



RFStar™ UHF Slotted Array Antenna

Product Description

The RFStar™ UHF slotted array antennas provide a simple and reliable option for single or dual channel fixed polarization applications. They are fully enclosed in a radome for high performance and reliability. They are available in horizontal, elliptical and circular polarizations. Three types of vertical patterns are available, with varying degrees of null fill. Various azimuth radiation patterns are also available as shown in this product datasheet. For additional options contact RFS or consult the RFS Antenna Selection and Planning Tool.

Features

- Low wind load
- Horizontal, Elliptical and Circular polarizations available
- Wide range of azimuth and elevation patterns and null fill options
- Single channel or Dual channel options available for adjacent channel allocations
- Top mounted and side mounted options available
- Rugged design with enclosed radome for high performance and reliability
- Manufactured in the USA – local staff ready to support your deployments



Broadcast Facility in Meriden, CT, USA



Test Range in Meriden, CT, USA

Antenna Specifications

Model Number	SAA-18G	SAA-18J	SAA-18E	SAA-24G	SAA-24J	SAA-24E	SAA-30G	SAA-30J	SAA-30E																																																																												
Frequency Range, MHz	470-698																																																																																				
Number of slots	18			24			30																																																																														
VRP RMS gain, times	17.3	18.4	17.3	22.2	24.7	22.8	27.7	29.4	27.4																																																																												
VRP RMS gain, dBd	12.4	12.7	12.4	13.5	13.9	13.6	14.4	14.7	14.4																																																																												
Electrical Specifications																																																																																					
Polarization	Horizontal, Elliptical, Circular																																																																																				
Number of Channels	Single channel (Dual option)																																																																																				
VSWR	<1.08:1, (typically < 1.04:1)																																																																																				
Impedance, Ohms	50 or 75																																																																																				
Input power max., kW	Up to 90 (depends on pattern, number of bays and input connector size) – Contact RFS or consult the RFS Antenna Analysis and Selection Tool																																																																																				
Mechanical Specifications																																																																																					
Input connectors, in	7-3/16, 6-1/8 or 4-1/16																																																																																				
Mounting	Side or Top mounting																																																																																				
Color	Aviation Orange or White radome (other colors available on request)																																																																																				
Pressurization – operational, psi (kPa)	1.4-3.6 (10-25)																																																																																				
Pressurization – test, psi (kPa)	15 (100)																																																																																				
Diameter, in (mm)	Top Mounted	21.2 (538)																																																																																			
	Side Mounted	15.4 (391)																																																																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">18 Bay</th> <th colspan="2">24 Bay</th> <th colspan="2">30 Bay</th> </tr> <tr> <th colspan="2"></th> <th>Channel 14</th> <th>Channel 36</th> <th>Channel 14</th> <th>Channel 36</th> <th>Channel 14</th> <th>Channel 36</th> </tr> </thead> <tbody> <tr> <td rowspan="2">*Height, ft (m)</td> <td>Top Mounted</td> <td>41.8 (12.7)</td> <td>33.2 (10.1)</td> <td>54.1 (16.5)</td> <td>42.9 (13.1)</td> <td>66.5 (20.3)</td> <td>52.6 (16.0)</td> </tr> <tr> <td>Side Mounted</td> <td>43.8 (13.4)</td> <td>34.8 (10.6)</td> <td>56.2 (17.1)</td> <td>44.5 (13.6)</td> <td>68.5 (20.9)</td> <td>54.2 (16.5)</td> </tr> <tr> <td rowspan="2">COR from base of antenna, ft (m)</td> <td>Top Mounted</td> <td>20.9 (6.4)</td> <td>16.6 (5.1)</td> <td>27.1 (8.2)</td> <td>21.4 (6.5)</td> <td>33.2 (10.1)</td> <td>26.3 (8.0)</td> </tr> <tr> <td>Side Mounted</td> <td>21.9 (6.7)</td> <td>17.4 (5.3)</td> <td>28.1 (8.6)</td> <td>22.2 (6.8)</td> <td>34.3(10.4)</td> <td>27.1 (8.3)</td> </tr> <tr> <td rowspan="2">Weight, lb (kg)</td> <td>Top Mounted</td> <td>3695 (1677)</td> <td>3030 (1375)</td> <td>7531 (3417)</td> <td>6059 (2749)</td> <td>12372 (5614)</td> <td>7325 (3324)</td> </tr> <tr> <td>Side Mounted</td> <td>971 (441)</td> <td>808 (367)</td> <td>1195 (542)</td> <td>983 (446)</td> <td>1420 (644)</td> <td>1159 (526)</td> </tr> <tr> <td rowspan="2">Effective area CaAc, ft² (m²)</td> <td>Top Mounted</td> <td>44.2 (4.1)</td> <td>35.2 (3.3)</td> <td>57.3 (5.3)</td> <td>45.4 (4.2)</td> <td>70.4 (6.5)</td> <td>55.7 (5.2)</td> </tr> <tr> <td>Side Mounted</td> <td>33.7 (3.1)</td> <td>26.8 (2.5)</td> <td>43.2 (4.0)</td> <td>34.3 (3.2)</td> <td>52.8 (4.9)</td> <td>41.7 (3.9)</td> </tr> </tbody> </table>												18 Bay		24 Bay		30 Bay				Channel 14	Channel 36	Channel 14	Channel 36	Channel 14	Channel 36	*Height, ft (m)	Top Mounted	41.8 (12.7)	33.2 (10.1)	54.1 (16.5)	42.9 (13.1)	66.5 (20.3)	52.6 (16.0)	Side Mounted	43.8 (13.4)	34.8 (10.6)	56.2 (17.1)	44.5 (13.6)	68.5 (20.9)	54.2 (16.5)	COR from base of antenna, ft (m)	Top Mounted	20.9 (6.4)	16.6 (5.1)	27.1 (8.2)	21.4 (6.5)	33.2 (10.1)	26.3 (8.0)	Side Mounted	21.9 (6.7)	17.4 (5.3)	28.1 (8.6)	22.2 (6.8)	34.3(10.4)	27.1 (8.3)	Weight, lb (kg)	Top Mounted	3695 (1677)	3030 (1375)	7531 (3417)	6059 (2749)	12372 (5614)	7325 (3324)	Side Mounted	971 (441)	808 (367)	1195 (542)	983 (446)	1420 (644)	1159 (526)	Effective area CaAc, ft² (m²)	Top Mounted	44.2 (4.1)	35.2 (3.3)	57.3 (5.3)	45.4 (4.2)	70.4 (6.5)	55.7 (5.2)	Side Mounted	33.7 (3.1)	26.8 (2.5)	43.2 (4.0)	34.3 (3.2)	52.8 (4.9)	41.7 (3.9)
		18 Bay		24 Bay		30 Bay																																																																															
		Channel 14	Channel 36	Channel 14	Channel 36	Channel 14	Channel 36																																																																														
*Height, ft (m)	Top Mounted	41.8 (12.7)	33.2 (10.1)	54.1 (16.5)	42.9 (13.1)	66.5 (20.3)	52.6 (16.0)																																																																														
	Side Mounted	43.8 (13.4)	34.8 (10.6)	56.2 (17.1)	44.5 (13.6)	68.5 (20.9)	54.2 (16.5)																																																																														
COR from base of antenna, ft (m)	Top Mounted	20.9 (6.4)	16.6 (5.1)	27.1 (8.2)	21.4 (6.5)	33.2 (10.1)	26.3 (8.0)																																																																														
	Side Mounted	21.9 (6.7)	17.4 (5.3)	28.1 (8.6)	22.2 (6.8)	34.3(10.4)	27.1 (8.3)																																																																														
Weight, lb (kg)	Top Mounted	3695 (1677)	3030 (1375)	7531 (3417)	6059 (2749)	12372 (5614)	7325 (3324)																																																																														
	Side Mounted	971 (441)	808 (367)	1195 (542)	983 (446)	1420 (644)	1159 (526)																																																																														
Effective area CaAc, ft² (m²)	Top Mounted	44.2 (4.1)	35.2 (3.3)	57.3 (5.3)	45.4 (4.2)	70.4 (6.5)	55.7 (5.2)																																																																														
	Side Mounted	33.7 (3.1)	26.8 (2.5)	43.2 (4.0)	34.3 (3.2)	52.8 (4.9)	41.7 (3.9)																																																																														
* Does Not Include Lightning Arrestor																																																																																					

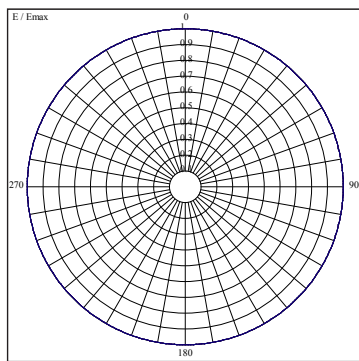
All information contained in the present datasheet is subject to confirmation at time of ordering.

RFStar™ UHF Slotted Array Antenna

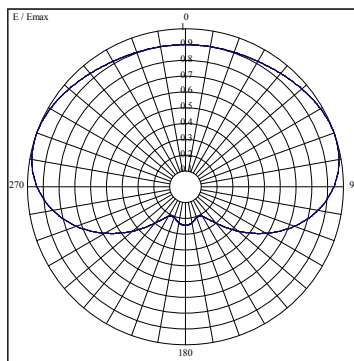
Antenna Specifications By Pattern Type

Model Number	SAA-18G	SAA-18J	SAA-18E	SAA-24G	SAA-24J	SAA-24E	SAA-30G	SAA-30J	SAA-30E
Frequency Range, MHz	470-698								
Omni Directional									
HRP directivity Hpol, times	1								
HRP directivity Hpol, dB	0								
Total antenna gain, times	17.3	18.4	17.3	22.2	24.7	22.8	27.7	29.4	27.4
C170 Pattern									
HRP directivity Hpol, times	1.7								
HRP directivity Hpol, dB	2.3								
Total antenna gain, times	29.4	31.3	29.4	37.7	42	38.8	47.1	50	46.6
CT150 Pattern									
HRP directivity Hpol, times	1.5								
HRP directivity Hpol, dB	1.76								
Total antenna gain, times	26.0	27.6	26.0	33.3	37.1	34.2	41.6	44.1	41.1
S180 Pattern									
HRP directivity Hpol, times	1.8								
HRP directivity Hpol, dB	2.6								
Total antenna gain, times	31.1	33.1	31.1	40.0	44.5	41.0	49.9	52.9	49.3
T160 Pattern									
HRP directivity Hpol, times	1.6								
HRP directivity Hpol, dB	2.0								
Total antenna gain, times	27.7	29.4	27.7	35.5	39.5	36.5	44.3	47.0	43.8
P230 Pattern									
HRP directivity Hpol, times	2.3								
HRP directivity Hpol, dB	3.6								
Total antenna gain, times	39.8	42.3	39.8	51.1	56.8	52.4	63.7	67.6	63.0

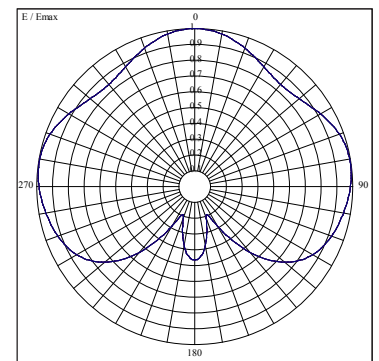
Patterns



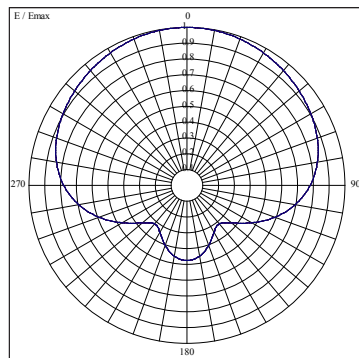
Omni directional



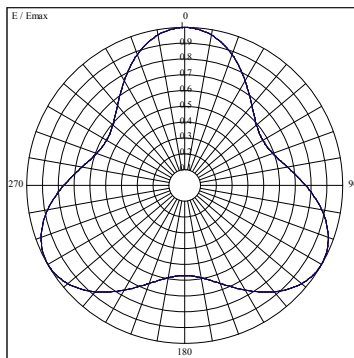
C170



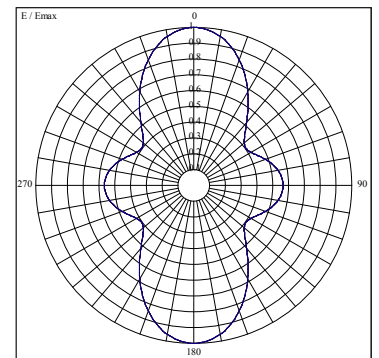
CT150



S180



T160



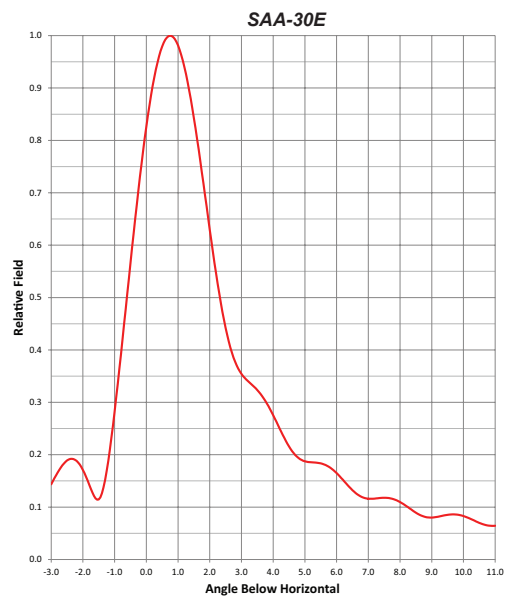
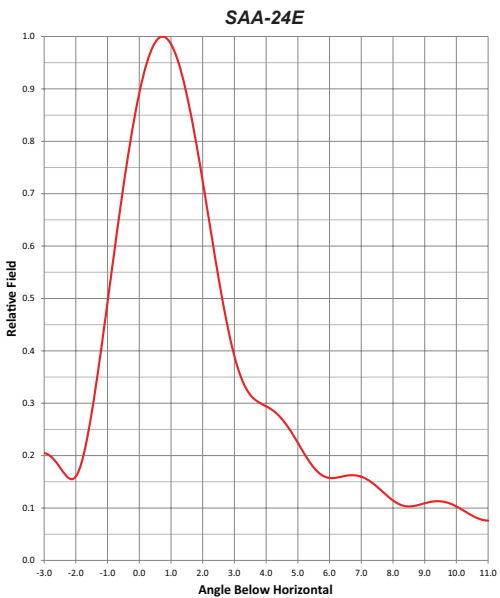
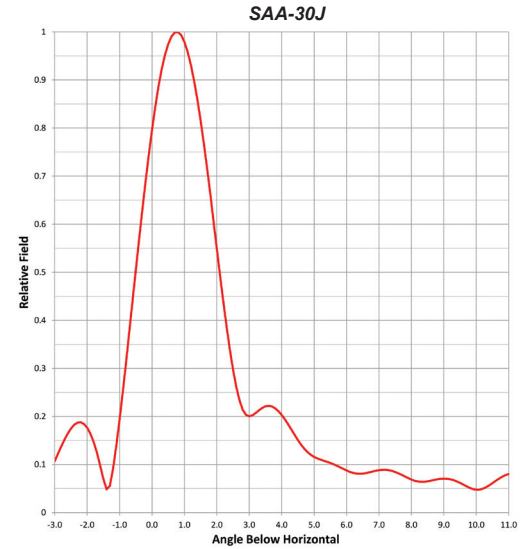
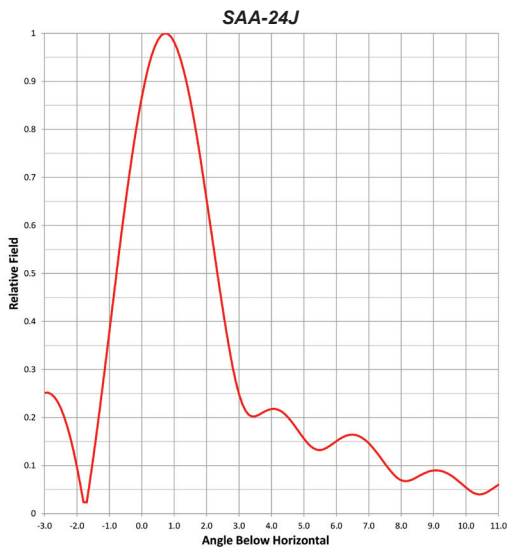
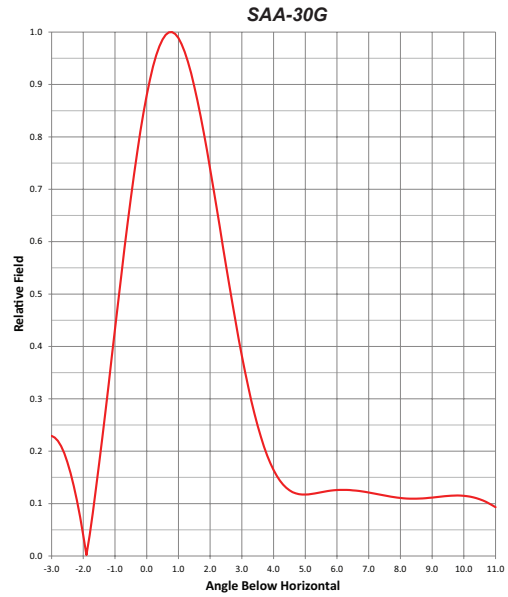
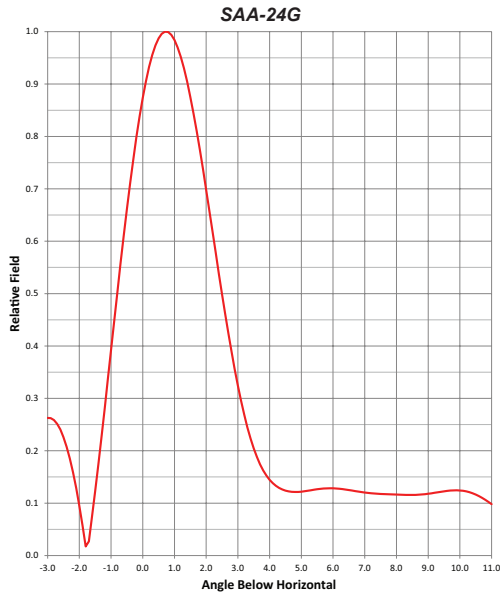
P230

All information contained in the present datasheet is subject to confirmation at time of ordering.



RFStar™ UHF Slotted Array Antenna

Elevation Radiation Patterns



All information contained in the present datasheet is subject to confirmation at time of ordering.