



# Decibel<sup>®</sup>



Andrew's Next Generation of  
Dual Band Antennas are Now  
Designed with Teletilt<sup>®</sup> Compatibility

# Next generation dual band antennas to give you maximum flexibility

## Decibel® dual band antennas

Over 15 years ago Andrew Corporation introduced the concept of multibeam arrays. First created for paging and trunking applications, the multibeam array has evolved into multibeam antennas. Decibel dual band antennas combine two distinct antennas at different bands sharing the same aesthetically, environmentally pleasing radome to allow for ease of zoning considerations and tower loading.

Andrew is committed to our customers to design the best arrays that will solve application challenges faced in today's environment. Some of the key variables that affect system performance are:

- Horizontal beamwidth
- Vertical beamwidth
- Gain
- Elevation pointing angle or downtilt angle
- Front-to-back ratio
- Pattern shaping

Andrew considers every variable when designing and engineering each dual band antenna. The principle features offered in each of our dual band antennas consist of:

- Higher gain and adjustable electrical downtilt on at least one of the bands offers the lowest risk in network duplication while achieving the desired overlay.
- Single element dual band performance for microcell antennas having similar horizontal and vertical beamwidths.
- Side-by-side or interleaved (high band radiating elements within low band radiating elements) element designs for higher gain applications to allow flexibility for tilting independently.

Andrew now offers the next generation of dual band antennas in both 65° and 90° bands, all designed with field adjustable electrical downtilt and Teletilt® compatibility. In addition, these antennas are wide band 1710-2180 MHz, allowing maximum flexibility for future frequency planning.



DBXLH-6565A-VTM



DBXLH-6565A-VTM



DBXLH-6565A-R2M

# – designed with Teletilt® compatibility for future frequency planning

The following model numbers represent the next generation of dual band antennas:

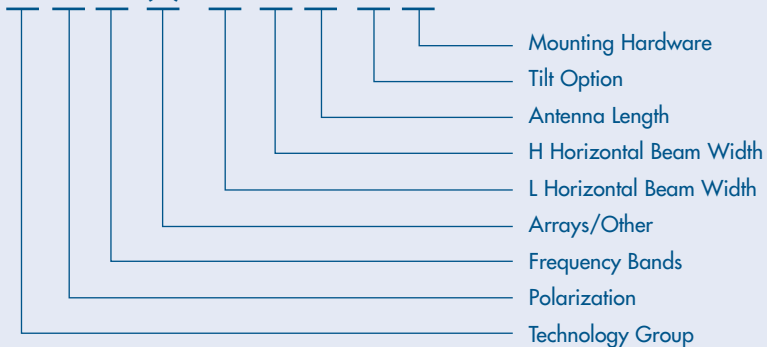
* Dual Band Antenna Model Number	Dual Band Antenna with Factory Installed ATM200 Actuator
DBXLH-6565A-VTM	DBXLH-6565A-R2M
DBXLH-6565B-VTM	DBXLH-6565B-R2M
DBXLH-6565C-VTM	DBXLH-6565C-R2M
DBXLH-9090A-VTM	DBXLH-9090A-R2M
DBXLH-9090B-VTM	DBXLH-9090B-R2M
DBXLH-9090C-VTM	DBXLH-9090C-R2M

\*See model specifications on the following pages.

Andrew's Decibel® dual band model numbers are designed to tell a very specific story, revealing specific attributes of the antenna contained within the model number. The dual band model number guide will allow for easy interpretation of the model number schematic.

## New Model Number Guide – Dual Band

**DB X LH (A) - 90 90 A - VT M**



### TECHNOLOGY GROUP

DB = Dual band  
TB = Tri band

### POLARIZATION

X = Xpol (±45°)  
V = Vpol (vertical)

### FREQUENCY BANDS

L = 824–960 (824–896, 870–960)  
H = 1710–2180 (1710–1880, 1850–990, 1920–2180)

### ARRAYS/OTHER

A = Stacked  
B = Side-By-Side  
C = With built-in diplexer

### ANTENNA LENGTH

A = 1.3 m (51.2 in)  
B = 2.0 m (78.7 in)  
C = 2.6 m (102.4 in)

### TILT

T# = Degree of fixed tilt  
VT = Variable electrical tilt  
R1 = ATC100 Teletilt® remote control system  
R2 = ATC200 Teletilt® remote control system

### MOUNTING HARDWARE

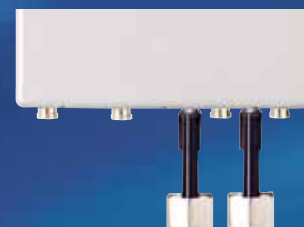
M = Standard downtilt mount



DBXLH-9090A-VTM



DBXLH-9090A-VTM



DBXLH-9090A-R2M

# Andrew's next generation are fully Teletilt®



ATM200-001 Actuator



ATCB-BO1 Cable



ATJB200-AO1-004



ATLP200-001

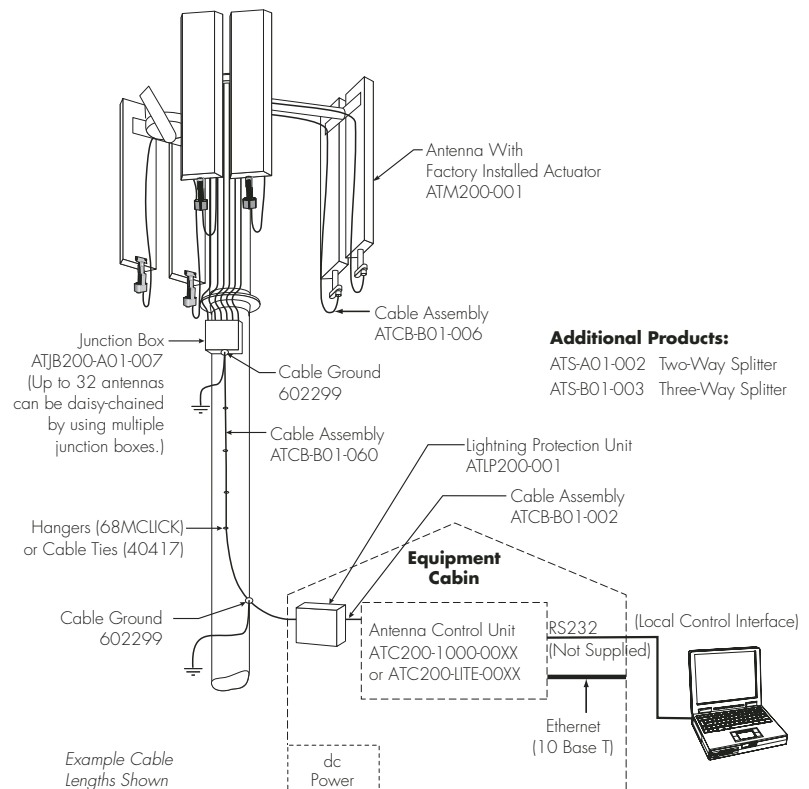
## Andrew Teletilt® remote control variable electrical downtilt antenna system

The Andrew Teletilt Remote Control System allows network optimization that improves coverage, lowers costs, increases revenue, and increases customer satisfaction with better call quality. Service providers can make antenna adjustments remotely in just minutes—without site downtime or costly tower crews.

Andrew now introduces the ATC200 Teletilt Remote Control Variable Electrical Downtilt Antenna System. The ATC200 system includes:

- Actuators (field retrofitable or factory installed to the antenna)
- Local control unit
- Portable control unit
- Control cables
- Jumpers
- Junction boxes
- Lightning protection unit
- Splitters
- Additional products

## ATC200 Teletilt® Antenna System



### Additional Products:

- ATS-A01-002 Two-Way Splitter
- ATS-B01-003 Three-Way Splitter

# of dual band antennas compatible

While network planning is becoming more costly and challenging, the ATC200 Teletilt® System offers a low cost solution. The ATC200 system:

- Handles up to 32 actuators
- Has only one cable running up the tower or Smart Bias-T
- Uses junction boxes to break out the control cable to individual actuators or daisy chain

### ATC200-1000 Local Controller

- Uses internal web server
- Network configurable through IP addressing and Ethernet interface
- Can be used with an Ethernet wire-line or wireless connection
- Works with ANMS™ (Antenna Network Management System)

### ATC200-Lite

- Portable
- Local control only
- Plugs directly into laptop

In addition, the ATC200 Teletilt Antenna System controls the ATM200 actuators from either a 19-inch 1U ATC200-1000 Local Control Unit or a handheld portable ATC200-Lite Control Unit.

### ATC200 Teletilt® System Controllers



#### ATC200 - Lite

CONNECTORS/INTERFACE	RET Interface	6-pin circular DIN female IP67 data and power
	Power Supply Interface	dc jack, 2.5 A maximum
	Computer Interface	1/8" Stereo jack, RS232
ELECTRICAL	Power Supply	110-240 VAC input, 2.5 A@24 VDC output, 60 watts max
MECHANICAL	Adapter Dimensions, mm (in)	102 (4) x 70 (2.75) x 34 (1.33)
	Power Converter Units	total cable length serial cable connects 9-pin
ENVIRONMENTAL PERFORMANCE	Temperature	0° C to 70° C, indoor use
	Serial RS232	9600 bps
APPROVALS	Power Converter	UL, CE, FCC



#### ATC200-1000 Local Controller

CONNECTORS/INTERFACE	Antenna Interface	8-pin circular DIN connector male IP67 data and power, RS485
	Power Supply Interface	IEC 42R0531102-20
	Remote Interface	Ethernet, RJ45
ELECTRICAL	Power Supply	110-240 VAC input, 2.5 A @ 24 VDC output 60 watts maximum and +48 VDC
MECHANICAL	Dimensions, mm (in)	483 (19.0) x 185 (7.3) x 46 (1.8)
	Weight, kg (lb)	1.6 (3.5)
ENVIRONMENTAL PERFORMANCE	Temperature	0° C to 70° C, IP66, indoor use, IP20
	Serial	RS485
	Power	24 VDC, 0-3.5 A
APPROVALS	Power Converter	UL, CE, FCC

To receive a complete guide to our ATC200 Teletilt Antenna System and for all software downloads please visit the Decibel® Base Station Antenna section of our website at [www.andrew.com](http://www.andrew.com).



ATS-A01-002



ATS-B01-003



602299  
(Grounding Kit)

# DBXLH-6565A-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>65°</b>				
<b>FREQUENCY RANGE</b>	<b>824–960 MHz/1710–2180 MHz</b>				
	<b>14 &amp; 16.8 dBi/0–15° &amp; 0–8° Tilt</b>				
<b>MODEL<sup>1</sup></b>	<b>DBXLH-6565A-VTM</b>				
<b>TYPE</b>	<b>±45° Dual Band Panel</b>				
<b>RET ORDERING INFORMATION</b>					
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-6565A-R2M</b>				
<b>ELECTRICAL SPECIFICATIONS</b>					
<b>Frequency Range (MHz)</b>	824–896	870–960	1710–1880	1850–1990	1920–2180
<b>Gain (dBi/dBd)<sup>2</sup></b>	14/11.9	14/11.9	16.5/14.4	16.8/14.7	17/14.9
<b>Horizontal Beamwidth (Deg)</b>	68	65	65	64	63
<b>Elevation Beamwidth (Deg)</b>	16	15	7	6.5	6
<b>USLS (dB)<sup>3</sup></b>	>15	>15	>15	>15	>15
<b>Beam Tilt (Deg)</b>	0–15	0–15	0–8	0–8	0–8
<b>VSWR</b>	<1.5:1	<1.5:1	<1.5:1	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	-150	-150	-150	-150	-150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	25	25	25	25	25
<b>Isolation (dB)</b>	>30	>30	>30	>30	>30
<b>Max. Input Power (watts)</b>	250	250	200	200	200
<b>Polarization</b>	±45°	±45°	±45°	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/Qty</b>	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50	50	50	50
<b>MECHANICAL SPECIFICATIONS</b>					
<b>Length (mm/in)</b>	1,295/51	1,295/51	1,295/51	1,295/51	1,295/51
<b>Width (mm/in)</b>	266/10.5	266/10.5	266/10.5	266/10.5	266/10.5
<b>Depth (mm/in)</b>	132/5.2	132/5.2	132/5.2	132/5.2	132/5.2
<b>Net Weight (kg/lbs)</b>	12.7/28	12.7/28	12.7/28	12.7/28	12.7/28
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.16/1.7	0.16/1.7	0.16/1.7	0.16/1.7	0.16/1.7
<b>Max. Wind Load at 100 mph (N/lbf)</b>	425.2/95.6	425.2/95.6	425.2/95.6	425.2/95.6	425.2/95.6
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125	201/125	201/125	201/125
<b>Color</b>	Off White	Off White	Off White	Off White	Off White
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2

<sup>1</sup> Same as ADFD0920-6565A-XDM

<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBXLH-6565 series models

<sup>3</sup> Typical values

**DBXLH-6565A-VTM**  
824–896 MHz

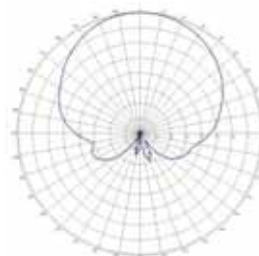
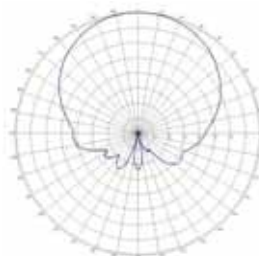
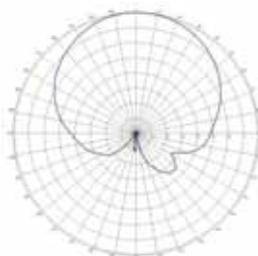
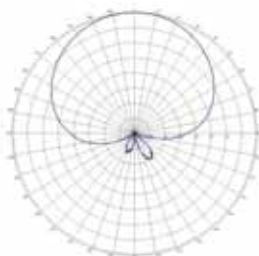
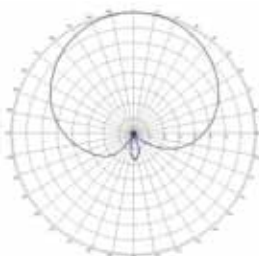
**DBXLH-6565A-VTM**  
870–960 MHz

**DBXLH-6565A-VTM**  
1710–1880 MHz

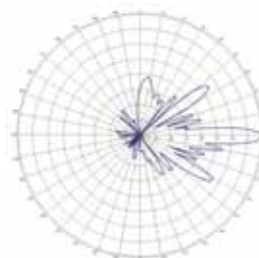
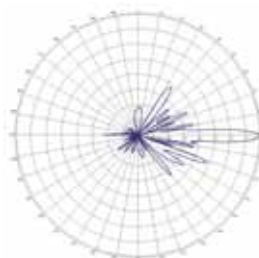
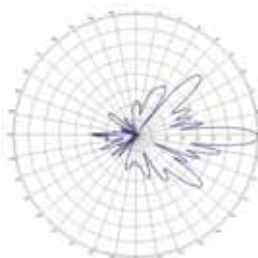
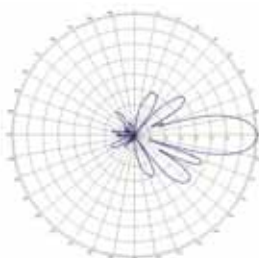
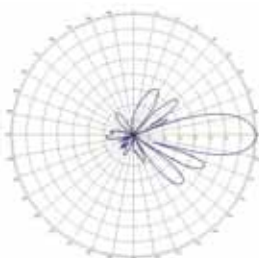
**DBXLH-6565A-VTM**  
1850–1990 MHz

**DBXLH-6565A-VTM**  
1920–2180 MHz

Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division

# DBXLH-6565B-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>65°</b>				
<b>FREQUENCY RANGE</b>	<b>824–960 MHz/1710–2180 MHz</b>				
	<b>15.5 &amp; 18.2 dBi/0–10° &amp; 0–6° Tilt</b>				
<b>MODEL<sup>1</sup></b>	<b>DBXLH-6565B-VTM</b>				
<b>TYPE</b>	<b>±45° Dual Band Panel</b>				
<b>RET ORDERING INFORMATION</b>					
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-6565B-R2M</b>				
<b>ELECTRICAL SPECIFICATIONS</b>					
<b>Frequency Range (MHz)</b>	824–896	870–960	1710–1880	1850–1990	1920–2180
<b>Gain (dBi/dBd)<sup>2</sup></b>	15.5/13.4	16/13.9	17.8/15.7	18.2/16.1	18.3/16.2
<b>Horizontal Beamwidth (Deg)</b>	68	65	65	64	63
<b>Elevation Beamwidth (Deg)</b>	10.5	10	5	4.8	4.6
<b>USLS (dB)<sup>3</sup></b>	>15	>15	>15	>15	>15
<b>Beam Tilt (Deg)</b>	0–10	0–10	0–6	0–6	0–6
<b>VSWR</b>	<1.5:1	<1.5:1	<1.5:1	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	-150	-150	-150	-150	-150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	25	25	25	25	25
<b>Isolation (dB)</b>	>30	>30	>30	>30	>30
<b>Max. Input Power (watts)</b>	250	250	200	200	200
<b>Polarization</b>	±45°	±45°	±45°	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/qty</b>	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50	50	50	50
<b>MECHANICAL SPECIFICATIONS</b>					
<b>Length (mm/in)</b>	1,935/76.2	1,935/76.2	1,935/76.2	1,935/76.2	1,935/76.2
<b>Width (mm/in)</b>	266/10.5	266/10.5	266/10.5	266/10.5	266/10.5
<b>Depth (mm/in)</b>	132/5.2	132/5.2	132/5.2	132/5.2	132/5.2
<b>Net Weight (kg/lbs)</b>	19/42	19/42	19/42	19/42	19/42
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.33/3.6	0.33/3.6	0.33/3.6	0.33/3.6	0.33/3.6
<b>Max. Wind Load at 100 mph (N/lbf)</b>	782.8/176	782.8/176	782.8/176	782.8/176	782.8/176
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125	201/125	201/125	201/125
<b>Color</b>	Off White	Off White	Off White	Off White	Off White
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2

<sup>1</sup> Same as ADFD0920-6565B-XDM

<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBXLH series models

<sup>3</sup> Typical values

**DBXLH-6565B-VTM**  
824–896 MHz

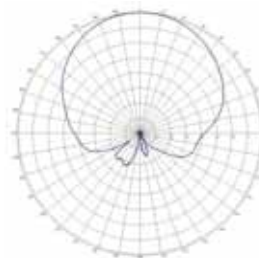
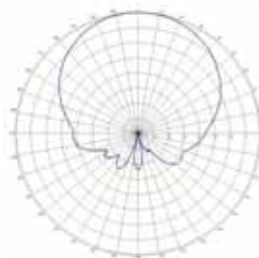
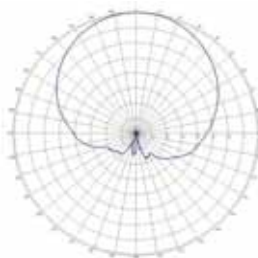
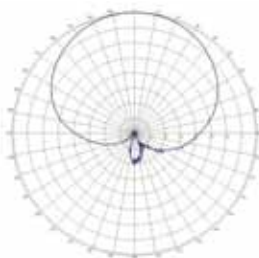
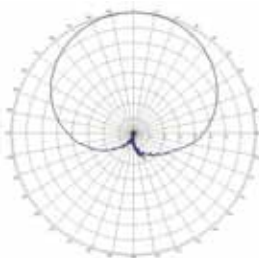
**DBXLH-6565B-VTM**  
870–960 MHz

**DBXLH-6565B-VTM**  
1710–1880 MHz

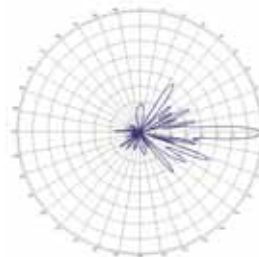
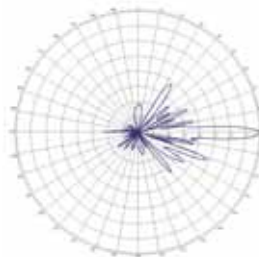
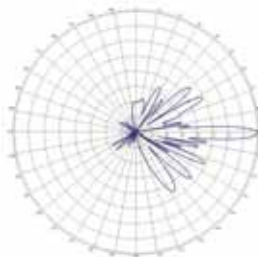
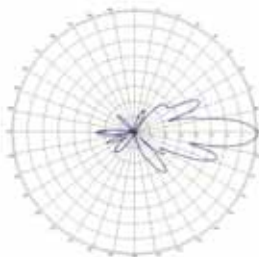
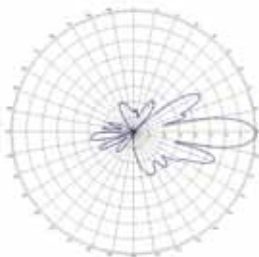
**DBXLH-6565B-VTM**  
1850–1990 MHz

**DBXLH-6565B-VTM**  
1920–2180 MHz

Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division

# DBXLH-6565C-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>65°</b>				
<b>FREQUENCY RANGE</b>	<b>824–960 MHz/1710–2180 MHz</b>				
	<b>16.7 &amp; 18.2 dBi/0–8° &amp; 0–6° Tilt</b>				
<b>MODEL<sup>1</sup></b>	<b>DBXLH-6565C-VTM</b>				
<b>TYPE</b>	<b>±45° Dual Band Panel</b>				
<b>RET ORDERING INFORMATION</b>					
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-6565C-R2M</b>				
<b>ELECTRICAL SPECIFICATIONS</b>					
<b>Frequency Range (MHz)</b>	824–896	870–960	1710–1880	1850–1990	1920–2180
<b>Gain (dBi/dBd)<sup>2</sup></b>	16.7/14.6	17/14.9	17.8/15.7	18.2/16.1	18.3/16.2
<b>Horizontal Beamwidth (Deg)</b>	68	65	65	64	63
<b>Elevation Beamwidth (Deg)</b>	8	7.5	5	4.8	4.6
<b>USLS (dB)<sup>3</sup></b>	>15	>15	>15	>15	>15
<b>Beam Tilt (Deg)</b>	0–8	0–8	0–6	0–6	0–6
<b>VSWR</b>	<1.5:1	<1.5:1	<1.5:1	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	-150	-150	-150	-150	-150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	25	25	25	25	25
<b>Isolation (dB)</b>	>30	>30	>30	>30	>30
<b>Max. Input Power (watts)</b>	250	250	200	200	200
<b>Polarization</b>	±45°	±45°	±45°	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/Qty</b>	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50	50	50	50
<b>MECHANICAL SPECIFICATIONS</b>					
<b>Length (mm/in)</b>	2,575/101.4	2,575/101.4	2,575/101.4	2,575/101.4	2,575/101.4
<b>Width (mm/in)</b>	266/10.5	266/10.5	266/10.5	266/10.5	266/10.5
<b>Depth (mm/in)</b>	132/5.2	132/5.2	132/5.2	132/5.2	132/5.2
<b>Net Weight (kg/lbs)</b>	21.7/48	21.7/48	21.7/48	21.7/48	21.7/48
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.37/4	0.37/4	0.37/4	0.37/4	0.37/4
<b>Max. Wind Load at 100 mph (N/lbf)</b>	974.1/219	974.1/219	974.1/219	974.1/219	974.1/219
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125	201/125	201/125	201/125
<b>Color</b>	Off White	Off White	Off White	Off White	Off White
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2

<sup>1</sup> Same as ADFD0920-6565C-XDM

<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBXLH series models

<sup>3</sup> Typical values

**DBXLH - 6565C-VTM**  
824–896 MHz

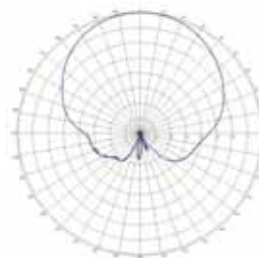
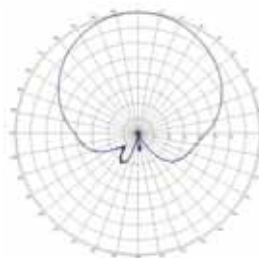
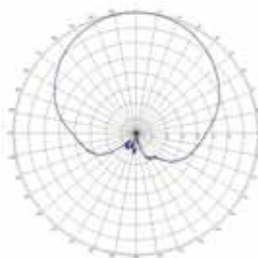
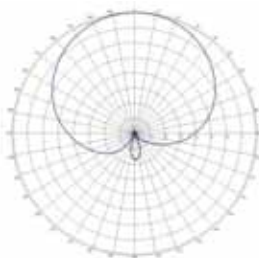
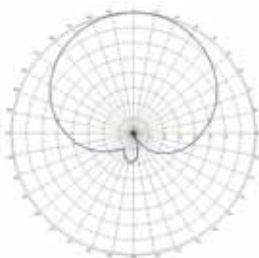
**DBXLH - 6565C-VTM**  
870–960 MHz

**DBXLH - 6565C-VTM**  
1710–1880 MHz

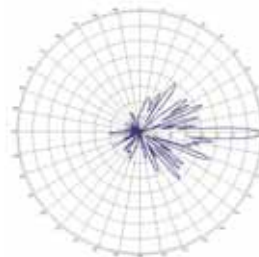
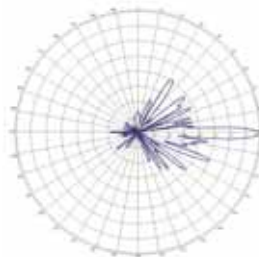
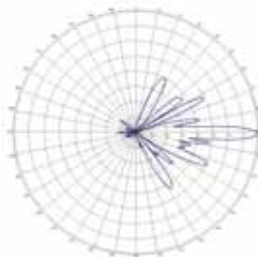
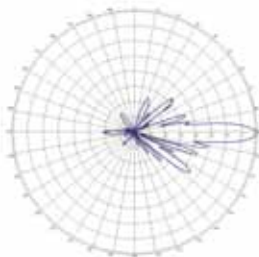
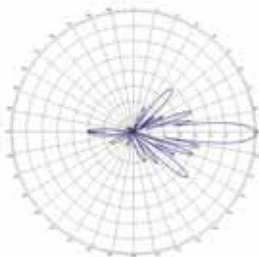
**DBXLH - 6565C-VTM**  
1850–1990 MHz

**DBXLH - 6565C-VTM**  
1920–2180 MHz

Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division



# DBXLH-9090A-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>90°</b>	
<b>FREQUENCY RANGE</b>	<b>824–896 MHz/1850–1990 MHz</b>	
	<b>13.3 &amp; 16.2 dBi/0–16° &amp; 0–8° Tilt</b>	
<b>MODEL<sup>1</sup></b>	<b>DBXLH-9090A-VTM</b>	
<b>TYPE</b>	<b>±45° Dual Band Panel</b>	
<b>RET ORDERING INFORMATION</b>		
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-9090A-R2M</b>	
<b>ELECTRICAL SPECIFICATIONS</b>		
<b>Frequency Range (MHz)</b>	824–896	1850–1990
<b>Gain (dBi/dBd)<sup>2</sup></b>	13.3/11.2	16.2/14.1
<b>Horizontal Beamwidth (Deg)</b>	87	90
<b>Elevation Beamwidth (Deg)</b>	16	6.5
<b>USLS (dB)<sup>3</sup></b>	>15	>15
<b>Beam Tilt (Deg)</b>	0–16	0–8
<b>VSWR</b>	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	150	150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	25	30
<b>Isolation (dB)</b>	>28	>30
<b>Max. Input Power (watts)</b>	300	200
<b>Polarization</b>	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/Qty</b>	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50
<b>MECHANICAL SPECIFICATIONS</b>		
<b>Length (mm/in)</b>	1,305/51.4	1,305/51.4
<b>Width (mm/in)</b>	390/15.4	390/15.4
<b>Depth (mm/in)</b>	127/5	127/5
<b>Net Weight (kg/lbs)</b>	12.7/28	12.7/28
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.24/2.6	0.24/2.6
<b>Max. Wind Load at 100 mph (N/lbf)</b>	653.8/147	653.8/147
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125
<b>Color</b>	Light Gray	Light Gray
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2

<sup>1</sup> Same as 732D690VTEWB

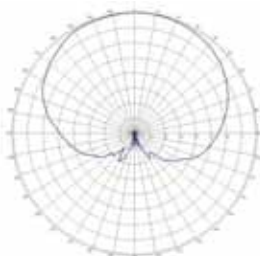
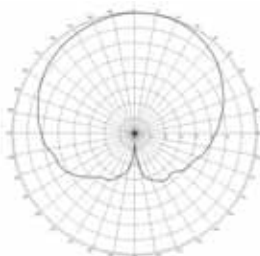
<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBXLH series models

<sup>3</sup> Typical values

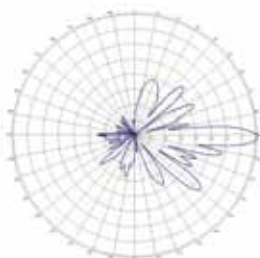
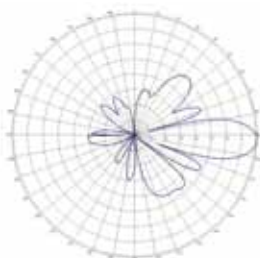
**DBXLH-9090A-VTM**  
824–896 MHz

**DBXLH-9090A-VTM**  
1850–1990 MHz

Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division

# DBXLH-9090B-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>90°</b>				
<b>FREQUENCY RANGE</b>	<b>824–896 MHz/1710–2180 MHz</b>				
	<b>15 &amp; 17.8 dBi/0–8° &amp; 0–5° Tilt</b>				
<b>MODEL<sup>1</sup></b>	<b>DBXLH-9090B-VTM</b>				
<b>TYPE</b>	<b>±45° Dual Band Panel</b>				
<b>RET ORDERING INFORMATION</b>					
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-9090B-R2M</b>				
<b>ELECTRICAL SPECIFICATIONS</b>					
<b>Frequency Range (MHz)</b>	824–896	870–960	1710–1880	1850–1990	1920–2180
<b>Gain (dBi/dBd)<sup>2</sup></b>	15/12.9	15.2/13.1	17.6/15.5	17.8/15.7	17.8/15.7
<b>Horizontal Beamwidth (Deg)</b>	87	87	90	90	90
<b>Elevation Beamwidth (Deg)</b>	10	9	4.5	4.3	4
<b>USLS (dB)<sup>3</sup></b>	>15	>15	>15	>15	>15
<b>Beam Tilt (Deg)</b>	0–8	0–8	0–5	0–5	0–5
<b>VSWR</b>	<1.5:1	<1.5:1	<1.5:1	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	-150	-150	-150	-150	-150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	30	30	35	35	35
<b>Isolation (dB)</b>	>30	>30	>30	>30	>30
<b>Max. Input Power (watts)</b>	300	300	200	200	200
<b>Polarization</b>	±45°	±45°	±45°	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/Qty</b>	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50	50	50	50
<b>MECHANICAL SPECIFICATIONS</b>					
<b>Length (mm/in)</b>	2,055/80.9	2,055/80.9	2,055/80.9	2,055/80.9	2,055/80.9
<b>Width (mm/in)</b>	390/15.4	390/15.4	390/15.4	390/15.4	390/15.4
<b>Depth (mm/in)</b>	120/4.7	120/4.7	120/4.7	120/4.7	120/4.7
<b>Net Weight (kg/lbs)</b>	19/42	19/42	19/42	19/42	19/42
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.45/4.8	0.45/4.8	0.45/4.8	0.45/4.8	0.45/4.8
<b>Max. Wind Load at 100 mph (N/lbf)</b>	1,192/268	1,192/268	1,192/268	1,192/268	1,192/268
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125	201/125	201/125	201/125
<b>Color</b>	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2

<sup>1</sup> Same as 736D690VTEWB

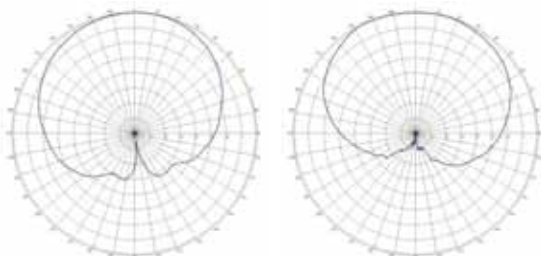
<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBXLH series models

<sup>3</sup> Typical values

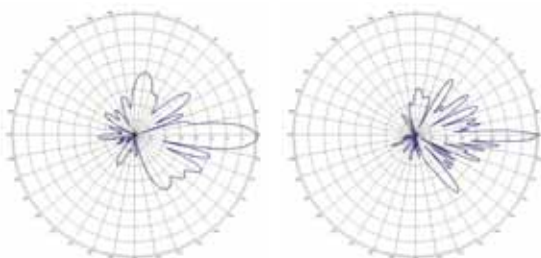
**DBXLH-9090B-VTM**  
824–896 MHz

**DBXLH-9090B-VTM**  
1710–2180 MHz

Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division

# DBXLH-9090C-VTM

## Specifications

<b>HORIZONTAL BEAMWIDTH</b>	<b>90°</b>				
<b>FREQUENCY RANGE</b>	<b>824–960 MHz/1710–2180 MHz</b>				
	<b>15.9 &amp; 17.8 dBi/0–8° &amp; 0–5° Tilt</b>				
<b>MODEL<sup>1</sup></b>	<b>DBXLH-9090C-VTM</b>				
<b>TYPE</b>	<b>±45° Dual Band Panel</b>				
<b>RET ORDERING INFORMATION</b>					
<b>FACTORY INSTALLED, ATM200</b>	<b>DBXLH-9090C-R2M</b>				
<b>ELECTRICAL SPECIFICATIONS</b>					
<b>Frequency Range (MHz)</b>	824–896	870–960	1710–1880	1850–1990	1920–2180
<b>Gain (dBi/dBd)<sup>2</sup></b>	15.9/13.8	16.1/14	17.6/15.5	17.8/15.7	17.8/15.7
<b>Horizontal Beamwidth (Deg)</b>	87	87	90	90	90
<b>Elevation Beamwidth (Deg)</b>	8	7	4.5	4.3	4
<b>USLS (dB)<sup>3</sup></b>	>15	>15	>15	>15	>15
<b>Beam Tilt (Deg)</b>	0–8	0–8	0–5	0–5	0–5
<b>VSWR</b>	<1.5:1	<1.5:1	<1.5:1	<1.5:1	<1.5:1
<b>PIM3 @ 2 x 20w (dbc)</b>	-150	-150	-150	-150	-150
<b>Front-To-Back Ratio (dB)<sup>3</sup></b>	30	30	35	35	35
<b>Isolation (dB)</b>	>30	>30	>30	>30	>30
<b>Max. Input Power (watts)</b>	300	300	250	250	250
<b>Polarization</b>	±45°	±45°	±45°	±45°	±45°
<b>Connector Type</b>	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female	7-16 DIN Female
<b>Connector Location/Qty</b>	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)	Bottom (4)
<b>Impedance (ohms)</b>	50	50	50	50	50
<b>MECHANICAL SPECIFICATIONS</b>					
<b>Length (mm/in)</b>	2,447/96.3	2,447/96.3	2,447/96.3	2,447/96.3	2,447/96.3
<b>Width (mm/in)</b>	390/15.4	390/15.4	390/15.4	390/15.4	390/15.4
<b>Depth (mm/in)</b>	120/4.7	120/4.7	120/4.7	120/4.7	120/4.7
<b>Net Weight (kg/lbs)</b>	22/48.5	22/48.5	22/48.5	22/48.5	22/48.5
<b>Max. Flat Plate Area (m<sup>2</sup>/ft<sup>2</sup>)</b>	0.55/5.9	0.55/5.9	0.55/5.9	0.55/5.9	0.55/5.9
<b>Max. Wind Load at 100 mph (N/lbf)</b>	1,476.7/332	1,476.7/332	1,476.7/332	1,476.7/332	1,476.7/332
<b>Max. Wind Speed (kmh/mph)</b>	201/125	201/125	201/125	201/125	201/125
<b>Color</b>	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray
<b>Hardware Material</b>	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
<b>Std. Mounting Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2
<b>Std. Downtilt Hardware</b>	600899A-2	600899A-2	600899A-2	600899A-2	600899A-2

<sup>1</sup> Same as 738D/G90VTEWB

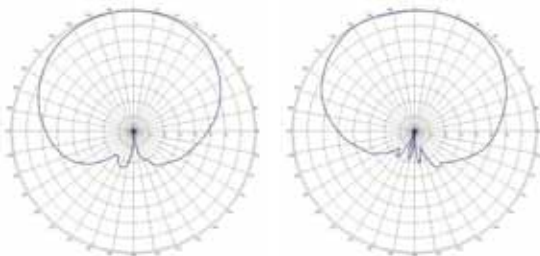
<sup>2</sup> At maximum tilt angles, gain may be slightly reduced for DBKLH series models

<sup>3</sup> Typical values

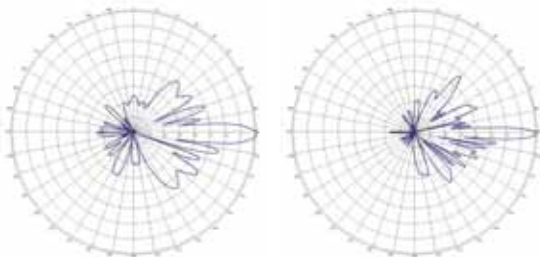
**DBXLH-9090C-VTM**  
824–896 MHz

**DBXLH-9090C-VTM**  
1710–2180 MHz

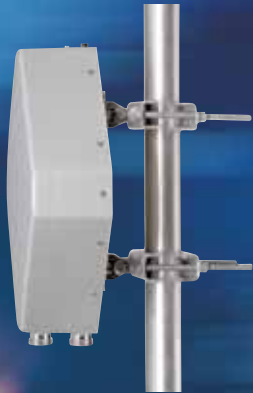
Azimuth Pattern



Elevation Pattern



Scale: 10° radials, 5 dB per division



721DD65ESXM



721DD85ESXM

## Diversity polarized dual band antennas - microcell applications

Andrew has engineered diversity polarized antennas in both 65° and 85° beamwidths specifically for microcell applications. For ease of zoning restrictions the antennas are also designed in a small 12" x 12" x 4" package with complete symmetry so connector locations can be downward or upward.

### Features

- Diversity polarization,  $\pm 45^\circ$
- Small compact package with integrated wall mounts
- Symmetrical pattern shape allows invert or on-side mounting
- 806–869 MHz and 1850–1990 MHz

### Benefits

- Ideal for dense, urban micro sites
- Excellent wide coverage
- Significant cost reduction in deployment and operations
- Reduce the number of cable runs from four to two
- Easier zoning approval

Model Numbers	Gain (dBi)	HBW	VBW	Tilt	H x W, mm (in)
	Low Band / High Band	Low Band / High Band	Low Band / High Band	Low Band / High Band	
721DD65ESXM	9.1/9.1	65°/60°	60°/65°	0°/0°	317 x 317 (12.5 x 12.5)
721DD85ESXM	7.1/7.1	85°/85°	85°/85°	0°/0°	304.8 x 304.8 (12.5 x 12.5)

## Vertically polarized dual band antennas

Andrew has engineered vertically polarized antennas in 60°, 65°, and 90° beamwidths. For ease of zoning restrictions not only do these antennas meet the dual band specifications, with arrays of 806–896 MHz for the low band frequency and 1850–1990 MHz for the high band frequency, they are also designed in a slender package.

### Features

- Dual band Cellular/PCS
- Vertically polarized, both bands
- Field adjustable electrical downtilt on cellular band (V – model numbers)
- PCS array features superior USLS and NullFill

### Benefits

- Minimizes risks when overlaying PCS band by allowing operators to match existing cellular coverage
- Allows simple integration of TMA systems to improve coverage
- Significant cost reduction in deployment and operations

Model Numbers	Gain (dBi) Low Band / High Band	HBW Low Band / High Band	VBW Low Band / High Band	Tilt Low Band / High Band	H x W, mm (in)
744665V1ASXM	15.1/16.8	65°/65°	16°/8°	Var. 0–16°/1°	1219 x 330 (48 x 13)
DB772665ESXM	12.6/14.6	65°/65°	30°/15°	0°/0°	610 x 305 (24 x 12)
DB774660ESXM	15.6/17.8	60°/60°	15°/7°	0°/0°	1219 x 318 (48 x 12.5)
774680V1ESXM	14.1/16.3	80°/80°	15°/8°	Var. 0–10°/2°	1219 x 330 (48 x 13)
DB774690ESXM	14/17	90°/90°	15°/7°	0°/0°	1219 x 254 (48 x 10)
774690V1ESXM	13.8/16.1	90°/90°	14.5°/8°	Var. 0–10°/2°	1219 x 330 (48 x 13)
775690V1ESXM	14.1/17.1	90°/90°	15°/6°	Var. 0–10°/2°	1524 x 330 (60 x 13)
778690VTAXM	16.1/19.1	90°/90°	8°/5°	Var. 0–10°/Var.0–10°	2438 x 356 (96 x 14)
DB778690ASXM	16.7/17.7	90°/85°	7°/6°	0°/0°	2438 x 356 (96 x 14)
778X105M85V1	16.2/16.8	105°/85°	7.5°/7°	0°/Var.0°–7°	2438 x 280 (96 x 11)



774G90V1ESXM



778X105M85V1

# Extremely low insertion loss and high power handling capability.



641280

## Indoor/Outdoor diplexer for dual-band combining of 806–960 MHz and 1710–2170 MHz

The Andrew Crossband Coupler combines signals from wireless systems operating in the 806–960 MHz bands with signals from systems operating in the 1710–2170 MHz bands onto a common feeder cable.

These couplers use unique suspended stripline printed circuit board technology to provide extremely low insertion loss and high power handling capability in a compact, rugged, weatherproof housing. Sealing gaskets provide protection from moisture ingress at all interfaces.

The Andrew Crossband Coupler 641280 product family features extremely low insertion loss (0.10 dB @ 806–960 MHz and 0.15 dB @ 1710–2170 MHz). A minimum 47 dB isolation is provided between output ports.

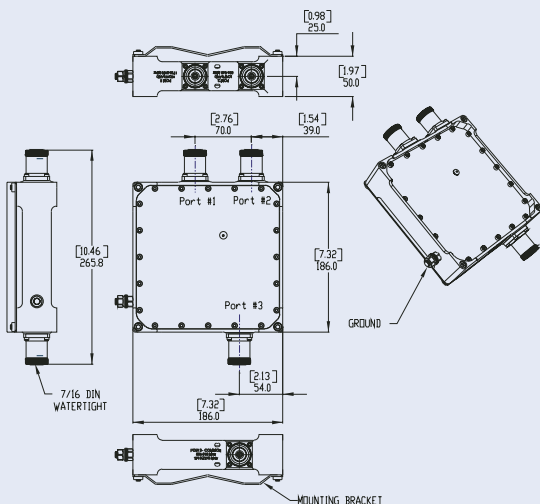
These couplers feature precision 7-16 DIN female connectors and an external grounding stud for lightning protection purposes. A mounting bracket and two band clamps are provided for quick deployment and installation. These units are stackable and do not require additional spacer hardware.

The Andrew Crossband Coupler product family is also available in different dc block and dc bypass versions. This feature allows full compatibility with systems requiring tower mount amplifiers. The internal dc block versions utilize a distributed element dc block design, which provides lower insertion loss and better reliability than dc block designs that contain ceramic dc blocking capacitors.

### Features

- Novel stripline printed circuit board
- Extremely low insertion loss
- Moisture protection
- Stackable
- Mounting bracket and external grounding stud provided
- Integrated dc block/bypass versions available

Part Number	Application	dc Characteristics between Port 3 & Port 2 (806-960MHz)	dc Characteristics between Port 3 & Port 1 (1710-2170MHz)
641280-DF	Indoor/Outdoor	Bypass (5 amps)	Bypass (5 amps)
641280-DF-9-DCB	Indoor/Outdoor	Blocked	Bypass (5 amps)



## Specifications for Andrew Crossband Coupler Model 641280 Product Family

### ENVIRONMENTAL

Operating Temperature	-40° C to +65° C
Moisture Resistance	IP68 (housing includes weatherproof watertight gaskets)
Vibration	IEC 68-2-6 (10-2000 Hz sinusoidal amplitude 3 planes)
Mechanical Shock	IEC 68-2-27, 50 g
Salt Fog	IEC 68-2-11, (336 hrs)
Solar Radiation	IEC 68-2-5
Thermal Shock	IEC 68-2-14
Humidity	IEC 68-2-30
Weight kg (lbs)	1.95 (4.3) with bracket 2.54 (5.6)

### ELECTRICAL

Insertion Loss,	(port #2–port #3)	0.15 dB maximum, 0.10 dB typical (806–960 MHz)
	(port #1–port #3)	0.20 dB maximum, 0.15 dB typical (1710–2160 MHz)
	(port #1–port #3)	0.30 dB maximum, 0.15 dB typical (2160–2170 MHz)
Return Loss,	(port #2–port #3)	20 dB minimum, 23 dB typical (806–960 MHz)
	(port #1–port #3)	20 dB minimum, 23 dB typical (1710–2160 MHz)
	(port #1–port #3)	16 dB minimum, 19 dB typical (2160–2170 MHz)
Isolation,	(port #1–port #3)	47 dB minimum, 50 dB typical (806–960 MHz)
	(port #2–port #3)	47 dB minimum, 50 dB typical (1710–2170 MHz)
Maximum Power		Simultaneous operation of 500W CW (806–960) & 275 W CW (1710–2170)
Peak Power (PEP) Rating		12 kW (806–960 MHz), 6 kW (1710–2170 MHz)
dc Breakdown		4000 volts (center conductor to ground)
Lightning Protection		15 kA 8x20 center conductor, 50 kA 8x20 outer conductor
Passive IMD, (2 x 43 dBm carriers)		-153 dBc typical

# A N D R E W

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