



4.3M C- Band Parabolic Antenna for Weather Radar Applications

PDW-43HC, PDW-43FC and PDW-43A

4.3 Meter Precision Antennas for Weather Radar Applications

ARA's Seavey Business Unit has developed a line of precision antennas for Weather Radar applications. These antennas have been designed to be retrofit within existing 18' radomes which allows for higher performance under the same radome. Light weight, rugged construction allows for use with existing pedestals in all environments. ARA offers three versions, two of which are made of composite construction and a third that uses an aluminum antenna.



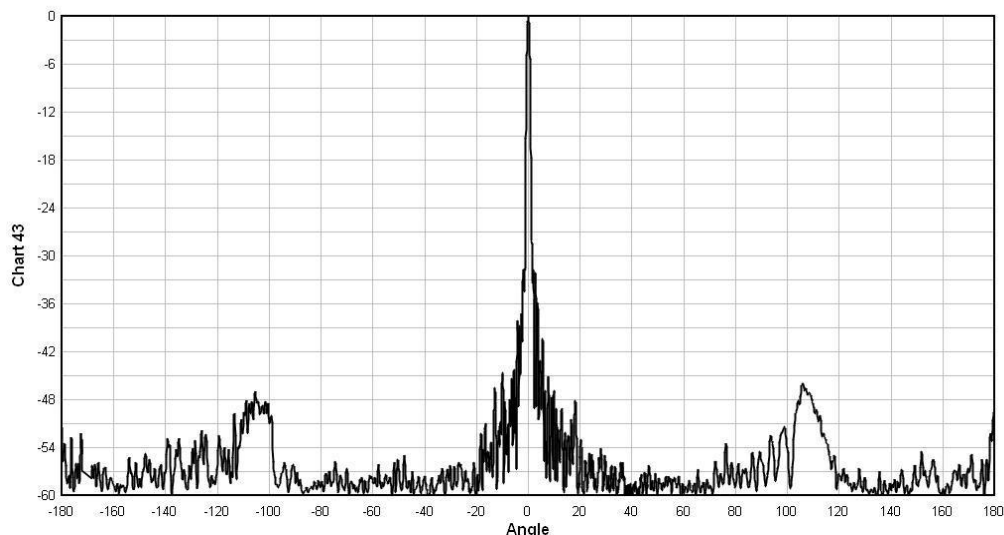
SPECIFICATIONS:

	PDW-43HC	PDW-43FC	PDW-43A
Gain	45 dBic Nominal	44 dBic Nominal	44 dBic Nominal
Frequency	5.4-5.7 Ghz	5.4-5.7 Ghz	5.4-5.7 Ghz
Polarization	Linear	Linear	Linear
Feed	Dual Orthogonal	Dual Orthogonal	Dual Orthogonal
VSWR	< 1.3 : 1	< 1.3 : 1	< 1.3 : 1
3 dB Beamwidth	1.1° nominal	1.1° nominal	1.1° nominal
Sidelobe	-28 dBi ± 0.5 (-30 dBi goal)	-26 dBi ± 0.5	-25 dBi ± 0.5
Power Handling	1 MW Peak	1 MW Peak	1 MW Peak
Weight (Appx)	560 lbs.	560 lbs.	675 lbs.
RF Ports	Interface for a 407/U	Interface for a 407/U	Interface for a 407/U
Pressure	7.5 PSIG in feed	7.5 PSIG in feed	7.5 PSIG in feed

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TEST DATA PDW-43HC				
Frequency	5600	5625	5640	5650
Gain (dBi) V Port	45.7	45.9	45.5	45.8
Gain (dBi) H Port	45.5	45.6	45.4	46.1
* Spec'n (min)	45	45	45	45
3 dB Beamwidth				
V Port E Plane	.89°	.89°	.88°	.88°
V Port H Plane	.89°	.90°	.90°	.89°
H Port E Plane	.89°	.90°	.89°	.92°
H Port H Plane	.90°	.92°	.92°	.90°
Azim Spec'n (max)	1.0°	1.0°	1.0°	1.0°
1st Sidelobes +-10°				
V Port E Plane	30.5	30.4	31.5	31.9
V Port H Plane	31.9	31.2	32	32.6
H Port E Plane	30	30.5	30.3	31.1
H Port H Plane	31.7	30.8	31.9	34.4
Spec'n (Min)	30	30	30	30
Outside 10°				
V Port E Plane	47	45.4	44.6	46
V Port H Plane	45.8	47.2	44.1	43.6
H Port E Plane	50	46.2	44.9	45.4
H Port H Plane	45.7	46.1	47.5	47.9
Spec'n (Min)	43	43	43	43
Cross Pol				
V port E / H Plane	38.8	44.5	42.75	40.3
H Port E / H Plane	35.4	33.4	34.8	33.75
Spec'n (Min)	32	32	32	32
Beam Squint				
V Port E Plane/H Port H Plane	.022	.003	.046	.016
V Port H Plane/H Port E Plane	.02	.015	.026	.015
Spec'n (Max)	.08	.08	.08	.08
Axial Symmetry				
	SEE CHART IN LIST OF ILLUSTRATIONS			
Swept VSWR				
Spec'n (Max)	1.15:1	1.15:1	1.15:1	1.15:1

PDW-43HC
H Port H Plane
5600 MHZ
7/9/2009 14:39





Weather Radar

Model	Size	Frequency (GHz)	Polarization	Gain (dBi)	Description	Beamwidth	Band(s)	VSWR	Side Lobe
C0925-810C	28"	35.56 ± 50 Mhz	Dual Linear Orthogonal	44	WR-28	3°	Ka	< 1.3:1	-25
C0824-800A	4'	9.345	Dual Linear	32.5	WR-90	1.8°	X	1.25:1	-25
C0824-810A	4'	9.345	Dual Linear	38.5	WR-90	1.8°	X	1.25:1	-25
C0824-820C	4'	9.55	Dual Linear	38.5	WR-90	1.8°	X	1.25:1	-25
C0817-810A	6'	9.4	Dual Linear	42	WR-90	1.27°	X	1.25:1	-25
C0925-800C	6'	13.91 ± 50 Mhz	Dual Linear Orthogonal	44	WR-75	1°	Ku	< 1.3:1	-25
C0706-800A	8'	9.2-9.4	Dual Linear	44	WR-90	1°	X	1.25:1	-26
C0706-810C	8'	9.2-9.4	Dual Linear	44	WR-90	1°	X	1.25:1	-27
AS-146-54	12'	5.4-5.7	Dual Linear	44	WR-187	1.1°	C	1.5:1	-26
C0729-810A	14'	5.5-5.7	Dual Linear Orthogonal	44	WR-187	< 1.1°	C	1.25:1	-26.5
C0861-800D	14'	5.5-5.7	Dual Linear Orthogonal	45	WR-187	< 1°	C	1.25:1	-30
C0861-810	14'	5.5 - 5.7	Dual Linear	45	WR-187	< 1°	C	1.25:1	-28
C0861-850	14'	5.5 - 5.7	Single Linear	45	WR-187	< 1°	C	1.25:1	-30
C0920-810C	14'	5.4-5.7	Single Linear	44	WR-187	< 1°	C	1.25:1	-26.5
C0920-830C	14'	2.7-2.9	Dual Linear Orthogonal	38	WR-284	1.9°	S	1.38:1	-25

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