Broadband Omni Directional Antenna

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Discone Antenna

As a vertical polarization antenna, the discone antenna is used by government and military agencies worldwide because of its wide bandwidth characteristics, omni-directional coverage and stable pattern.

SWATPZ series discone antenna has the gain range from 0dBi to 2dBi. Typical VSWR is less than 2.5:1. At the key frequency range, VSWR can be less than 2.0:1. SWATPZ series discone antenna can be used for transmitting and receiving signals with the wide frequency range over 1:10. It is widely used in the broadband area, such as electromagnetic monitoring, and so on.

In addition to outstanding performance characteristics, SWATPZ series antenna also has a good structural properties, support to good work on the ground, vehicle and aircraft. Compared with similar products, it has the characteristics of solid structure, light and easy to install.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency (MHz)</th>
<th>VSWR (Typ.)</th>
<th>Connector</th>
<th>Power</th>
<th>Size (mm)(D×H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWATPZ450</td>
<td>40 ~ 500</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>300</td>
<td>2150×1300</td>
</tr>
<tr>
<td>SWATPZ7100</td>
<td>70 ~ 1000</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>200</td>
<td>1050×650</td>
</tr>
<tr>
<td>SWATPZ80500</td>
<td>80 ~ 500</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>300</td>
<td>1070×700</td>
</tr>
<tr>
<td>SWATPZ1040</td>
<td>100 ~ 400</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>300</td>
<td>1180×920</td>
</tr>
<tr>
<td>SWATPZ2510</td>
<td>250 ~ 1000</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>100</td>
<td>476×425</td>
</tr>
<tr>
<td>SWATPZ820</td>
<td>800 ~ 2000</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>100</td>
<td>155×140</td>
</tr>
<tr>
<td>SWATPZ1080</td>
<td>1000 ~ 8000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>80</td>
<td>110×120</td>
</tr>
<tr>
<td>SWATPZ10120</td>
<td>1000 ~ 12000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>80</td>
<td>110×116</td>
</tr>
<tr>
<td>SWATPZ80180</td>
<td>8000 ~ 18000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>50</td>
<td>45×60</td>
</tr>
<tr>
<td>SWATPZ530</td>
<td>500 ~ 3000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>100</td>
<td>250×200</td>
</tr>
<tr>
<td>SWATPZ1030</td>
<td>1000 ~ 3000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>100</td>
<td>180×120</td>
</tr>
<tr>
<td>SWATPZ23150</td>
<td>3000 ~ 15000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>50</td>
<td>65×42</td>
</tr>
<tr>
<td>SWATPZ140265</td>
<td>14000 ~ 26500</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>50</td>
<td>65×22</td>
</tr>
</tbody>
</table>
Example:
SWATPZ1080

Azimuth pattern

Elevation pattern

VSWR:
Biconical Antenna

Biconical antenna is a kind of vertical polarization omni directional antenna. SWATZ series antenna can be use to transmit or receive. It has the similar characteristics as discone antenna, and more stable pattern. Antenna-volume is about one times bigger than discone antenna.

Main Characteristics:
- Gain: 0dBi~2dBi. VSWR: <2:1 at key frequency band.
- Due to its good pattern stability, SWATZ series antenna is widely used in the area requiring omni radiation.
- Better structure can fit the work on the ground, in vehicle and aircraft.
- Solid structure, light weight and easy to set up, compared with the congeneric antennas.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency (MHz)</th>
<th>VSWR(Typ.)</th>
<th>Connector</th>
<th>Power Capacity (W)</th>
<th>Polarization mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWATSZ230</td>
<td>30~300</td>
<td>3:1</td>
<td>N-Female</td>
<td>-</td>
<td>Liner polarization</td>
</tr>
<tr>
<td>SWATSZ500</td>
<td>80~500</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>0~2</td>
<td>Liner polarization</td>
</tr>
<tr>
<td>SWATSZ5100</td>
<td>50~1000</td>
<td>3:1</td>
<td>N-Female</td>
<td>0~2</td>
<td>Liner polarization</td>
</tr>
<tr>
<td>SWATSZ7100</td>
<td>70~1000</td>
<td>2.5:1</td>
<td>N-Female</td>
<td>0~2</td>
<td>Liner polarization</td>
</tr>
<tr>
<td>SWATSZ5250</td>
<td>50~2500</td>
<td>3:1</td>
<td>SMA-Female</td>
<td>-</td>
<td>Liner polarization</td>
</tr>
<tr>
<td>SWATSZ112</td>
<td>1000~12000</td>
<td>2.5:1</td>
<td>SMA-Female</td>
<td>0~2</td>
<td>Liner polarization</td>
</tr>
</tbody>
</table>

Example: SWATSZ330

VSWR:
Broadband Slant Linear Polarization Omni-directional Antenna

SWATXQ series slant linear polarization omni-directional antenna can receive/transmit both vertical and horizontal polarization wave signal. It has more broad application than ordinary vertical polarization antennas.

SWATXQ series antenna has the characteristic of broadband and stable pattern. We can design slant linear polarization omni-directional antenna according to the customer’s requirements. And we have broadband slant linear polarization directional antennas for you to choose.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency(GHz)</th>
<th>Polarization Mode</th>
<th>Impedance(Ω)</th>
<th>VSWR(Max.)</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWATXQ5010</td>
<td>0.5～1</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2.5:1</td>
<td>N-Female</td>
</tr>
<tr>
<td>SWATXQ1080</td>
<td>1～8</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2.5:1</td>
<td>SMA</td>
</tr>
<tr>
<td>SWATXQ1040</td>
<td>1～4</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2.5:1</td>
<td>SMA</td>
</tr>
<tr>
<td>SWATXQ4080</td>
<td>4～8</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2:1</td>
<td>SMA</td>
</tr>
<tr>
<td>SWATXQ2080</td>
<td>2～8</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2.5:1</td>
<td>SMA</td>
</tr>
<tr>
<td>SWATXQ80180</td>
<td>8～18</td>
<td>45°slant polarization</td>
<td>50</td>
<td>2:1</td>
<td>SMA</td>
</tr>
</tbody>
</table>

Azimuth pattern

Elevation pattern:
Circular Polarization Omni-directional Antenna

SWATYQ series antenna overcomes the shortcoming of ordinary omni-directional antenna, which can only realize linear polarization. It has omni-directional at azimuth pattern, and can work at circular polarization mode. It can provide signal transmitting and receiving by circular polarization. It is suitable for the electromagnetic environment testing.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency(GHz)</th>
<th>Gain(Typ.)</th>
<th>VSWR(Typ.)</th>
<th>Impedance</th>
<th>Size(mm)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWATYQ1826</td>
<td>18～26</td>
<td>2dBi</td>
<td>2.5:1</td>
<td>50Ω</td>
<td>150×123</td>
<td>1.4 kg</td>
</tr>
<tr>
<td>SWATYQ2640</td>
<td>26～40GHz</td>
<td>2dBi</td>
<td>2.5:1</td>
<td>50Ω</td>
<td>95×127</td>
<td>1.8 kg</td>
</tr>
</tbody>
</table>

Typical Pattern
High Gain Omni Directional Antenna

SWATGQ series high gain omni directional antenna can provide omni directional coverage gain from 6dBi to 9dBi at azimuth pattern. It is vertical polarization antenna suitable for various communication systems. Compared with SWATZ and SWATPZ, its bandwidth is narrower, but it can provide higher gain and lower cost of transceiver system. For the broadband applications, multiple SWATGQ antennas can be used together to cover the required band.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency(GHz)</th>
<th>Relative Bandwidth</th>
<th>Gain(dBi) (Typ.)</th>
<th>VSWR(Typ.)</th>
<th>Impedence(Ω)</th>
<th>Size(mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWATGQ134174</td>
<td>1~2</td>
<td>7</td>
<td>&lt;1.5</td>
<td></td>
<td>50</td>
<td>20×285</td>
</tr>
<tr>
<td>SWATGQ2038</td>
<td>2~4</td>
<td>9</td>
<td>&lt;1.5</td>
<td></td>
<td>50</td>
<td>16×228</td>
</tr>
<tr>
<td>SWATGQ3552</td>
<td>4~8</td>
<td>9~10</td>
<td>&lt;1.5</td>
<td></td>
<td>50</td>
<td>12×171</td>
</tr>
<tr>
<td>SWATGQ3570</td>
<td>8~12</td>
<td>10</td>
<td>&lt;1.5</td>
<td></td>
<td>50</td>
<td>8×114</td>
</tr>
<tr>
<td>Other type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>customized</td>
<td></td>
</tr>
</tbody>
</table>

SWATGQ134174  SWATGQ3552  SWATGQ3570