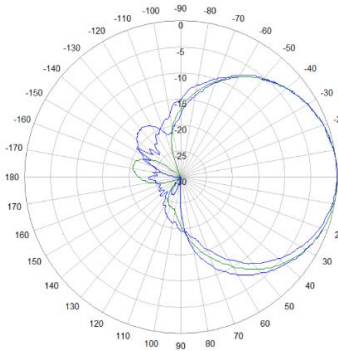


1710-2700MHz

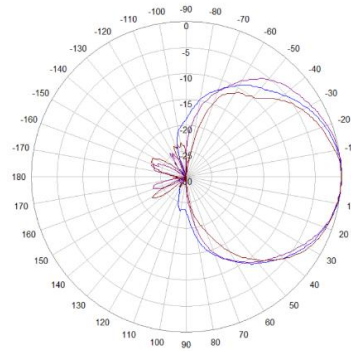


3300-4000MHz

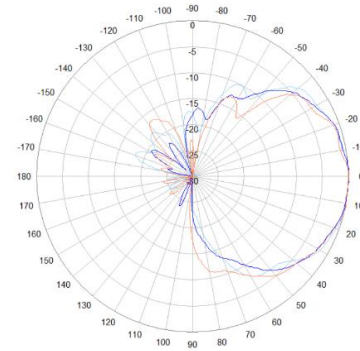
## Azimuth



698-960MHz



1710-2700MHz



3300-4000MHz

## Elevation

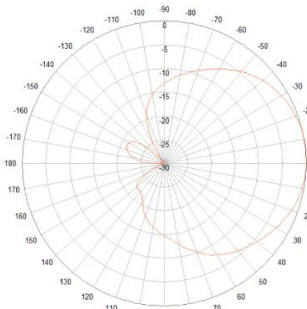
## 617-6000MHz 2x2 MIMO Directional Panel Antenna

- Ultra-wideband: 617-6000MHz
- 2x2 MIMO application
- Consistent patterns over frequency
- Connector options: N(f) and 4.3-10(f)

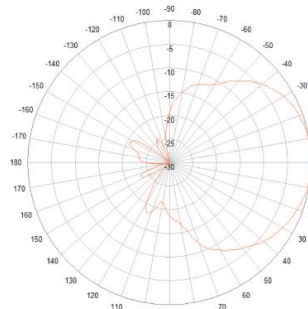


Model Number	MDPA-660-43F					
<b>Electrical</b>						
Frequency Band, MHz	617-800	800-960	1710-2200	2200-2700	3300-4000	4800-6000
Horizontal Beamwidth, degrees	77	71	60.8	63	62	62.3
Vertical Beamwidth, degrees	73	69	56.5	62.6	67.4	58.8
Gain, dBi	7.7	7.8	8.5	8.9	7.9	8.1
VSWR	1.8					
Isolation, dB	20					
3rd Order IMD @2×43dBm	-153				N/A	
Impedance	50 ohm					
Polarization	±45°					
<b>Mechanical</b>						
Application	Indoor					
Mount Type	Wall mount / Pole mount					
Number of Ports, all types	4 ports: 2 for 617-2700MHz, 2 for 3300-6000MHz					
Radome Color	Off-white					
Radome material	ABS					
Dimensions, L x W x D, mm	455 * 315 * 121					
Operating Temperature	-40 °C to +60 °C					
Relative Humidity	Up to 100%					
RoHS	Compliant					

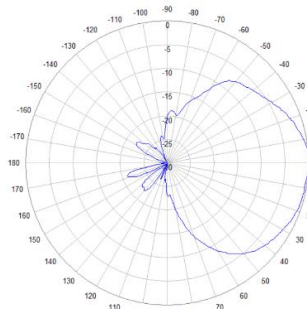
## Patterns



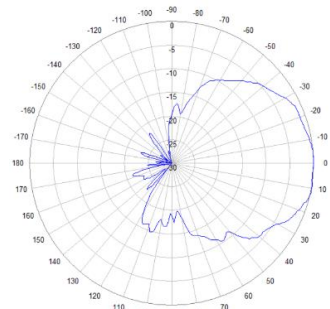
900MHz



2100MHz

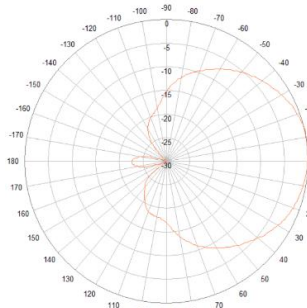


3500MHz

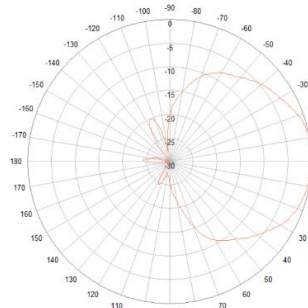


5500MHz

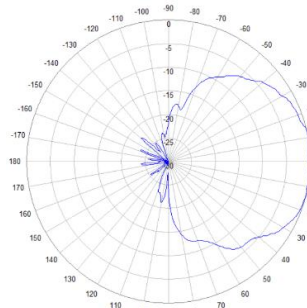
## Azimuth



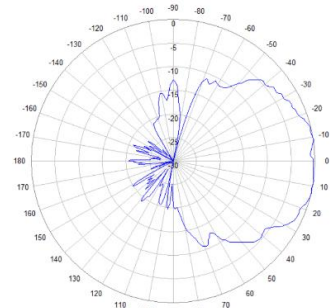
900MHz



2100MHz



3500MHz



5500MHz

## Elevation

## 380-6000MHz SISO Omni Antenna, Ultra-slim

Model No.: HDOV-123450206360-EF-C1

- Wideband frequency range: 380-6000MHz
- Excellent PIM
- Ultra-slim and light weight
- Connector options: N(f) and 4.3-10(f)



### Product Specifications:

Electrical						
Frequency Band, MHz	380-520	617-960	1427-1710	1710-2700	3100-4200	4800-6000
Horizontal Beam-width	360	360	360	360	360	360
Gain, dBi	2.2	3.5	3.5	4.0	5.0	6.5
VSWR	≤2	≤1.8				
3rd Order IMD @2×43dBm	-153					
Impedance	50					
Polarization	Linear, H					

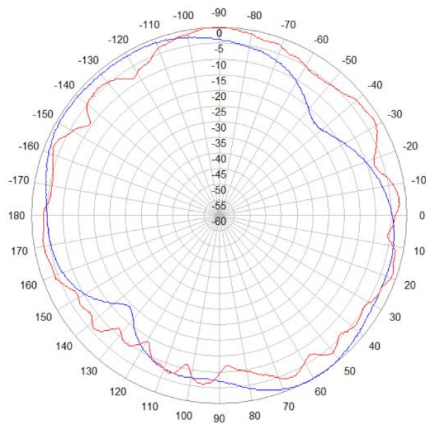
Mechanical	
Application	Indoor
Mount Type	Thru-hole ceiling mount
Number of Ports, all types	1 * 4.3-10 Female with 300mm pigtail
Radome Color	White
Radome material	ABS
Dimensions,mm	259*259*18
Operating Temperature	-40 °C to +60 °C
Relative Humidity	Up to 100%
RoHS	Compliant

\*This antenna is not suitable for installing on metal ceiling.

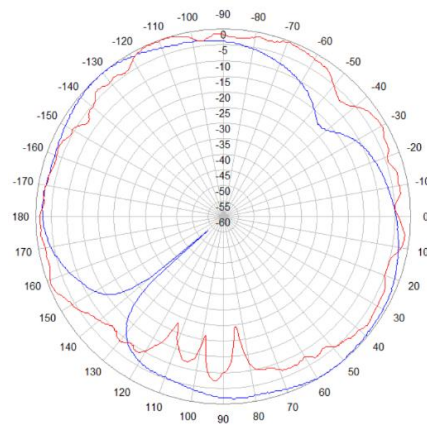
## Patterns

Horizontal Patterns

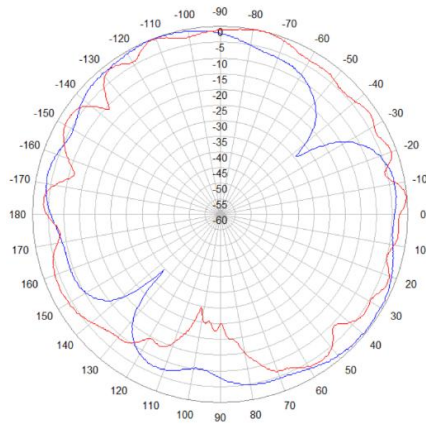
Vertical Patterns



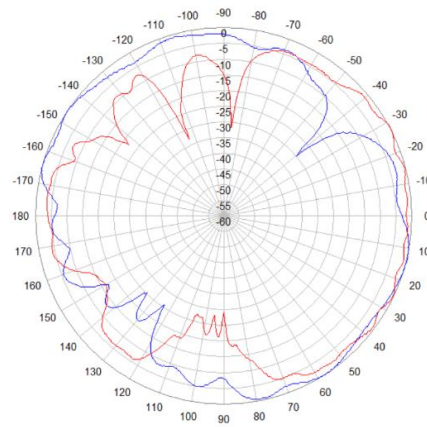
800MHz



2100MHz



3500MHz



5500MHz

## 698-3800MHz 2x2 MIMO Panel Antenna

Model No.: HDDX-02340507EF-C2

- Ultra-wide band: 698-3800MHz
- Excellent PIM
- Very good radiation performance over frequency
- Connector options: N Female or 4.3-10 Female
- 2x2 MIMO



### Product Specifications:

Electrical					
Frequency Band, MHz	698-806	806-960	1427-1710	1710-2700	3400-3800
Horizontal Beamwidth, degrees, typ.	80	80	65	55	40
Vertical Beamwidth, degrees, typ.	70	62	55	55	30
Gain, dBi, typ.	6.5	7.5	7.5	8.5	6.5
VSWR/Return Loss, dB	2/9.5	2/9.5	2/9.5	2/9.5	2/9.5
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153				
Impedance, Ohm	50				
Polarization	±45°				
Maximum input power, watts	50				

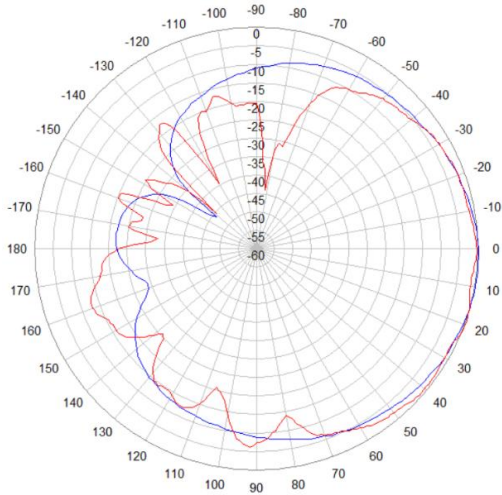
Mechanical	
Mounting Type	Mounting Bracket
Number of Ports, all types	2 * 4.3-10 Female with 300mm pigtails
Radome Color	White
Radome Material	UPVC
Dimensions, mm	399*280*80 mm
Net weight, kg	2.5
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

All specifications are subject to change without any notice. Please contact us for the latest information.

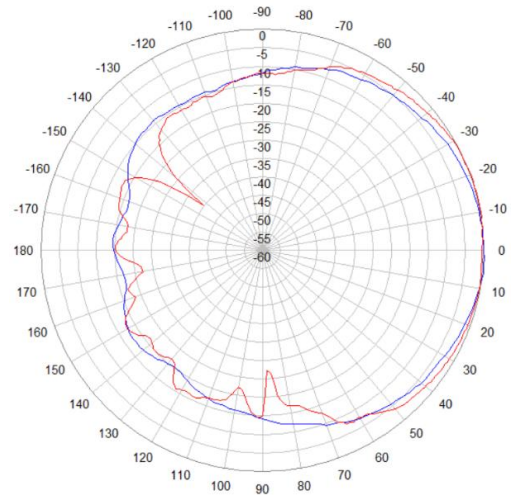
## Patterns

Horizontal

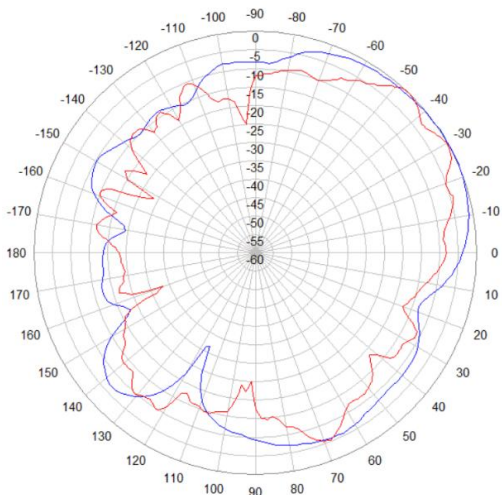
Vertical



800MHz



1800MHz



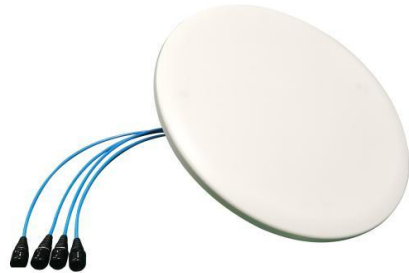
3400MHz



## 698-4000MHz 4x4 MIMO Omni Antenna, Ultra-slim

Model No.: HDOL-02340407360-EF-C4

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Low visual impact
- 4x4 MIMO application
- Connector options: 4.3-10 Female or N(f)



### Product Specifications:

Electrical			
Frequency Band, MHz	698-960	1695-2700	3300-4000
Horizontal Beamwidth, degrees	360		
Gain, Ave., dBi	4.5	4.5	6.0
VSWR	1.8		
Isolation, port to port, dB	16	20	30
PIM 3 <sup>rd</sup> . @ 2*20W. dBc	-153		
Impedance	50 ohm		
Maximum Power, Watts	50		
Polarization	Linear, Horizontal		

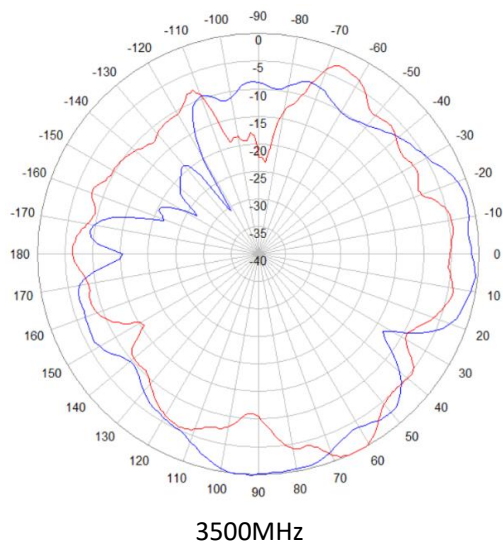
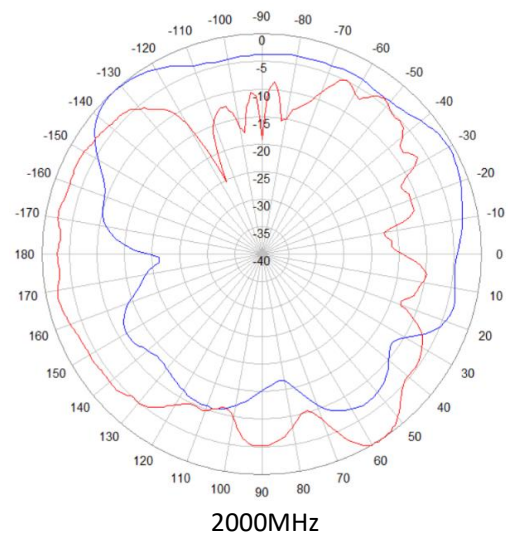
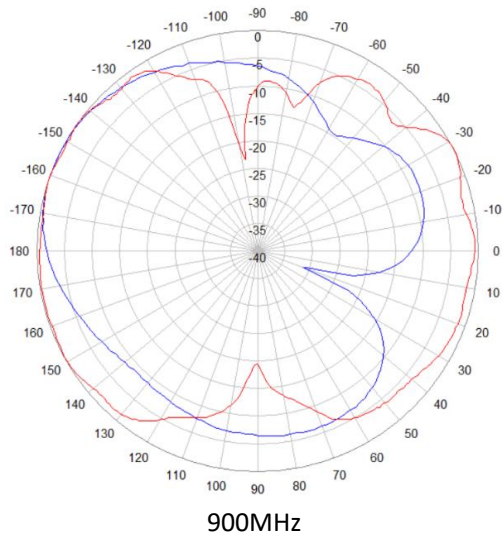
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	4 x 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height	359mm *23mm
Operating Temperature	-40 °C to +60 °C
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling.

## Patterns

Horizontal

Vertical



## 698-4000MHz 2x2 MIMO Omni Antenna, Ultra-slim

Model No.: HDOT-02340206EF-C2

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Low visual impact
- 2x2 MIMO application
- Connector options: N type or 4.3-10 Female



### Product Specifications:

Electrical				
Frequency Band, MHz	698-960	1427-1710	1710-2700	3400-4000
Horizontal Beamwidth, degrees	360	360	360	360
Gain, dBi	4.0	4.0	4.5	5.5
VSWR/Return Loss, dB	1.8/10.9	1.8/10.9	1.8/10.9	1.8/10.9
Isolation, dB	16	18	20	25
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153			
Impedance, Ohm	50			
Polarization	V / H			
Maximum input power, watts	100			

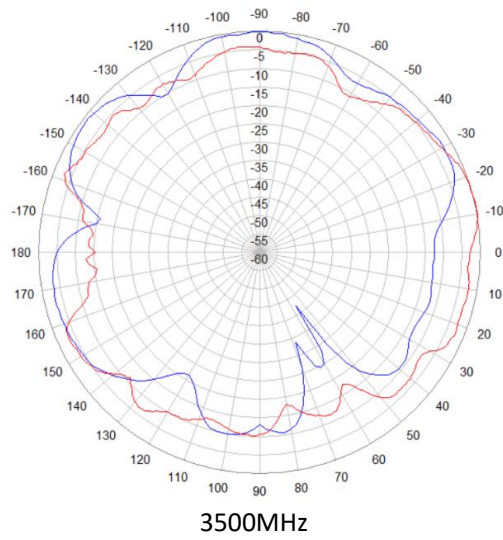
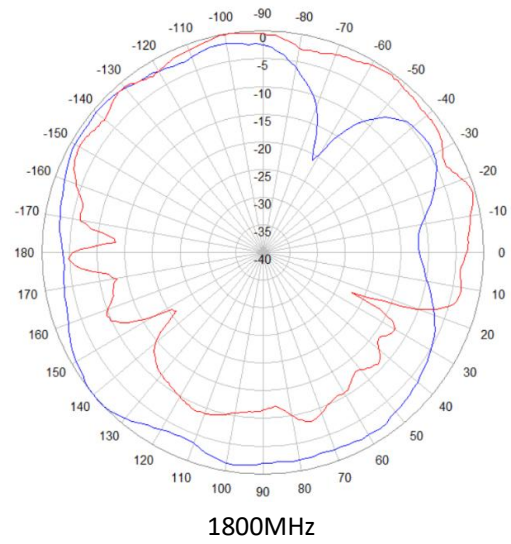
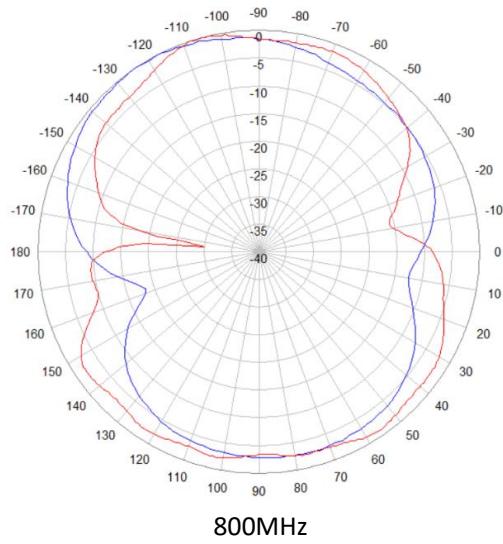
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	2 * 4.3-10 Female with 300mm pigtails
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height	256*18 mm
Net weight, kg	0.52
Operating Temperature	-40 °C to +60 °C
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling

## Patterns

Horizontal

Vertical



## 698-4000MHz 2x2 MIMO Omni Antenna, Ultra-slim

Model No.: HDOT-02340206EF-C2-1

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Ultrathin, low visual impact
- 2x2 MIMO application
- Connector options: 4.3-10 Female or N(f)



### Product Specifications:

Electrical				
Frequency Band, MHz	698-960	1427-1710	1710-2700	3400-4000
Horizontal Beamwidth, degrees	360	360	360	360
Gain, Ave., dBi	4.0	4.1	4.8	5.8
VSWR/Return Loss, dB	1.8/10.9	1.8/10.9	1.8/10.9	1.8/10.9
Isolation, dB	16	18	20	30
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153			
Impedance, Ohm	50			
Polarization	V / H			
Maximum input power, watts	100			

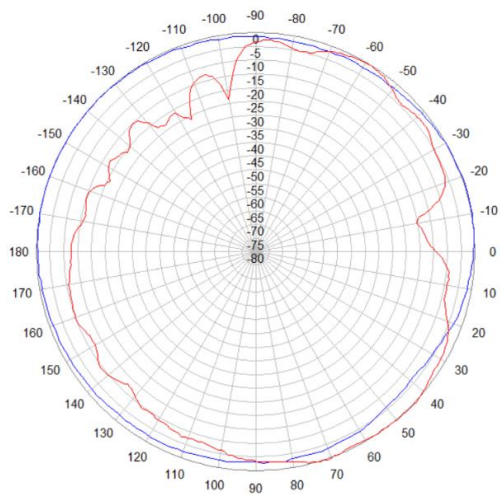
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	2 * 4.3-10 Female with 300mm pigtails
Radome Color	White
Radome Material	ABS
Net size, Length*Width*Height	252*189*15 mm
Net weight, kg	0.43
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling

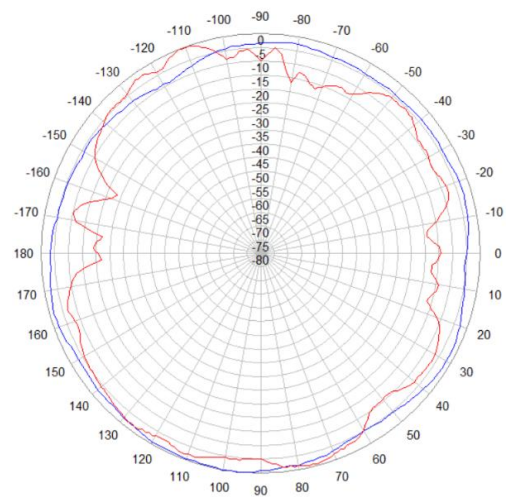
## Patterns

Horizontal

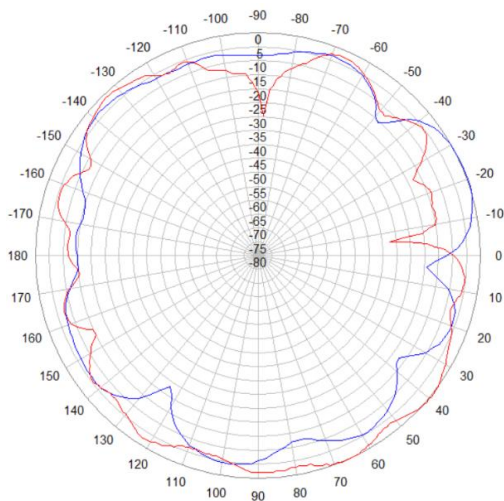
Vertical



900MHz



2000MHz



3500MHz

## 698-4000MHz SISO Omni Antenna, Ultra-slim

Model No.: HDOH-02340206EF-C1-1

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Ultrathin, low visual impact
- Connector options: 4.3-10 Female or N Female



### Product Specifications:

Electrical					
Frequency Band, MHz	698-806	806-960	1350-1710	1710-2700	3400-4000
Horizontal Beamwidth, degrees	360	360	360	360	360
Gain, Ave., dBi	4.3	4.7	6.5	5.2	4.7
VSWR/Return Loss, dB	1.5/14	1.5/14	1.6/12.7	1.5/14	1.5/14
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153				
Impedance, Ohm	50				
Polarization	V				
Maximum input power, watts	50				

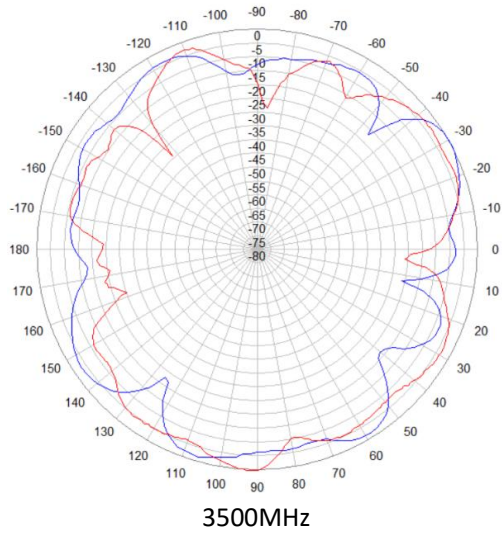
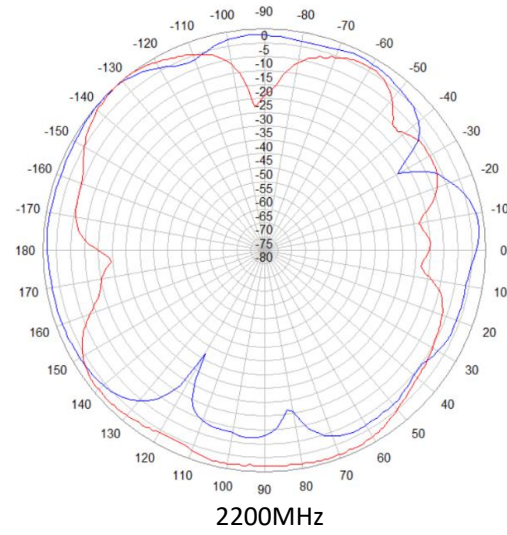
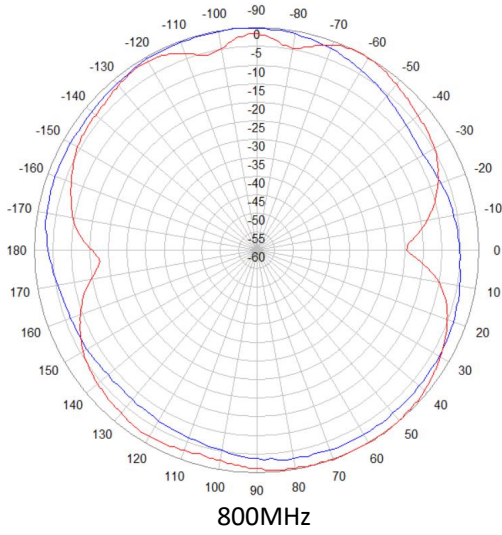
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 * 4.3-10 Female with 300mm pigtail
Radome Color	White
Radome Material	ABS
Net size, Length*Width*Height	175*150*15 mm
Net weight, kg	0.2
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling

## Patterns

Horizontal

Vertical





## 698-4000MHz SISO Omni Antenna, Ultra-slim

Model No.: HDOH-02340206EF-C1

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Low visual impact
- Connector options: 4.3-10 Female



### Product Specifications:

Electrical					
Frequency Band, MHz	698-806	806-960	1427-1710	1710-2700	3400-4000
Horizontal Beamwidth, degrees	360	360	360	360	360
Gain, dBi	4.0	3.5	4.5	5.0	4.5
VSWR/Return Loss, dB	1.8/10.9	1.5/14	1.8/10.9	1.5/14	1.5/14
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153				
Impedance, Ohm	50				
Polarization	V				
Maximum input power, watts	50				

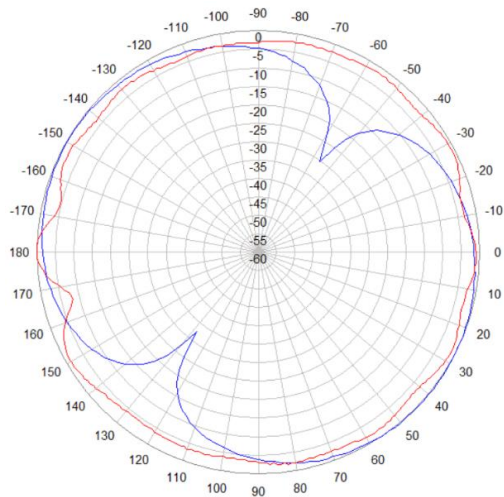
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 * 4.3-10 Female with 300mm pigtail
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height	195*18 mm
Net weight, kg	0.3
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling

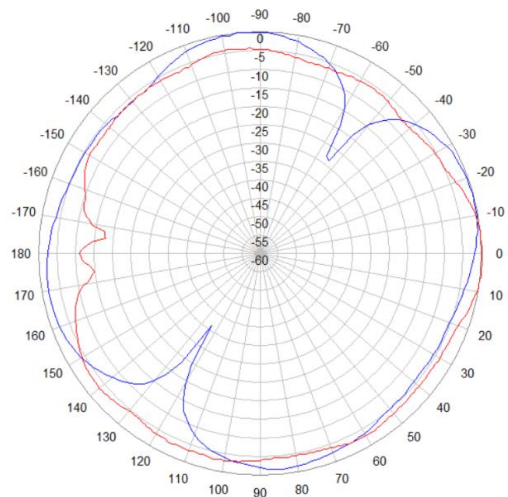
## Patterns

Horizontal

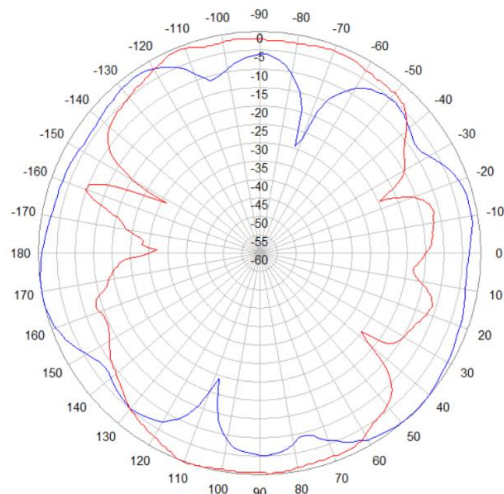
Vertical



800MHz



1800MHz



3500MHz

## 698-4000MHz SISO Omni-directional Antenna

Model No.: HDOV-02340204EF-C1

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Very good un-roundness over frequency
- Connector options: N type and 4.3-10 Female



### Product Specifications:

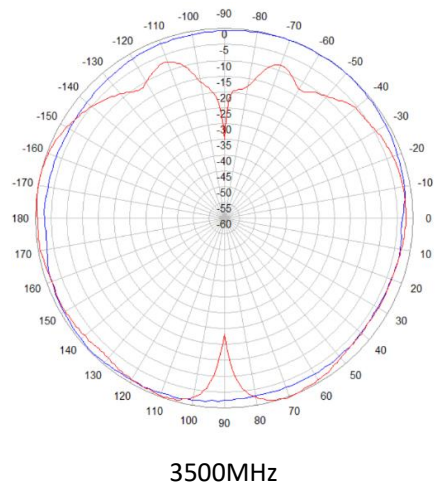
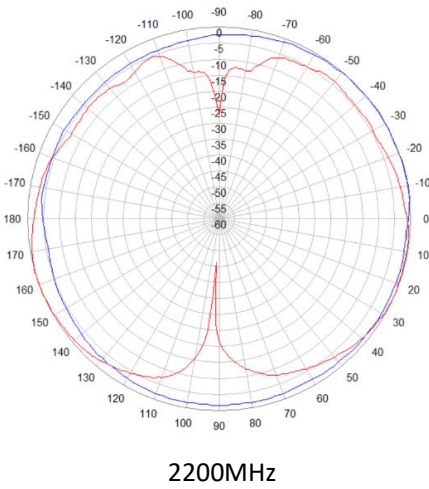
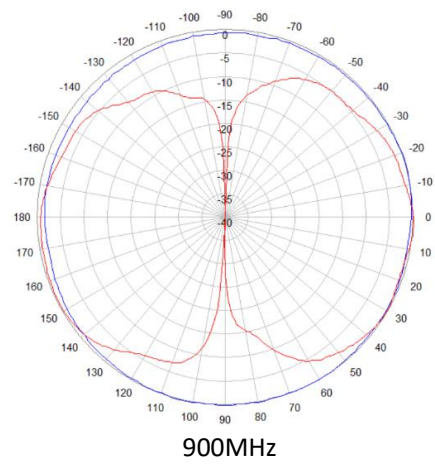
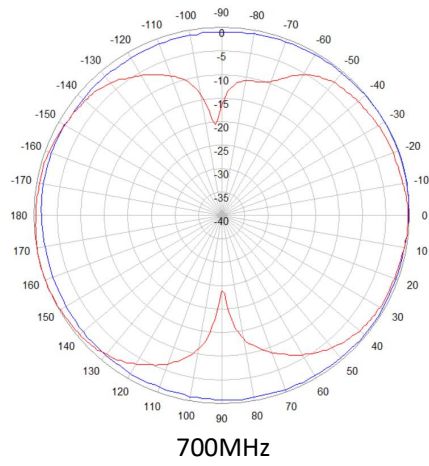
Electrical					
Frequency Band, MHz	698-806	806-960	1427-1710	1710-2700	3400-4000
Horizontal Beamwidth, degrees	360	360	360	360	360
Gain, Ave., dBi	3.0	2.6	3.5	4.8	3.7
VSWR/Return Loss, dB	1.8/10.9	1.5/14	1.8/10.9	1.5/14	1.5/14
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153				
Impedance, Ohm	50				
Polarization	Vertical				
Maximum input power, watts	50				

Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 * 4.3-10 Female with 300mm pigtail
Radome Color	White
Radome Material	ABS
Net size, Diameter * Height	203mm * 118mm
Net weight, kg	0.35
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

## Patterns

Horizontal

Vertical



## 698-4000MHz Indoor SISO Panel Antenna

Model No.: HDDV-02340508EF-C1

- Ultra-wide band: 698-4000MHz
- Excellent PIM
- Very good radiation performance over frequency
- Connector options: N Female or 4.3-10 Female



### Product Specifications:

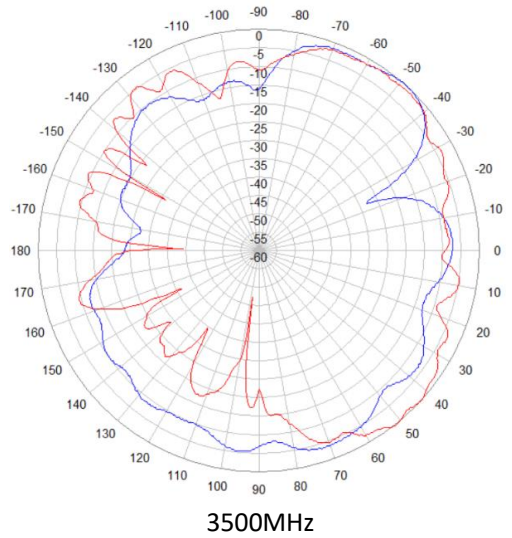
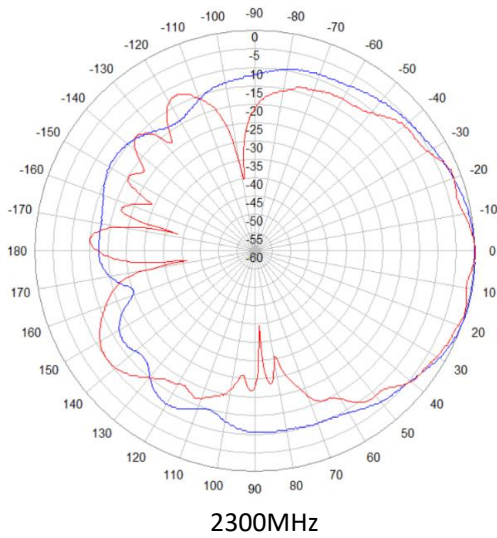
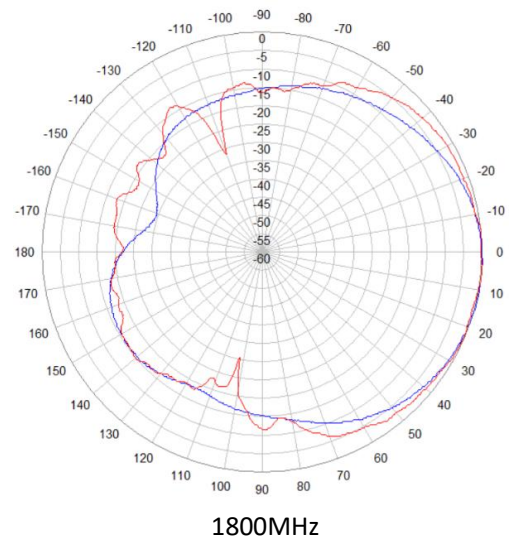
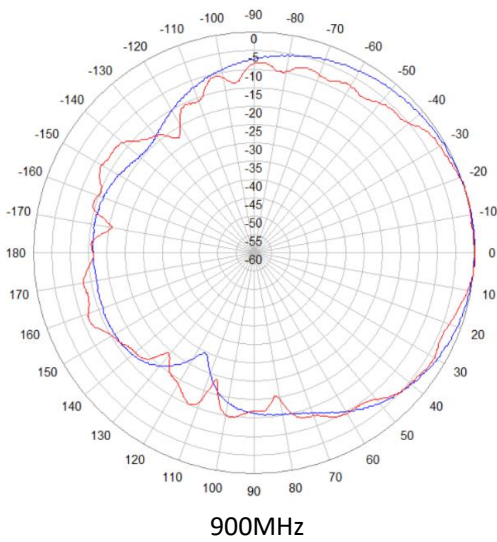
Electrical					
Frequency Band, MHz	698-806	806-960	1427-1710	1710-2700	3400-4000
HBW, Ave., degrees	97	95	71	68	51
VBW, Ave., degrees	79	75	65	53	16
Gain, Ave., dBi	6.5	6.5	6.0	7.1	7.0
VSWR/Return Loss, dB	1.8/10.9	1.8/10.9	1.8/10.9	1.6/12.7	1.8/10.9
Front to Back Ratio, dB	10	15	10	12	8
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153				
Impedance, Ohm	50				
Polarization	V				
Maximum input power, watts	50				

Mechanical	
Mounting Type	Mounting Bracket
Number of Ports, all types	1 * 4.3-10 Female with 300mm pigtail
Radome Color	White
Radome Material	ABS
Net size, Length*Width*Height	175*175*60 mm
Net weight, kg	0.3
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

## Patterns

Horizontal

Vertical



## 698-4200MHz Indoor SISO Omni Antenna

Model No.: ICM0-360V02EA

- Wideband frequency range: 698-4200MHz
- Low VSWR
- Low PIM, -140dBc guaranteed
- Very good un-roundness over frequency



### Product Specifications:

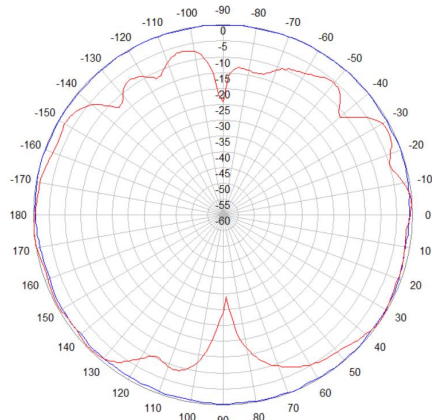
Electrical			
Frequency Band, MHz	698–960	1695–2700	3100–4200
Horizontal Beamwidth, degrees	360	360	360
Gain, dBi	2.5	5.5	6
VSWR	1.7	1.5	
PIM 3 <sup>rd</sup> , @ 2*20W, dBc	-140		
Maximum Input Power, W	50		
Impedance	50 ohm		
Polarization	Vertical		

Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 x 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height	186mm * 85mm
Operating Temperature	-40 °C to +60 °C
Relative Humidity	0 to 100%

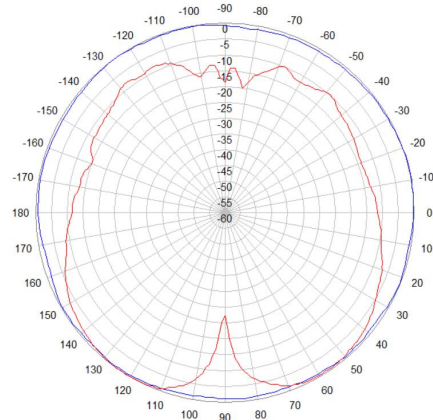
# Patterns

Horizontal

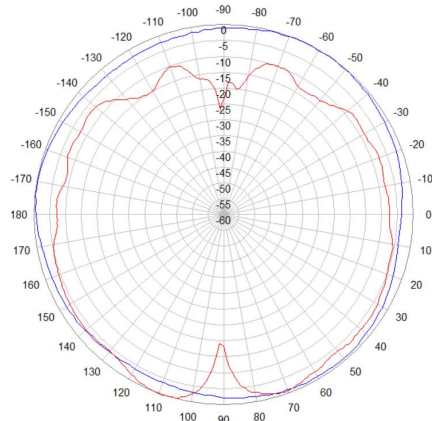
Vertical



900MHz



2100MHz





## 617-6000MHz SISO Omni Antenna, Ultra-slim

Model No.: HDOL-23450405360-EF-C1-2

- Ultra-wide band: 617-6000MHz
- Excellent PIM
- Low visual impact
- Connector options: 4.3-10 Female



### Product Specifications:

Electrical						
Frequency Band, MHz	617-698	698-960	1400-1600	1695-2700	3100-4200	4900-6000
Horizontal Beamwidth, degrees	360	360	360	360	360	360
Gain, dBi	4.0	4.5	4.5	4.5	5.0	5.5
VSWR	1.7					
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153, tested @ 900MHz/ 1800MHz/ 3500MHz					
Impedance, Ohm	50					
Polarization	Linear, H					
Maximum input power, Watts	50					

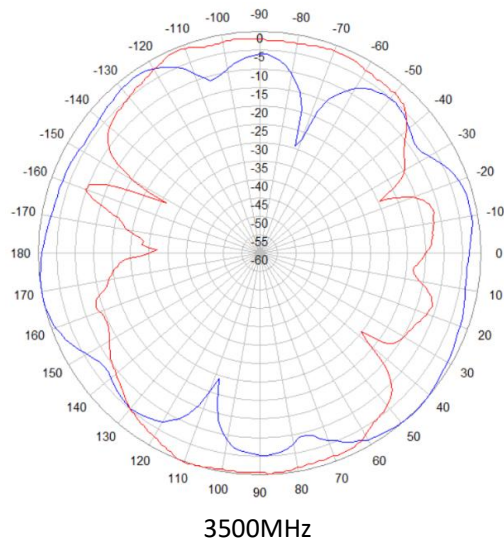
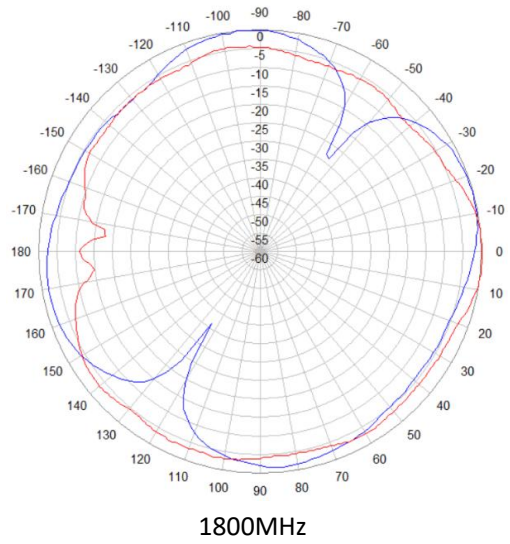
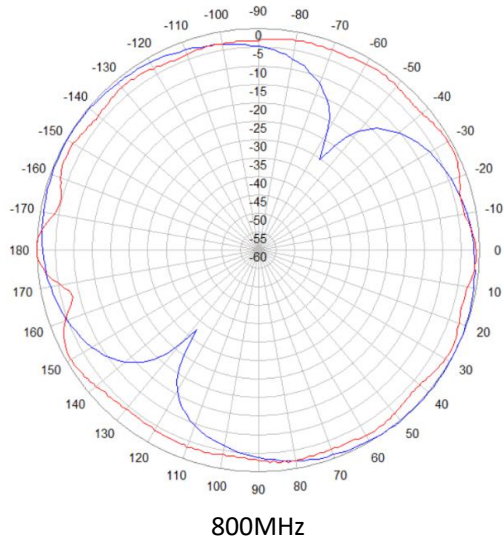
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 x 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height, mm	175*150*15
Net weight, kg	0.26
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling.

## Patterns

Horizontal

Vertical



## 617-6000MHz SISO Omni Antenna, Ultra-slim

Model No.: HDOL-23450405360-EF-C1-1

- Ultra-wide band: 617-6000MHz
- Excellent PIM
- Low visual impact
- Connector options: 4.3-10 Female



### Product Specifications:

Electrical						
Frequency Band, MHz	617-698	698-960	1400-1600	1695-2700	3100-4200	4900-6000
Horizontal Beamwidth, degrees	360	360	360	360	360	360
Gain, dBi	4.0	4.5	4.5	4.5	5.0	6.5
VSWR	1.7					
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153, tested @ 900MHz / 1800MHz and 3500MHz					
Impedance, Ohm	50					
Polarization	Linear, H					
Maximum input power, watts	50					

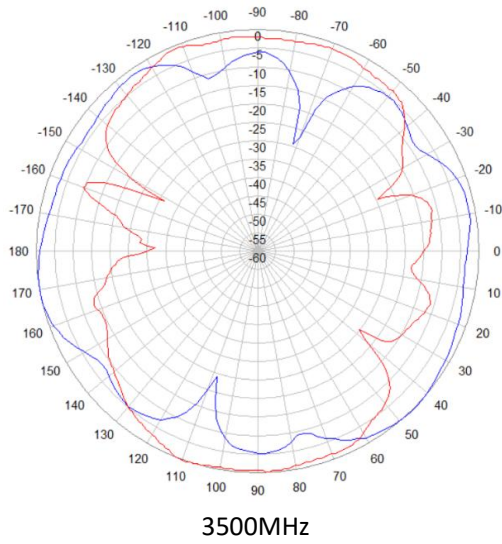
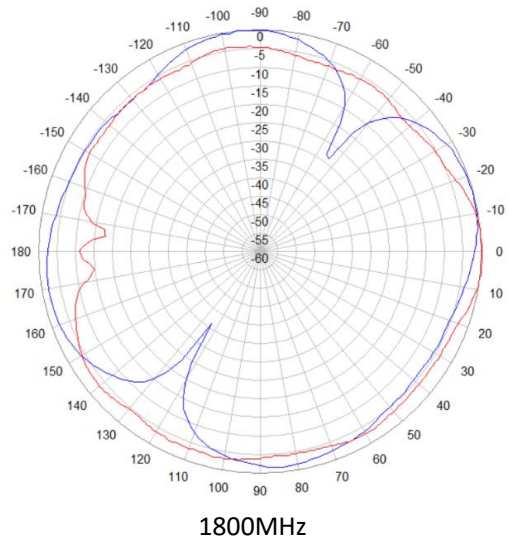
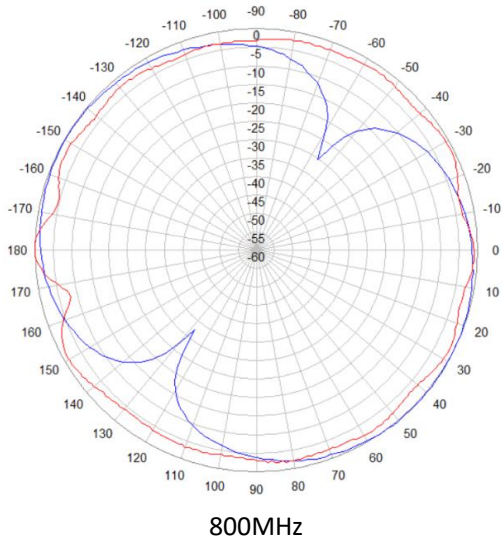
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	1 x 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height	195*18 mm
Net weight, kg	0.3
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling.

## Patterns

Horizontal

Vertical



## 617-6000MHz 2x2 MIMO Omni Antenna, Ultra-slim

Model No.: HDOL-23450405360-EF-C2-1

- Ultra-wide band: 617-6000MHz
- Excellent PIM
- Low visual impact
- 2x2 MIMO application
- Connector options: N type or 4.3-10 Female



### Product Specifications:

Electrical						
Frequency Band, MHz	617-698	698-960	1427-1710	1710-2700	3100-4200	4900-6000
Horizontal Beamwidth, degrees	360	360	360	360	360	360
Gain, dBi	3.5	4.0	4.0	4.5	6.5	5.5
VSWR/Return Loss, dB	1.8/10.9					
Isolation, dB	16	16	18	20	30	30
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153, tested @ 900MHz / 1800MHz/ 3500MHz					
Impedance, Ohm	50					
Polarization	Linear, H					
Maximum input power, Watts	50					

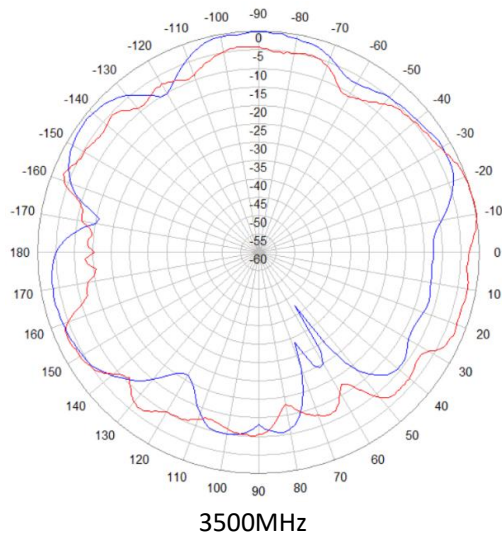
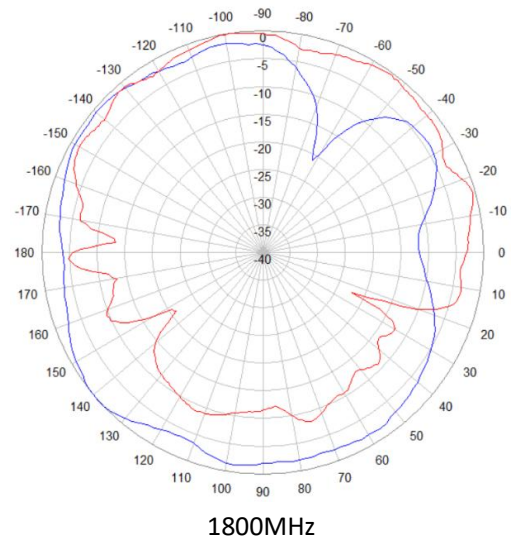
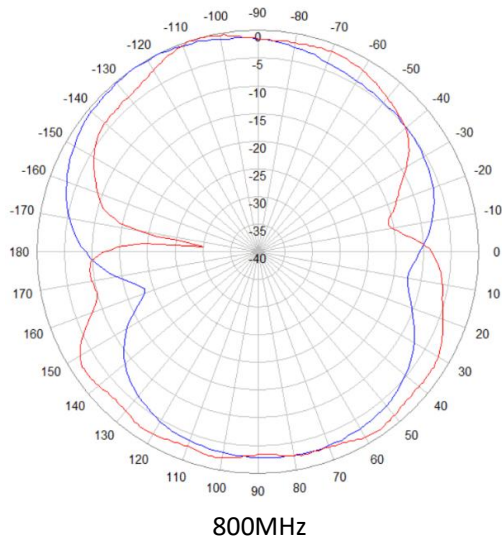
Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	2 * 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height, mm	256*18
Net weight, kg	0.52
Operating Temperature	-40 °C to +60 °C
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling.

## Patterns

Horizontal

Vertical



## 617-6000MHz 2x2 MIMO Omni Antenna, Ultra-slim

Model No.: HDOL-23450405360-EF-C2-2

- Ultra-wide band: 617-6000MHz
- Excellent PIM
- Low visual impact
- 2x2 MIMO application
- Connector options: N type or 4.3-10 Female



### Product Specifications:

Electrical						
Frequency Band, MHz	617-698	698-960	1427-1710	1710-2700	3100-4200	4900-6000
Horizontal Beamwidth, degrees	360	360	360	360	360	360
Gain, dBi	3.0	4.0	4.0	4.5	6.5	5.5
VSWR/Return Loss, dB	1.8/10.9					
Isolation, dB	16	16	18	20	30	30
PIM 3 <sup>rd</sup> @ 2×43dBm, dBc	-153, tested @ 900MHz/ 1800MHz/ 3500MHz					
Impedance, Ohm	50					
Polarization	Linear, H					
Maximum input power, Watts	50					

Mechanical	
Mounting Type	Thru-hole ceiling mount
Number of Ports, all types	2 * 4.3-10 Female
Radome Color	White
Radome Material	ABS
Net size, Diameter*Height, mm	252*189*15
Net weight, kg	0.48
Operating Temperature	-40 °C to +60 °C
Relative Humidity	0 to 100%

\*This antenna is not suitable for installing on metal ceiling.

## Patterns

Horizontal

Vertical

