APPLIED EM INNOVATIONS

Ultra-Wideband Directional Antenna

400 MHz to 8 GHz

UWB400-D

Key Features

- Extremely wide bandwidth and consistent directional radiation patterns
- VSWR typically below 2:1 with gain up to 9.6 dBi
- Very thin, lightweight, and compact for a broadband directional antenna operating down to 400 MHz
- Professionally designed and hand-tested by engineers in the United States

UWB400-D

Applications

- Measurement, test, and experimentation
- Wide bandwidth antenna for software-defined radios (SDRs)
- Cellular (2G, 3G, 4G LTE) and WiFi (2.4 GHz and 5.8 GHz)
- LoRa and the Internet of Things (IoT)
- Electromagnetic surveillance and direction finding
- University research projects (e.g., radar)

Product Overview

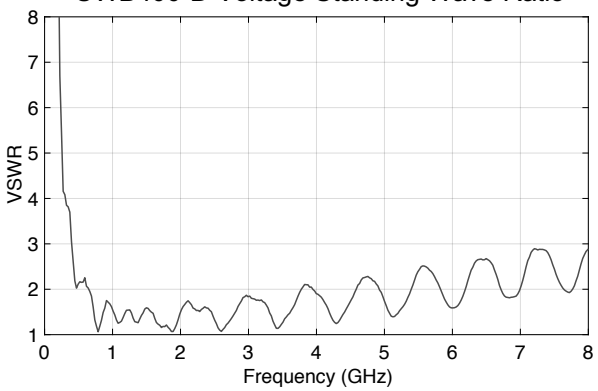
The UWB400-D is an ultra-wideband directional antenna that operates from 400 MHz to 8 GHz. Using state-of-the-art design techniques and the latest research in applied electromagnetics, this high-performance antenna was designed to achieve an extremely wide bandwidth and very consistent radiation patterns in a compact and slim form-factor. This versatile antenna has numerous applications including laboratory test and measurement, research and development, and experimentation with software defined radios.

Performance Data

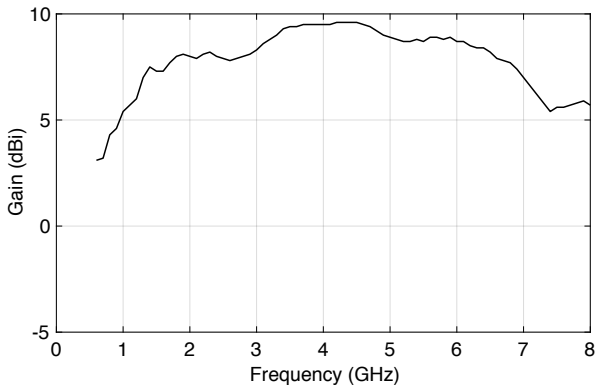
Parameter		Frequency	Min.	Typ.	Max.	Unit
VSWR		400 MHz – 650 MHz 650 MHz – 3.8 GHz 3.8 GHz – 8 GHz	2.0 1.1 1.2	2.3 1.5 2.0	3.0 2.0 2.9	—
Gain		400 MHz – 8 GHz	3.1	8.0	9.6	dBi
HPBW	**E-Plane** **H-Plane**	400 MHz – 8 GHz	25 27	50 40	84 129	deg.
Input Power		400 MHz – 8 GHz	—	—	10	dBm
Impedance		—	50			Ω
Connector		—	SMA (female)			—

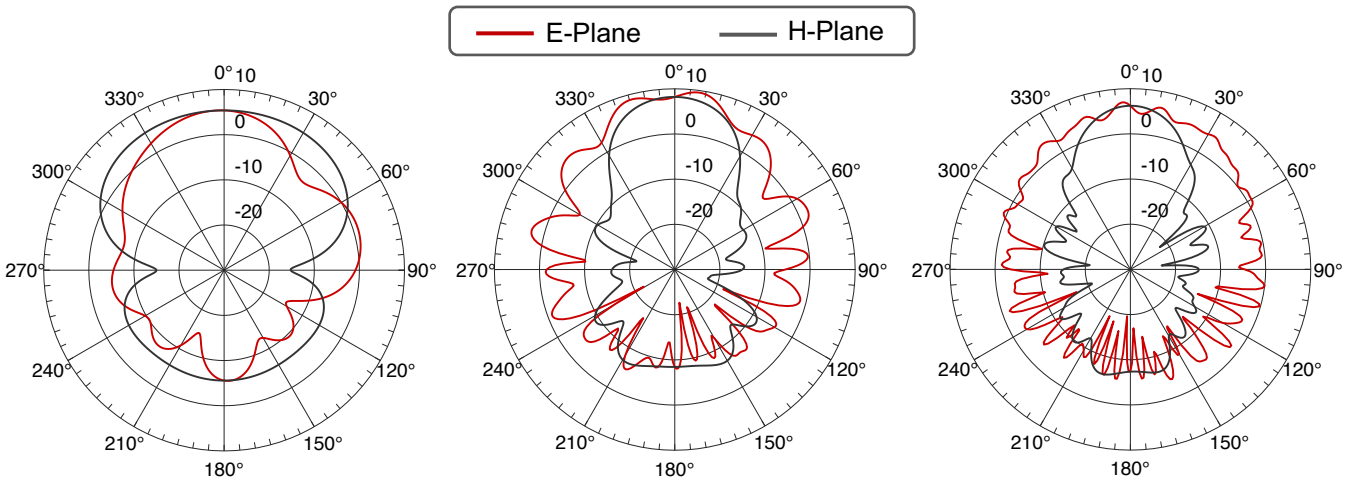
PERFORMANCE DATA (CONT.)

UWB400-D Voltage Standing Wave Ratio



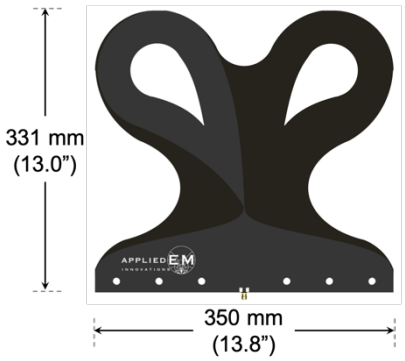
UWB400-D Gain





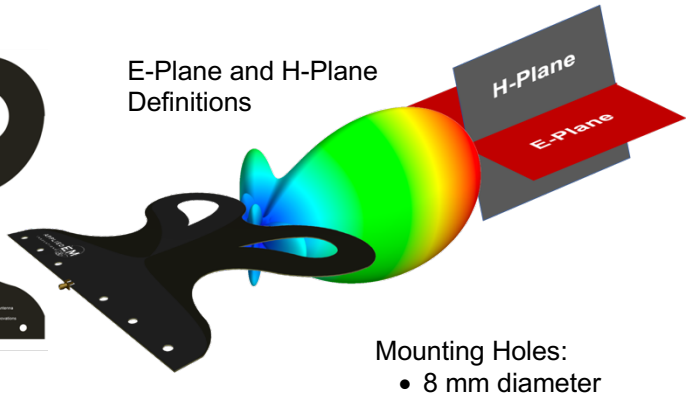
1 GHz 4 GHz 7 GHz

Front View



Back View

E-Plane and H-Plane Definitions



Mounting Holes:
- 8 mm diameter
- 50 mm spacing

1.2 mm thick (6.35 mm thick including SMA connector)