# 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

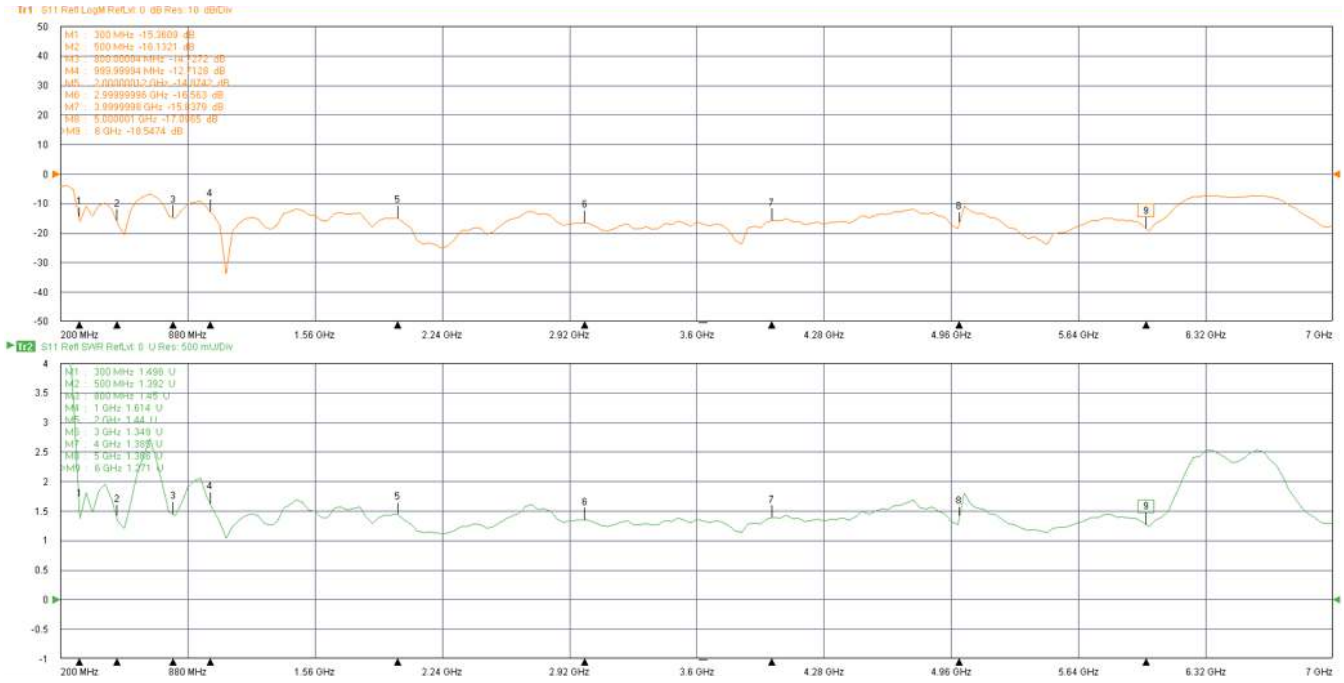
- RF wireless device testing in anechoic test enclosures or chambers where directional and high gain link required with DUT
- 3G, 4G, 5G FR1 and 5G new radio (5G NR), Carrier aggregation, MIMO
- LTE, LTE-A, WiMAX, WiFi, Bluetooth, GPS, GSM, Z-Wave, LoRa
- Spectrum Analysis in DAS environment, radars,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

## Specifications for dbDIRECT QRBH Broadband Antenna

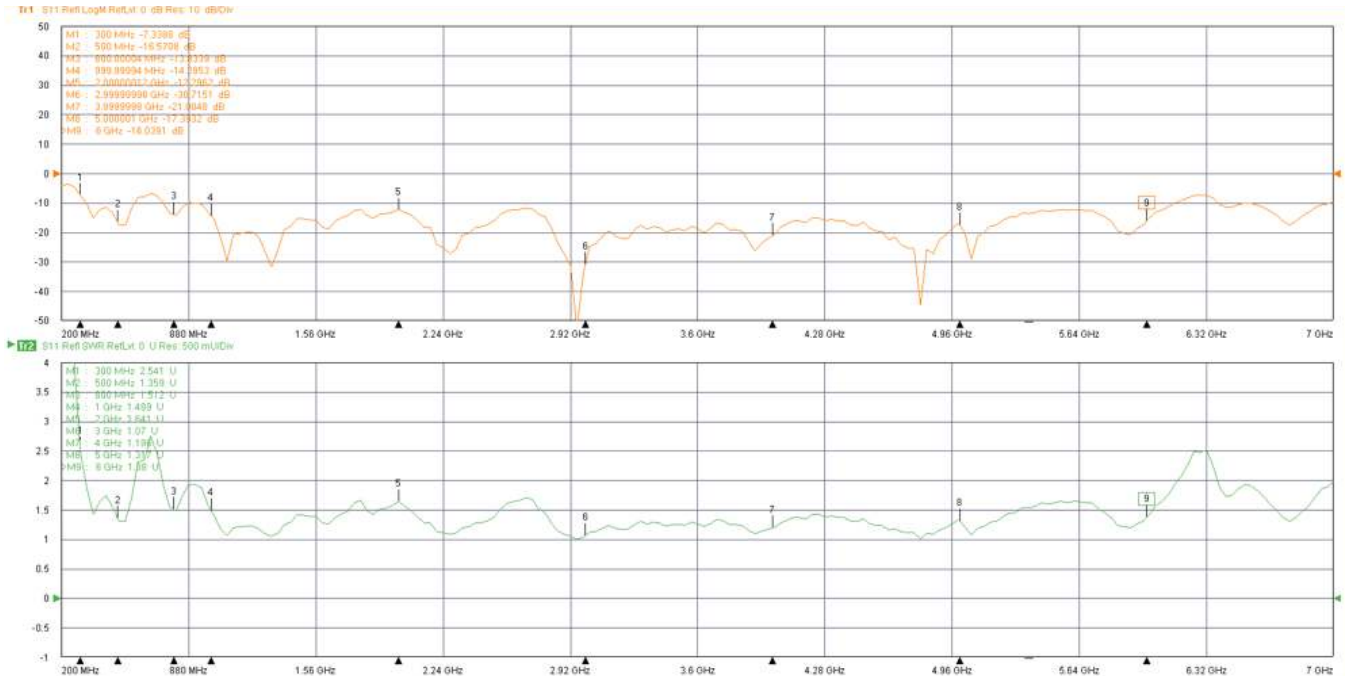
| | |
|---|---|
| Frequency Range | 300 MHz - 6 GHz |
| Maximum Input Power | 500 W |
| Maximum Continuous Power | 300 W |
| RF Connector | Stainless Steel 50 Ω N Type, Female |
| Polarization | Dual Polarized, Linear |
| Dimensions WxDxH Inch (mm) | 20.08” (510) x 19.96” (507) x 19.96” (507) |
| Approximate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

## Return Loss and VSWR

### H-Plane



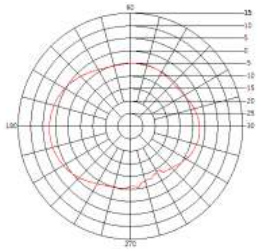
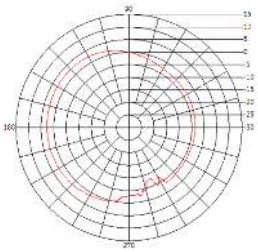
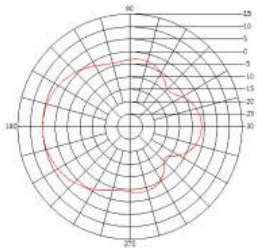
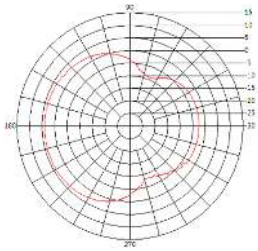
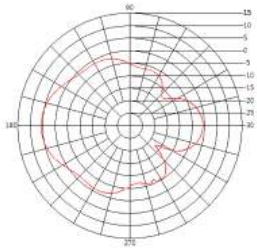
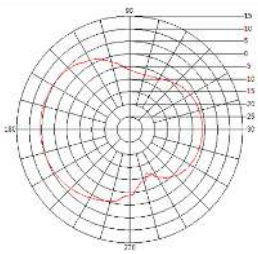
**E-Plane**




## 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 |
|---|---|
| 300 MHz | 300 MHz |
|  |  |
| 400 MHz | 400 MHz |
|  |  |
| 500 MHz | 500 MHz |
|  |  |
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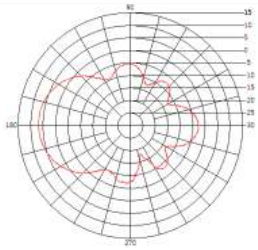
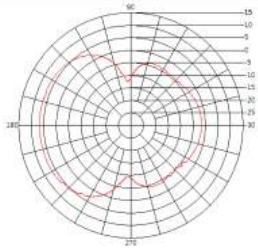
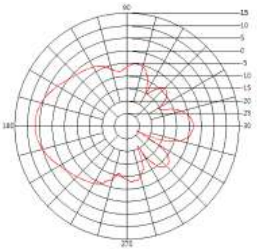
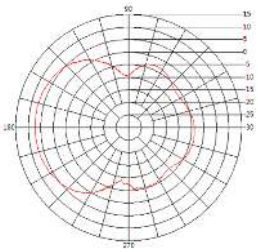
|  |  |

| H-Plane | E-Plane |
|---|---|
| 700 MHz | 700 MHz |
|  |  |
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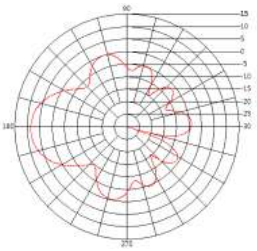
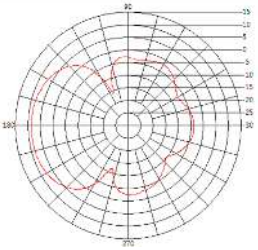
|  |  |
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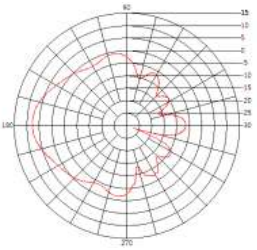
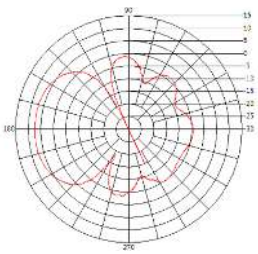
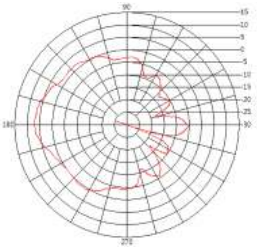
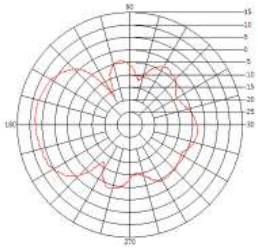
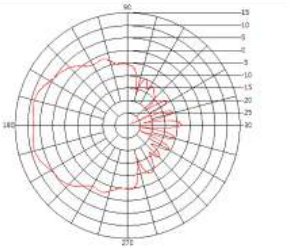
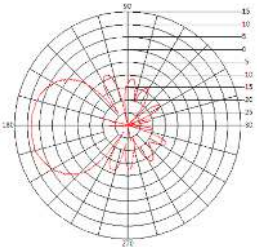
|  |  |
| 1000 MHz | 1000 MHz |
|  |  |

## Antenna Pattern

| H-Plane | E-Plane |
|---|---|
| 2000 MHz | 2000 MHz |
|  |  |
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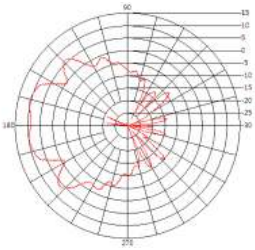
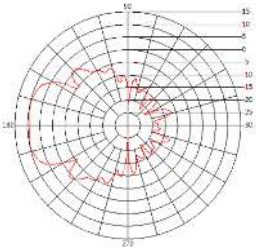
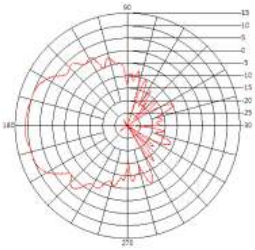
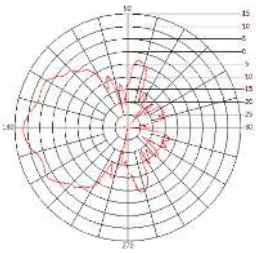
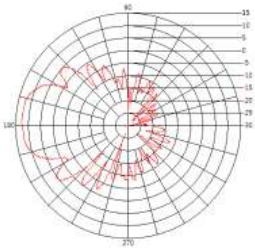
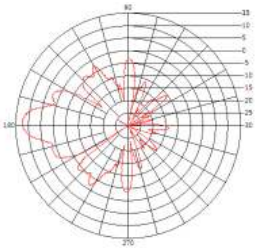
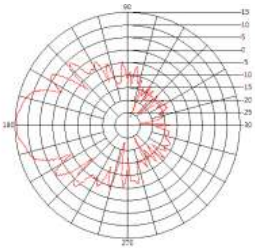
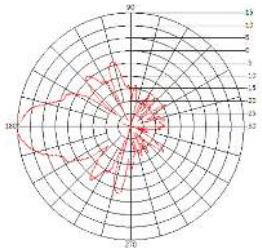
|  |  |
| 4000 MHz | 4000 MHz |
|  |  |
| 5000 MHz | 5000 MHz |
|  |  |

| H-Plane | E-Plane |
|---|---|
| 6000 MHz | 6000 MHz |
|  |  |