

# ANTENNA TEST REPORT

*Antenna Type : Micro-strip Patch Antenna*

*Manufacturer and Model : Texas Instruments and AWR6843AOP*

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*Test date: May 26th, 2023*

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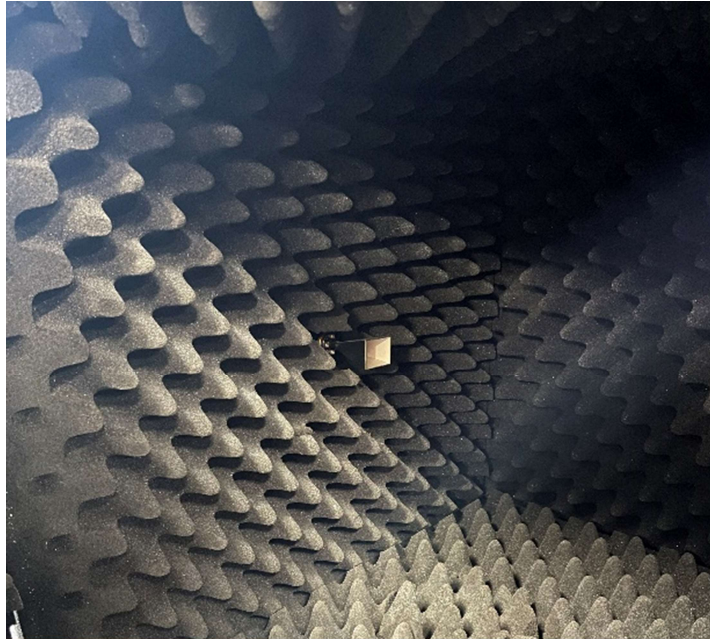
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- **DEVICE UNDER TEST**

DUT : AWR6843AOP

System Hardware: CZ board using AWR6843AOP

- **TEST SETUP AND ENVIRONMENT**



**FIGURE 1: HORN ANTENNA**



**FIGURE 2: ANECHOIC CHAMBER LAYOUT**

Figure-2 shows the current anechoic chamber layout with positioning gimbal on right (holding DUT) and horn antenna secured to anechoic wall on left.

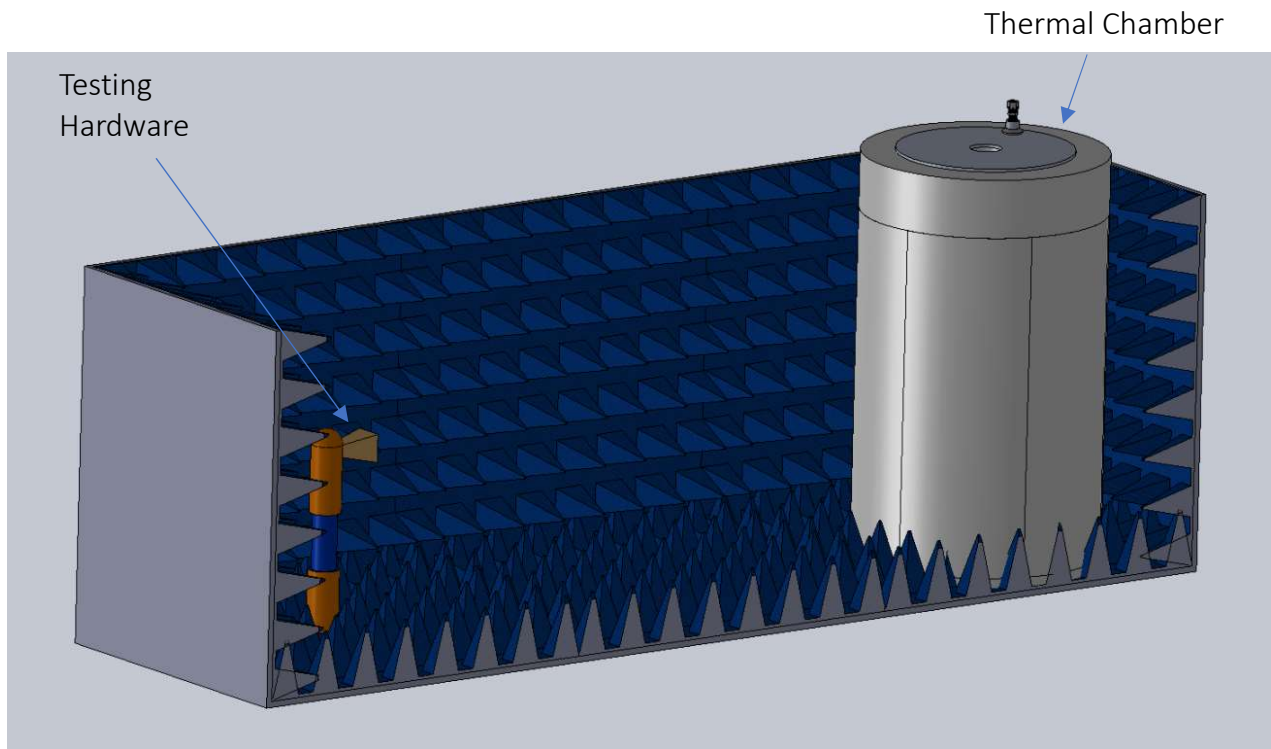


FIGURE 3: TEST SETUP

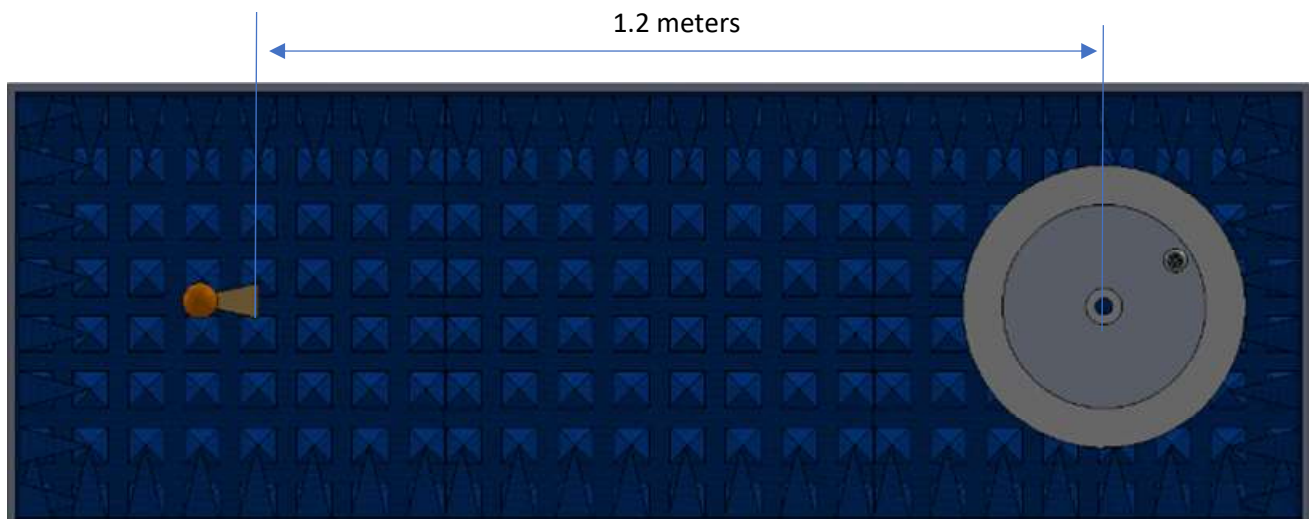
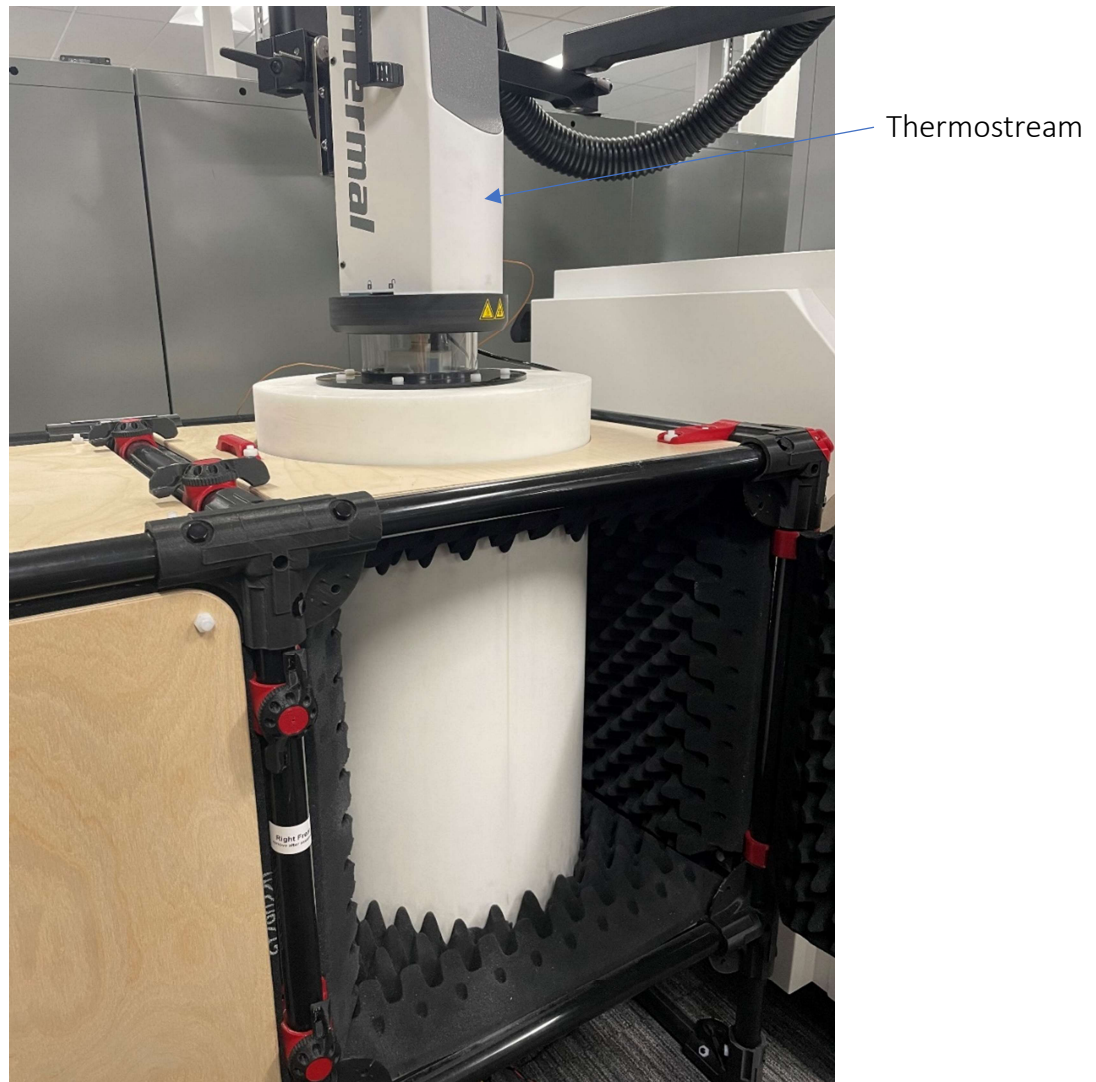


FIGURE 4: TEST ANTENNA TO THERMAL CHAMBER GAP

Figure -4 shows the setup detail of center of thermal chamber separated by 1.2 meters from testing hardware



**FIGURE 5: THERMAL CHAMBER**

Figure-5 shows the Thermostream which is used to adjust temperature in thermal chamber by forcing dry air in through thermostream port and out of air outlet.

Temperature is regulated by thermostream with use of a thermocouple that can be placed inside the chamber. Plate reinforcement used to prevent soft foam lid from degradation by repeated mounting of thermostream.

Additional absorber is placed over lid to prevent any reflections at high azimuth angles.

- EQUIPMENT LIST

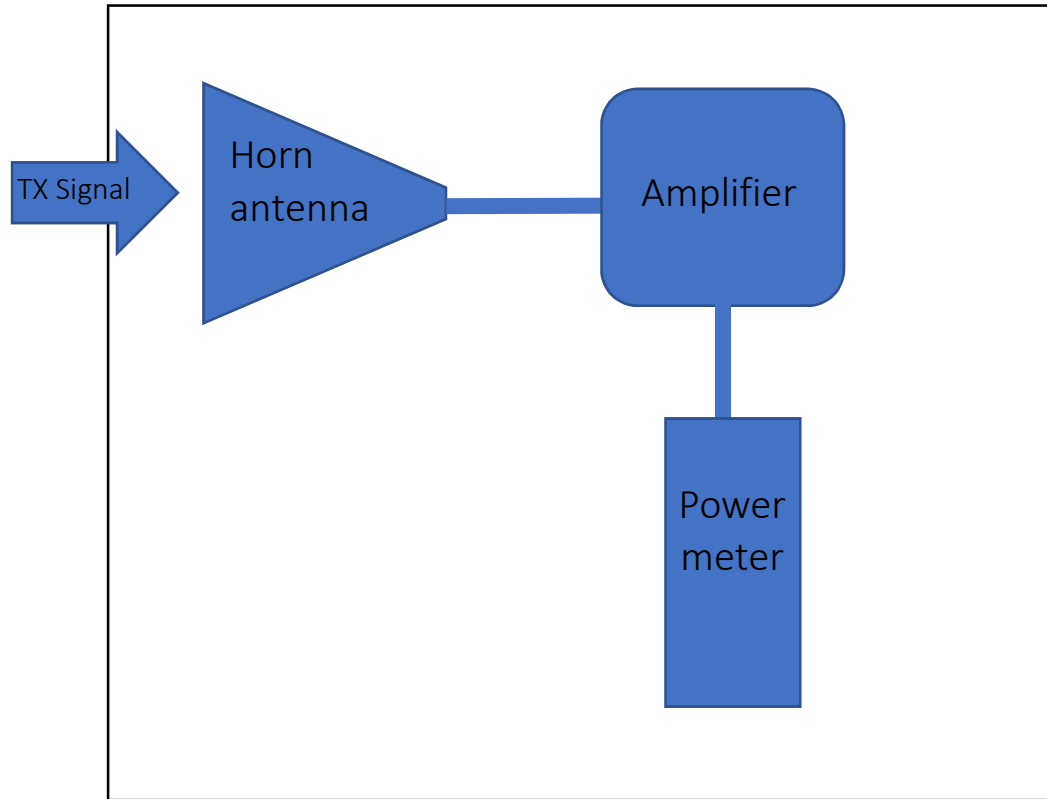


FIGURE 6: MEASUREMENT EQUIPMENT CONNECTIONS

Signal is passed from horn antenna through a V band amplifier and measured on wide band power meter.

Complete list of equipment used in test setup:

- Thermostream
- Anechoic chamber
- RF thermal chamber
- Positioning gimbal
- Horn antenna
- V band amplifier
- Wide band power meter/sensor

## MEASUREMENT RESULTS

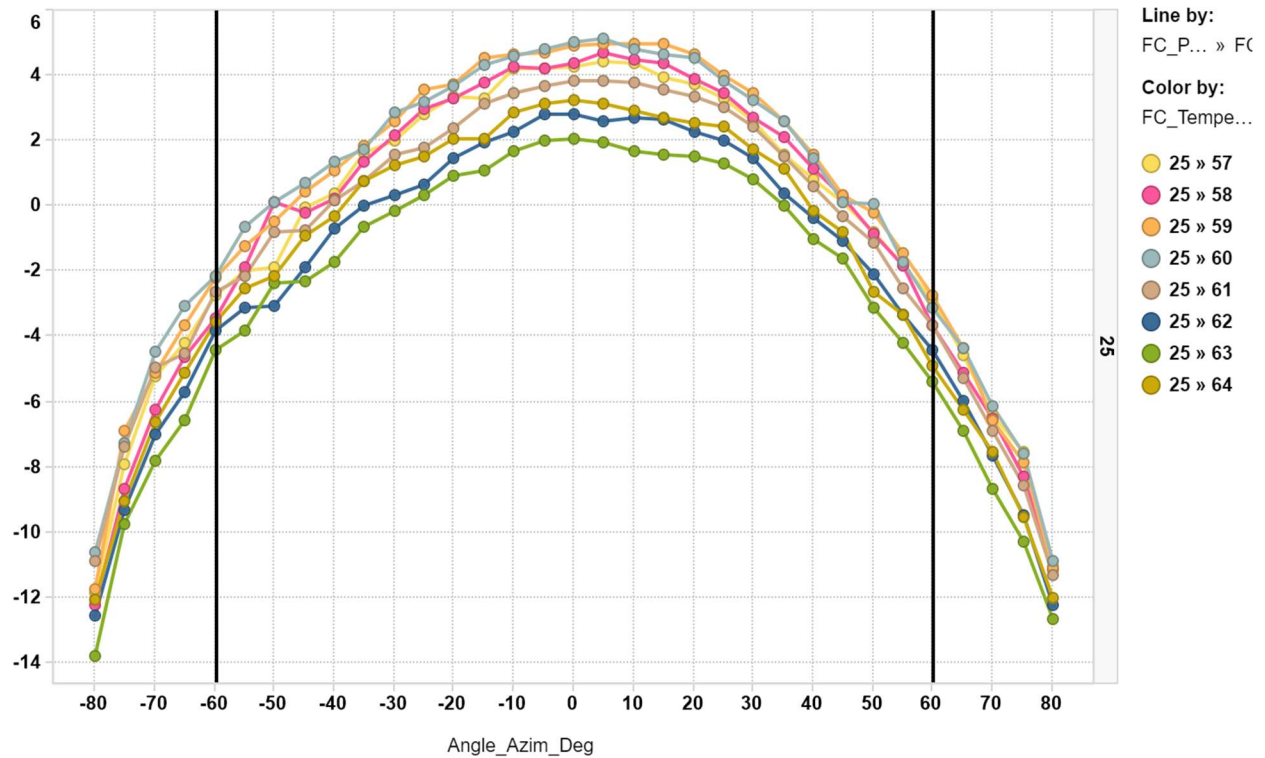


FIGURE 7: ANTENNA GAIN ACROSS AZIMUTH | AWR6843AOP

- Antenna Gain of AWR6843AOP device measured in mmWave antenna test system
- Measurements collected at 25C
- Frequencies shown are from 57-64 GHz
- EIRP of DUT (Device + Antenna) collected and internal power readings are subtracted from measurements to calculate for antenna gain over angle.
- **Max. peak gain measured at 60 GHz with a value of 5.2 dBi**