Technical Data Sheet: Antennas Direct 43XG Antenna

Physical Data:
- Dimensions: Length = 50 in.  Width = 18 in.  Height = 19 in.
- Weight: 5 lbs
- Turning Radius: 48 in.

Electrical Data:
- Band: UHF 470 MHz to 806 MHz  Channels 14 - 69
- Impedance: 75 ohm
- Connector: F-Female

Performance Data:
- Peak Gain: 15.35 dBi @ 800 MHz
- VSWR: Max 3.5 470 MHz to 806 MHz

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Boresight Gain (dBi)</th>
<th>Azimuth – Half Power Beam Width (deg)</th>
<th>Elevation – Half Power Beam Width (deg)</th>
<th>Front-to-Back @ 180 deg (dB)</th>
<th>IEEE Rear Hemisphere F/B (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>470</td>
<td>9.8</td>
<td>52</td>
<td>70</td>
<td>27.55</td>
<td>10.68</td>
</tr>
<tr>
<td>546</td>
<td>11.32</td>
<td>46</td>
<td>59</td>
<td>44.67</td>
<td>13.12</td>
</tr>
<tr>
<td>622</td>
<td>12.73</td>
<td>40</td>
<td>44</td>
<td>26.15</td>
<td>17.51</td>
</tr>
<tr>
<td>698</td>
<td>14.2</td>
<td>34</td>
<td>43</td>
<td>28.33</td>
<td>16.39</td>
</tr>
</tbody>
</table>

Table 1: 43XG - Computed Performance Data for USA UHF DTV Band

Notes:
1. Unless stated otherwise, all performance data computed using Remcom, Inc. X-FDTD 7.0 simulator.
2. Assumptions: PEC, free space, no balun. 300 Ohm transmission line reference.
3. Gain is specified dBi (isotropic) per IEEE definition. Balun and mismatch losses not included.
4. There are two common meanings for Front-to-Back Ratio (F/B). One specifies ratio as measured 180 degrees opposite boresight. The other, used by IEEE specifies the ratio of boresight gain to maximum gain in rear hemisphere. The IEEE definition is the most conservative. IEEE F/B values shown here are computed based on azimuth and elevation cuts provided in this document.

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Illustration 1: 43XG - Gain vs Azimuth Angle.
Illustration 2: 43XG - Gain vs Elevation Angle.
Table 2: 43XG - Gain vs. Frequency.
Illustration 3: 43XG - Computed VSWR vs. Frequency. No balun. 300 ohm line reference.