dbDIRECT QRBH Broadband Antenna

DVTEST
Best Isolation. Better Results.

Lightweight Open Boundary Quad-Ridged Broadband Horn Antenna 300 MHz to 6 GHz

The dbDIRECT QRBH Broadband Antenna is DVTEST's lowest frequency model, featuring dual polarization, high gain and a directional radiation pattern. The open boundary allows for a lower frequency of operation and more bandwidth for its size, making it an ideal choice in a vast variety of industries including cellular and satellite communications, television broadcasting, medical, aviation and radar. Its distinguishing feature, dual polarization, allows users to significantly cut down on test and measurement time when both polarizations are examined. This robust antenna design provides excellent matching over an extremely broad frequency range: 300 MHz to 6 GHz.

The antenna is designed to be placed in an RF test enclosure such as any of the DVTEST dbSAFE Series for OTA testing of DUTs. The antennas can be mounted in fixed positions to facilitate repeatable results. When used in conjunction with a rotary positioning mechanism such as DVTEST positioners, customers can detect the highest point of power sensitivity for enhanced accuracy and repeatability in measurements. In this configuration, both the antennas and DUTs can be positioned in order to facilitate the measurement.

Applications

- RF wireless device testing in anechoic test enclosures or chambers where directional and high gain link required with DUT
- 3G, 4G, 5G FR1 and 5G new radio (5G NR), Carrier aggregation, MIMO
- LTE, LTE-A, WiMAX, WiFi, Bluetooth, GPS, GSM, Z-Wave, LoRa
- Spectrum Analysis in DAS environment, radars, IoT

Specifications for dbDIRECT QRBH Broadband Antenna

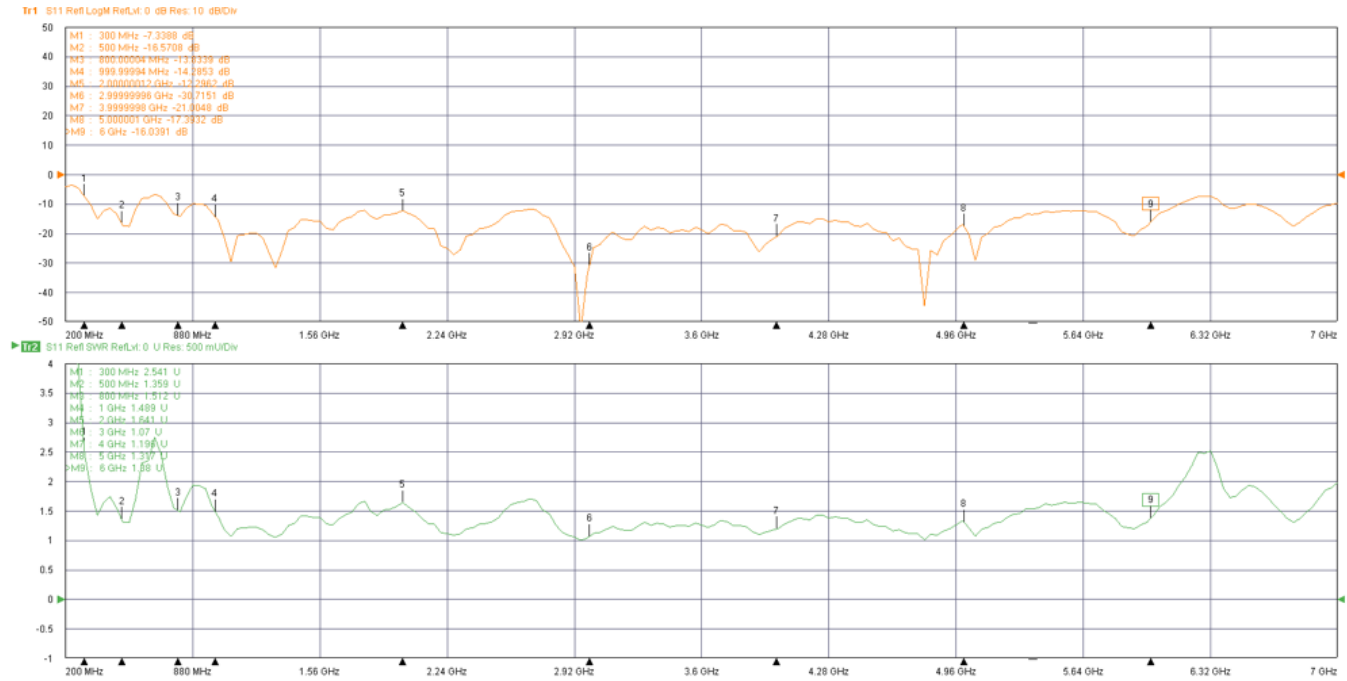|	
Frequency Range	300 MHz - 6 GHz
Maximum Input Power	500 W
Maximum Continuous Power	300 W
RF Connector	Stainless Steel 50 Ω N Type, Female
Polarization	Dual Polarized, Linear
Dimensions WxDxH Inch (mm)	20.08" (510) x 19.96" (507) x 19.96" (507)
Approximate Weight	4200 g
Gain	3 – 14 dBi
Return Loss	S11

Return Loss and VSWR

H-Plane
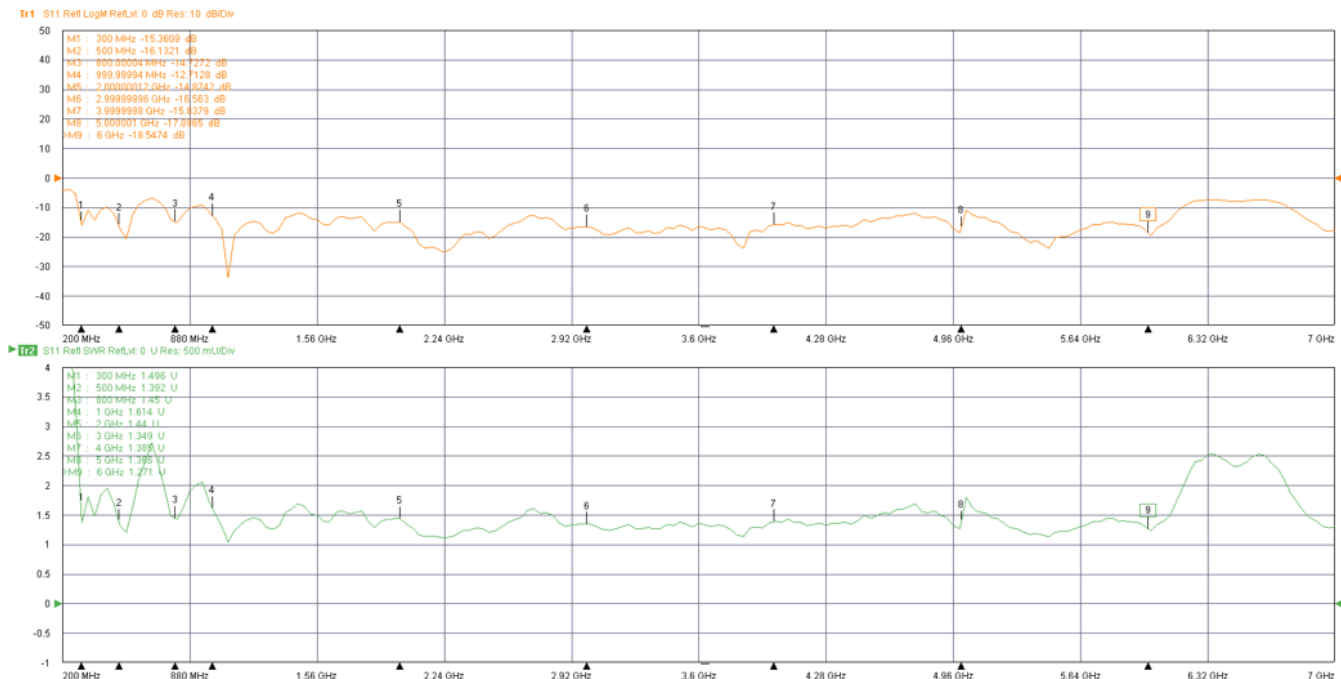
E-Plane

Antenna Gain

Frequency (MHz)	H-Plane Gain (dBi at 3 m)	E-Plane Gain (dBi at 3 m)
300	2.45	2.82
400	4.98	4.07
500	5.6	5.62
600	6.78	6.68
700	6.88	7.36
800	8.59	8.59
900	7.73	7.31
1000	7.85	7.86
2000	8.64	8.49
3000	10.41	9.70
4000	11.03	11.69
5000	12.64	12.41
6000	14.59	15.27

Antenna Pattern

H-Plane	E-Plane	H-Plane	E-Plane
300 MHz	300 MHz	700 MHz	700 MHz
400 MHz	400 MHz	800 MHz	800 MHz
500 MHz	500 MHz	900 MHz	900 MHz
600 MHz	600 MHz	1000 MHz	1000 MHz

Antenna Pattern

H-Plane	E-Plane	H-Plane	E-Plane
2000 MHz	2000 MHz	6000 MHz	6000 MHz
3000 MHz	3000 MHz		
4000 MHz	4000 MHz		
5000 MHz	5000 MHz		