



**MICRONETIXX**  
**COMMUNICATIONS**

**Proposal for:**

**Andy Booth**

**WOST DT 20 and 22 Mayaguez, PR.**

**For a: CS-2030-7617-12 antenna**

**Proposal Number: 07617A**  
**June 28, 2017**

**1 Gendron Drive Lewiston, ME 04240 1-207-786-2000**

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## **Introduction**

Thank you again for considering Micronetixx Communications for the design and manufacture of your Television Broadcast Antenna for WOST in Mayaguez, PR.

Our Antenna Systems Group draws on many decades of collective experience in the engineering, design and specialized manufacture of high power antenna and microwave components. Our engineering and production team are the proud inventors of innovative Patents for low, medium, high and ultra-high power RF, and microwave equipment.

We enjoy designing the customer a component or antenna that exactly fits their needs, rather than offer a selection from a catalog page. Each antenna we build is custom designed with the beam tilt and null fill optimized for best coverage.

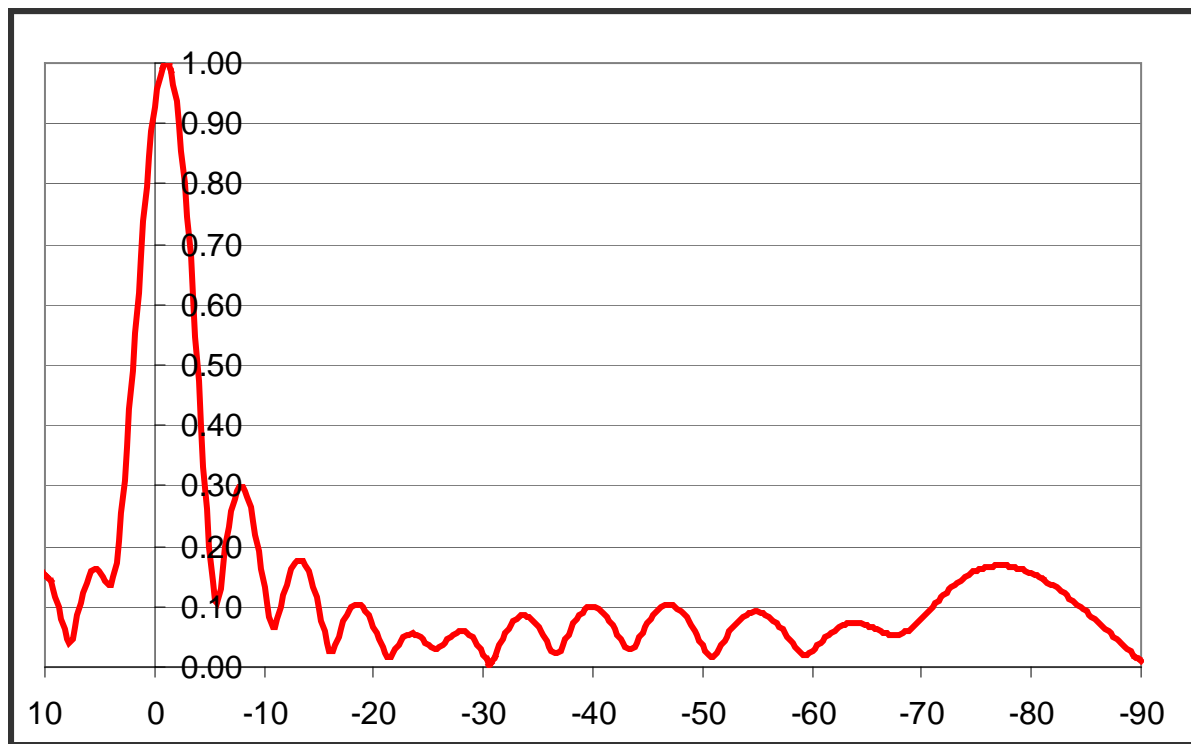
The antenna in this proposal is a side mounted, 12 bay center fed UHF slot antenna. The antenna has an deep cardioid pattern and a gain of 41.47 (16.18 dB). The input to the antenna is a 1-5/8" EIA flange. The antenna is designed for a basic wind speed of 125 M.P.H. and comes with rugged stainless steel mounting brackets. The antenna pylon is manufactured from passivated Aluminum and has a radome system over the front half of the antenna.

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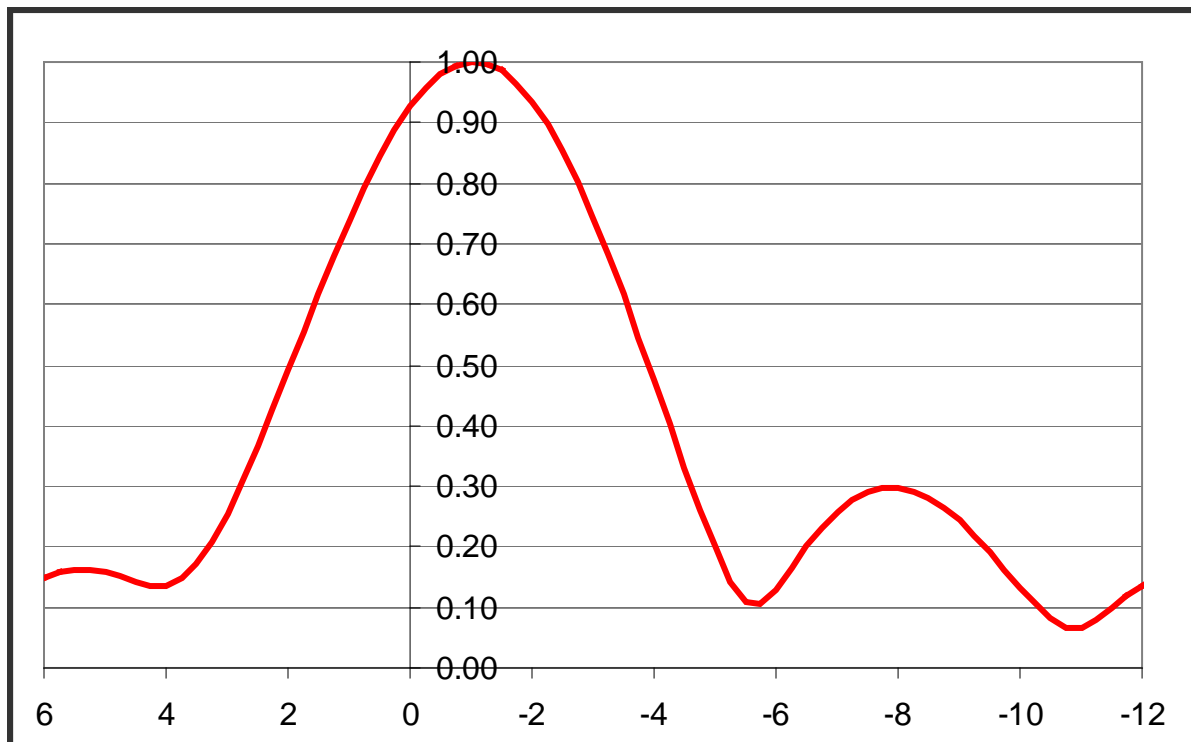
## **Technical Description for the antenna**

<b>Antenna Model:</b>	<b>CS-2030-7617-12</b>
<b>Number of Bays:</b>	<b>12</b>
<b>Channels:</b>	<b>US – Channel 20 and 22</b>
<b>Azimuth Pattern:</b>	<b>7617 – Deep Cardioid</b>
<b>Azimuth Gain:</b>	<b>3.25 (5.12 dB)</b>
<b>Elevation Gain:</b>	<b>12.76 (11.06 dB)</b>
<b>Total Gain:</b>	<b>41.47 (16.18 dB)</b>
<b>Polarization:</b>	<b>Horizontal</b>
<b>First Null At:</b>	<b>-5.25 degrees</b>
<b>First Null Fill:</b>	<b>10.5%</b>
<b>Minimum of 10% of field to:</b>	<b>-9.75 degrees</b>
<b>Beam Tilt:</b>	<b>-1.0 degree electrical</b>
<b>Input Power Rating:</b>	<b>12 kW Average</b>
<b>V.S.W. R:</b>	<b>less than 1.10:1 over channel</b>
<b>Feed Point:</b>	<b>Center Fed - Horizontal</b>
<b>RF Input Connection:</b>	<b>1-5/8” EIA Flange</b>
<b>Antenna Length:</b>	<b>28-1/4 Feet</b>
<b>Weight:</b>	<b>260 lbs.</b>
<b>Wind Zone Rating:</b>	<b>125 M.P.H. Basic</b>
<b>Wind Load Area:</b>	<b>36 Square Feet</b>
<b>Brackets:</b>	<b>Included stainless steel custom designed to tower leg mount</b>
<b>Radome:</b>	<b>Included – White</b>



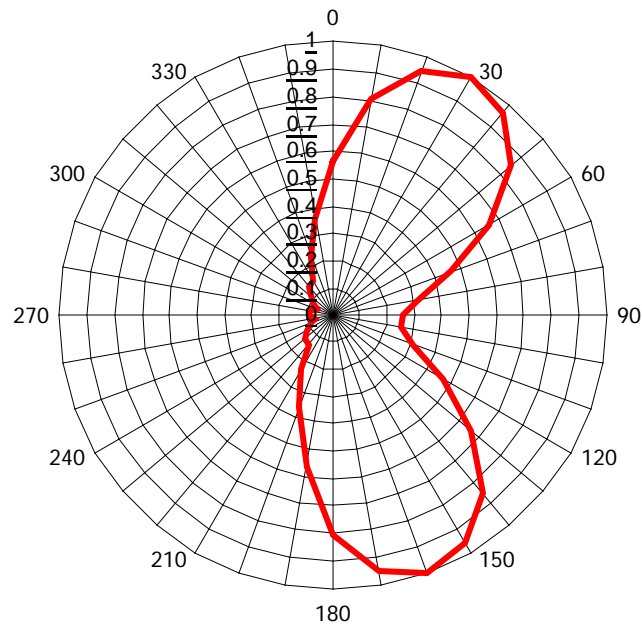


**12 Bay Elevation pattern – Beam Tilt 1.0 Degree 10 to -90 Degree Plot**



**12 Bay Elevation pattern – Beam Tilt 0.5 Degree 6 to -12 Degree Plot**

### Micronetixx Azimuth Pattern 7617



**7617 - Azimuth Pattern Plot – Deep Cardioid – Gain 3.25 (5.17 dB).**

### Estimated system calculations

<b>TPO</b>	<b>1.37 kW (1.36 dBk)</b>
<b>Line Loss</b>	<b>–0.53 dB (88.50% eff.)</b>
<b>Antenna Input</b>	<b>1.21 kW (0.82 dBk)</b>
<b>Antenna Gain</b>	<b>41.47 (16.18 dB)</b>
<b>ERP</b>	<b>50 kW (17.00 dBk)</b>