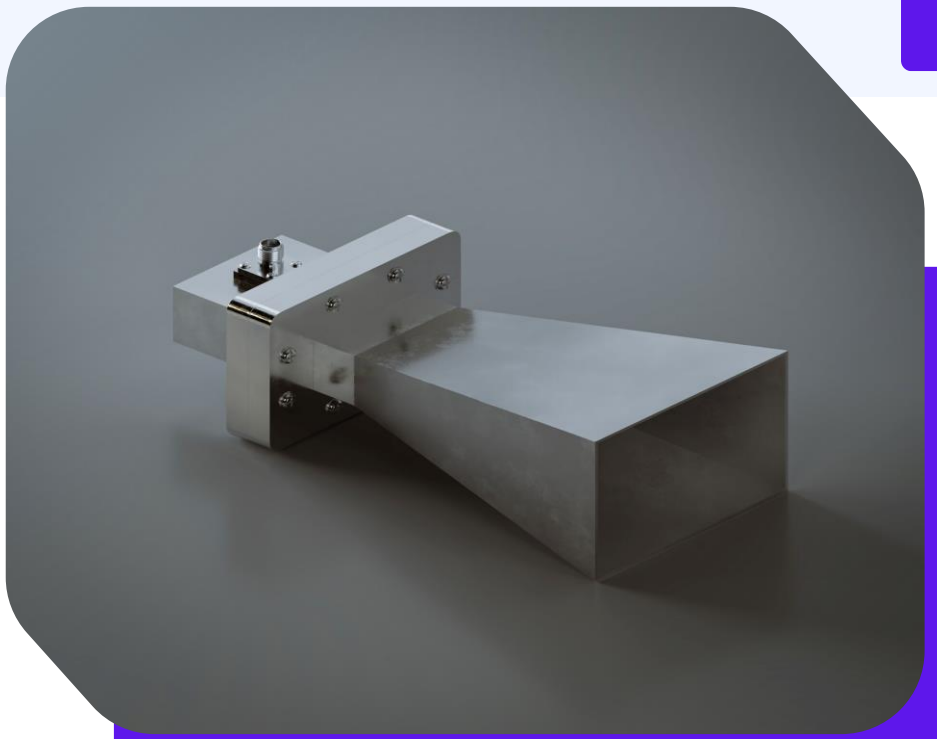
Technical Data Sheet

10CTRWH137

10 dB Gain WR137 Rectangular Horn Antenna Assembly with Integrated Coax-to-Waveguide Adapter (5.85–8.2 GHz)



Electric Specification

Adapter Type	Right Angel
Adapter Grade	Standard
Frequency Band	C Band
Waveguide Type	Rectangular
Waveguide Size El WR	WR137
Min. Frequency (GHz)	5.85
Max. Frequency (GHz)	8.2
VSWR Max	1.28
VSWR Min	1
Impedance (Ω)	50
Max. Insertion Loss (dB)	0.27
Min. Insertion Loss (dB)	0.21

Interface

Flange Style	Square
Connector	SMA
Connector Type	Female

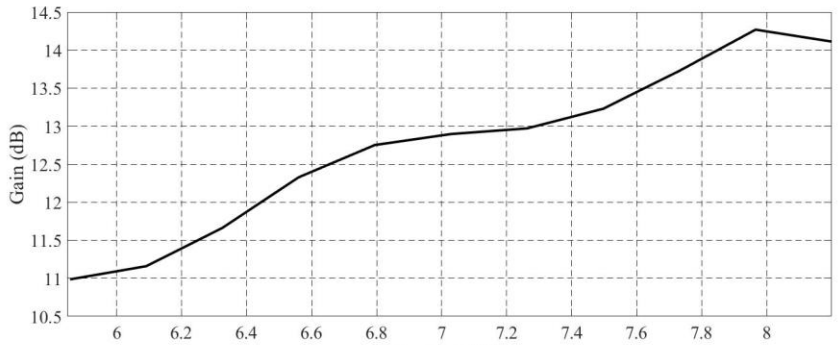
Mechanical Specification

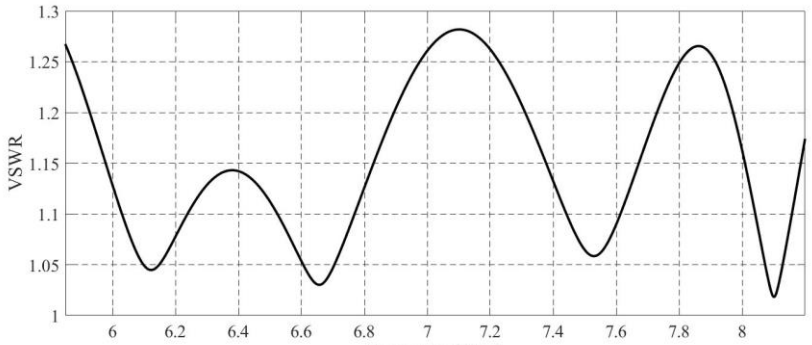
Body Material	Al
Finishing	Gray Paint
Operating Temp Low(°c)	-50
Operating Temp High(°c)	80

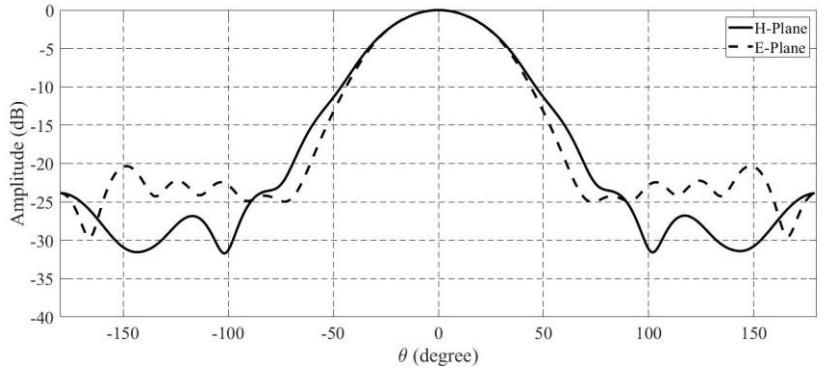
Overview

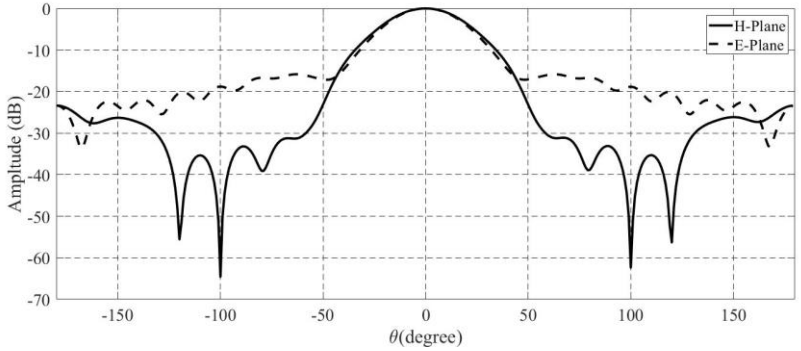
The 10CTRWH137 is a WR137 rectangular horn antenna assembly designed for operation over the 5.85–8.2 GHz frequency band. The unit integrates a precision-machined rectangular horn with a coax-to-WR137 waveguide adapter, providing a compact and mechanically robust transition from a coaxial interface to free-space radiation. The antenna assembly delivers stable radiation characteristics, nominal gain of 10 dB, and excellent impedance matching with a maximum VSWR of 1.28 across the operating band. The integrated adapter ensures efficient power transfer while minimizing insertion loss and reflection. This design makes the assembly suitable for both measurement environments and high-frequency microwave systems. The antenna supports up to 50 W of continuous input power and 3 kW peak power. It is equipped with an FDP70 (UBR70) flange, Flange No. 70, ensuring secure mechanical mounting and full compatibility with standard WR137 waveguide interfaces. The assembly is manufactured in accordance with CACIRA quality standards to ensure reliable electrical performance and long-term stability.

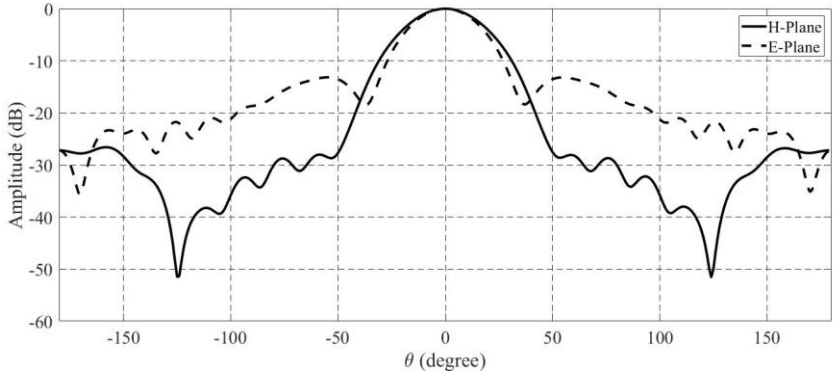
Results


Gain (dB)
14.5
14
13.5
13
12.5
12
11.5
11
10.5
6
6.2
6.4
6.6
6.8
7
7.2
7.4
7.6
7.8
8

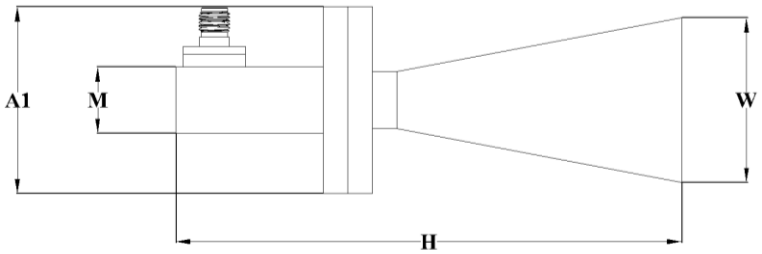

VSWR
1.3
1.25
1.2
1.15
1.1
1.05
1
6
6.2
6.4
6.6
6.8
7
7.2
7.4
7.6
7.8
8

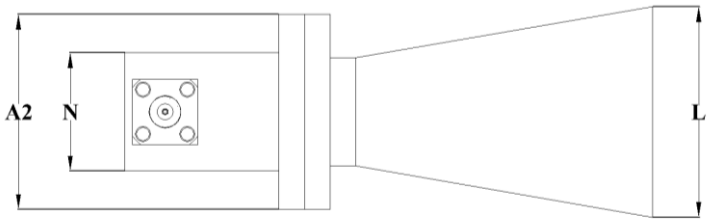

H-Plane
E-Plane
Amplitude (dB)
0
-5
-10
-15
-20
-25
-30
-35
-40
-150
-100
-50
0
50
100
150
θ (degree)

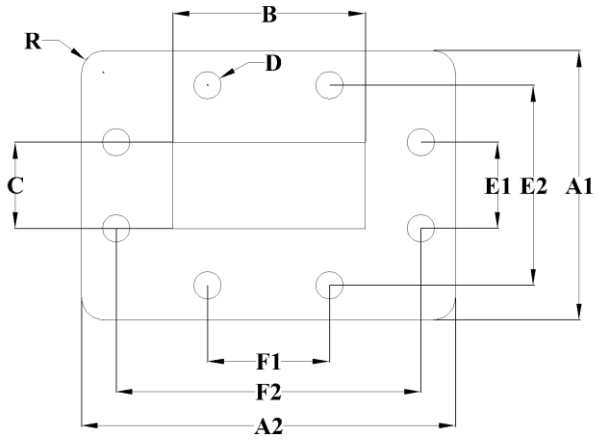

H-Plane
E-Plane
Amplitude (dB)
0
-10
-20
-30
-40
-50
-60
-70
-150
-100
-50
0
50
100
150
θ(degree)


H-Plane
E-Plane
Amplitude (dB)
0
-10
-20
-30
-40
-50
-60
-150
-100
-50
0
50
100
150
θ (degree)

Drawing







Parameter	Inch (mm)	Parameter	Inch (mm)
A1	1.937 (49.2)	L	2.717 (69)
A2	2.289 (68.3)	R	0.157 (4)
B	1.372 (34.849)	W	1.969 (50)
C	0.622 (15.799)	M	0.779 (19.799)
D	0.197 (5)	N	1.529 (38.849)
E1	0.625 (15.88)		
E2	(36.52)		
F1	0.875 (22.22)		
F2	2.188 (55.58)		
H	5.883 (149.442)		