

15H3.5CTWR51

15 dB Gain WR51 Rectangular Horn Antenna Assembly with Integrated Coax-to-Waveguide Adapter (15–22 GHz)

Electric Specification

Adapter Type	Right Angel
Adapter Grade	Standard
Frequency Band	Ku & K Band
Waveguide Type	Rectangular
Waveguide Size EI WR	WR51
Min. Frequency (GHz)	15
Max. Frequency (GHz)	22
VSWR Max	1.24
VSWR Min	1
Impedance (Ω)	50
Max. Insertion Loss (dB)	0.27
Min. Insertion Loss (dB)	0.21

Interface

Flange Style	Square
Connector	3.5 mm
Connector Type	Female

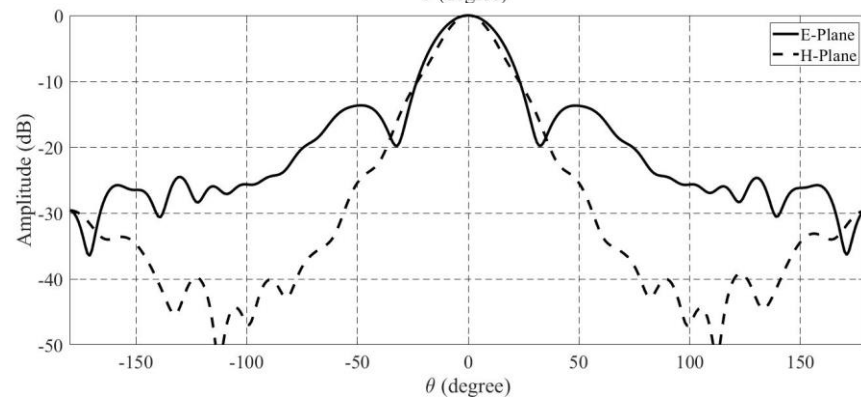
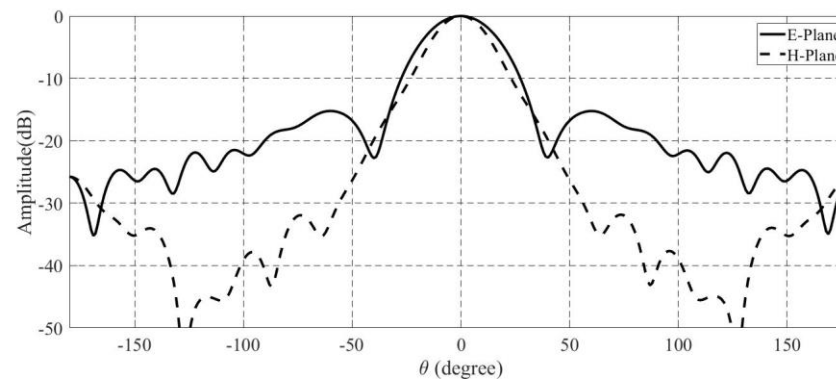
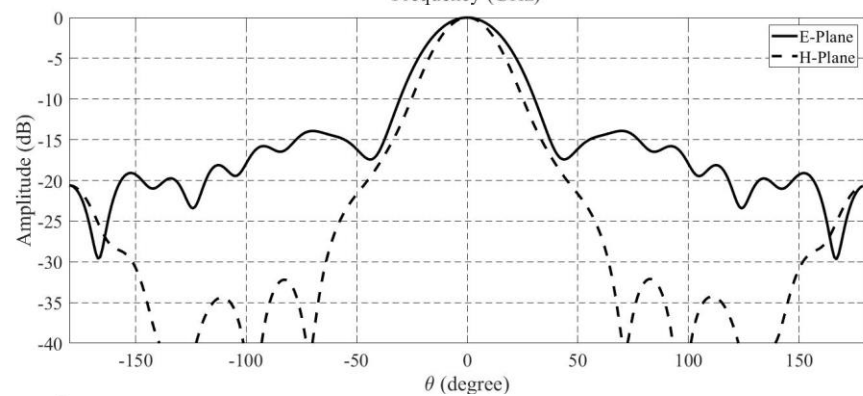
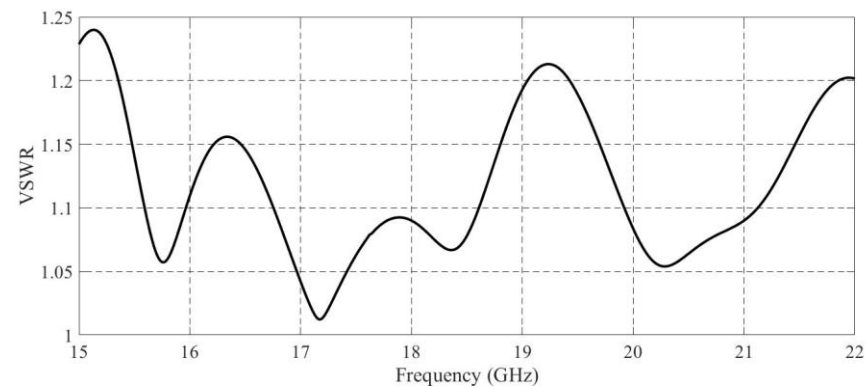
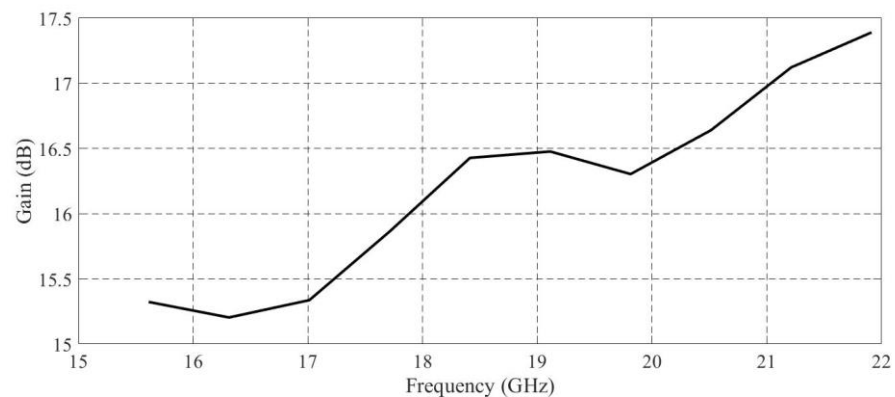
Mechanical Specification

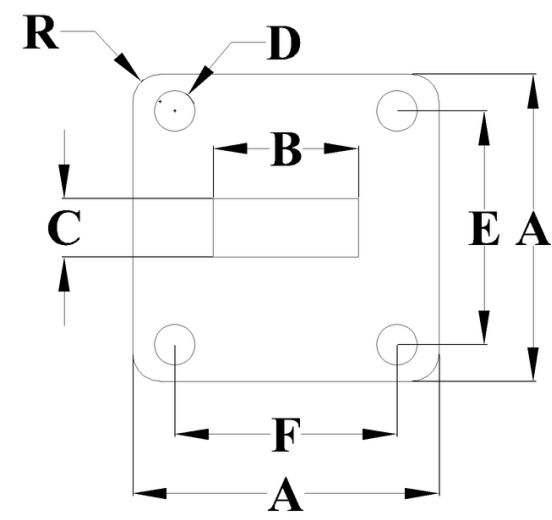
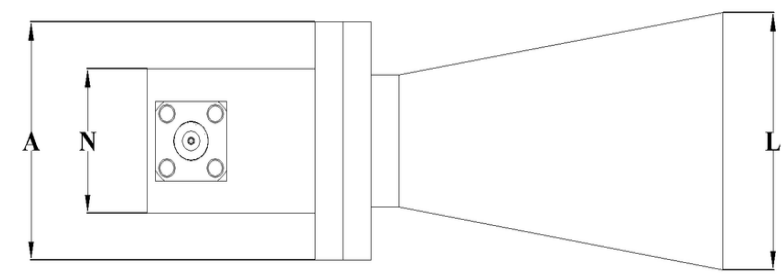
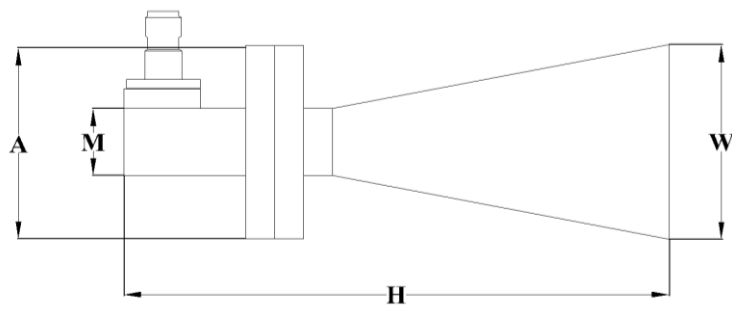
Body Material	Al
Finishing	Gray Paint
Operating Temp Low(°c)	-50
Operating Temp High(°c)	80



Overview

The **15H3.5CTWR51** is a precision-engineered WR51 rectangular horn antenna assembly designed for efficient operation across the 15–22 GHz frequency band. The unit integrates a high-accuracy machined rectangular horn with a **3.5 mm coax-to-WR51 waveguide adapter**, providing a compact, low-loss transition from a coaxial interface to free-space radiation. This antenna delivers stable and repeatable radiation characteristics with a nominal gain of 15 dB and excellent impedance matching, ensuring a maximum VSWR of 1.24 across the entire operating band. The integrated 3.5 mm adapter enables reliable high-frequency connectivity while minimizing insertion loss and reflections, making the assembly ideal for both measurement environments and high-performance microwave systems. The horn supports continuous input power levels up to 50 W and peak power up to 3 kW. Mechanical integration is ensured through an **FBP180 (UBR180) flange**, providing robust mounting and full compatibility with standard WR51 waveguide interfaces. Manufactured in accordance with CACIRA quality standards, the 15H3.5CTWR51 guarantees consistent electrical performance and long-term operational stability.





Parameter	Inch (mm)	Parameter	Inch (mm)
A	1.189 (30.2)	M	0.334 (8.477)
B	0.509 (12.920)	N	0.588 (14.954)
C	0.253 (6.429)		
D	0.118 (3)		
E	0.886 (22.5)		
F	0.81 (20.57)		
H	3.274 (83.15)		
L	2.135 (54.22)		
R	0.118 (3)		
W	1.065 (27.05)		