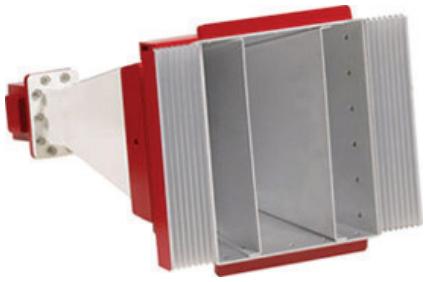
ANTENNA MODEL 3162-02



MODEL 3162-02

- **Frequency Minimum: 2.7 GHz; Frequency Maximum 3.1 GHz**
- **Generates 600 V/m with < 300W**
- **Meets Specs for ES-XW7T-1A278-AC**

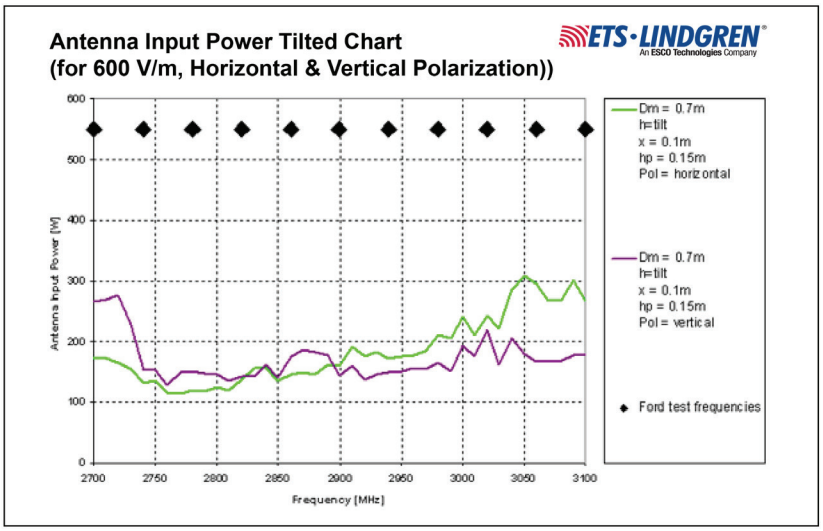
ETS-Lindgren's Model 3162-02 Field Generating Pyramidal High Gain Horn is purpose-built for automotive radar pulse immunity testing, specifically designed to meet the demanding requirements of Ford ES-XW7T-1A278-AC. This automotive EMC standard requires that the Equipment Under Test (EUT) be exposed to a pulsed peak electric field strength of 600 V/m at a precisely defined test distance of 100 cm (39.37 in) from the front aperture of the horn.

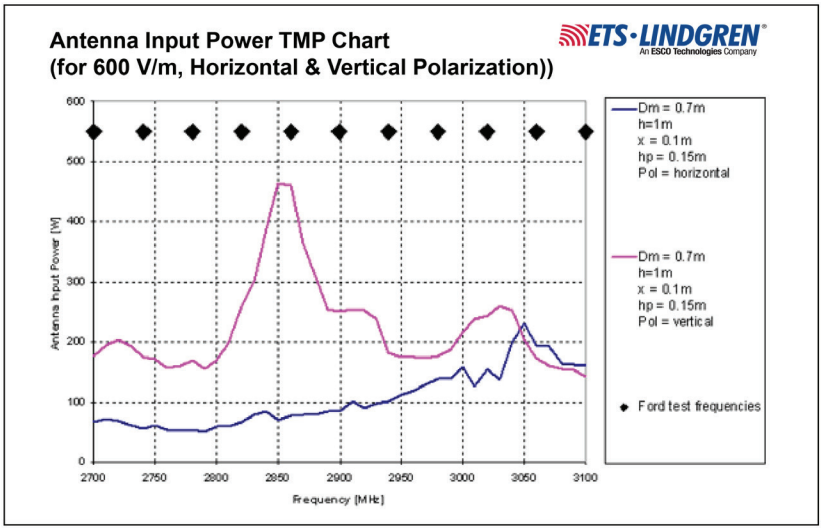
Conventional horn antennas are typically optimized for far-field radiation, meaning they perform best at longer test distances. However, when operated in the near-field region, many standard horns exhibit gain compression, resulting in lower-than-expected field strength at short distances. This makes it difficult for typical horns to achieve the required 600 V/m without using extremely high amplifier power.

The Model 3162-02 is engineered to overcome this challenge by optimizing its near-field radiation behavior. Through careful design of the horn geometry and internal waveguide transitions, the antenna delivers consistent, predictable high-field performance at the required 1-meter distance, generating the full 600 V/m pulsed field strength with less than 300 W of input power. This allows test facilities to achieve compliance while using smaller, more cost-effective amplifiers, reducing overall system complexity and improving operational efficiency.

Technical Specifications

Electrical	
Frequency Minimum	2.7 GHz
Frequency Maximum	3.1 GHz
Impedance (Nominal)	50
Maximum Continuous Power	500 W
Pattern Type	Directional
Polarization	Linear
VSWR (Maximum)	2:1
VSWR (Typical)	1.5:1
Connectors	Type N
Physical	
Length	79.2 cm (31.2 in)
Width	44.2 cm (17.4 in)
Height	58.4 cm (23.0 in)
Weight	10.0 kg (22.0 lb)


Antenna Input Power Tilted Chart
(for 600 V/m, Horizontal & Vertical Polarization))
ETS·LINDGREN
An ESCO Technologies Company
Antenna Input Power [W]
600
500
400
300
200
100
0
2700
2750
2800
2850
2900
2950
3000
3050
3100
Frequency [MHz]
Dm = 0.7m
h=tilt
x = 0.1m
hp = 0.15m
Pol = horizontal
Dm = 0.7m
h=tilt
x = 0.1m
hp = 0.15m
Pol = vertical
Ford test frequencies


Antenna Input Power TMP Chart
(for 600 V/m, Horizontal & Vertical Polarization))
ETS·LINDGREN
An ESCO Technologies Company
Antenna Input Power [W]
600
500
400
300
200
100
0
2700
2750
2800
2850
2900
2950
3000
3050
3100
Frequency [MHz]
Dm = 0.7m
h=1m
x = 0.1m
hp = 0.15m
Pol = horizontal
Dm = 0.7m
h=1m
x = 0.1m
hp = 0.15m
Pol = vertical
Ford test frequencies

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