

5G Chamber – “Iron Maiden”

The 5G anechoic chamber (“Iron Maiden”) is a testing range used for material degradation testing, TRP (Total Radiated Power), TIS (Total Isotropic Sensitivity), EIRP (Effective Isotropic Radiated Power) and CP (Conducted Power) measurements. BluFlux is an accredited CTIA lab performing TRP, TIS, EIRP and CP measurements under standardized and industry accepted methods for the purpose of certifying EUTs (Equipment Under Test) to be used with mobile carriers (e.g. Verizon). The chamber has the following characteristics:

- **Frequency Range:** 5G FR2 passive and active antenna pattern tests 24 to 43.5 GHz
- **Quiet Zone:** 60cm diameter cylinder, 60cm in depth
- **Positioner: Accuracy:** 0.05 deg Resolution: 0.01 deg
- **Amplitude Taper:** < 1dB
- **Amplitude Ripple:** Max +/- 0.5dB
- **Phase Taper:** < 5 deg
- **Phase Ripple:** Max +/- 5 deg
- **Typical RF Isolation:** 80 dB @ 12 GHz
- **Chamber Dimensions (W x D x H):** 15’-2” x 9’-2” x 8’-6” (≈ 4.6m x 2.8m x 2.6m)
- **Max EUT Weight:** 50 kg (110 lbs.)
- **Feed Antenna:** Dual polarized

The EUT’s dimensions must fit inside the Quiet Zone region, limiting the size of the EUT. EUTs of larger sizes must be analyzed case by case.

4G LTE Chamber – “Stargate”

The 4G LTE chamber (“Stargate”) is a testing range used for TRP, TIS, EIRP and CP measurements. The 4G LTE chamber is CTIA accredited and A2LA certified following rigorous methods of standardized testing. This chamber has the following characteristics:

- **Frequency Range:** 4G LTE FR1 passive and active antenna pattern tests 690 MHz to 6 GHz
- **Quiet Zone:** 300mm cylindrical sphere around the center of EUT rotation
- **Quiet Zone:** Larger notebooks with a maximum physical dimension D=500mm (D is corner to corner measurement): Cylinder diameter of 500mm and axial extension from Z=-150mm to Z=210mm. -Z is down and +Z is up in Stargate
- **Path Length:** 1.50-meter
- **Chamber Dimensions (W x D x H):** 13’-8” x 13’-8” x 13’-8” (≈ 4.2m x 4.2m x 4.2m)
- **Feed Antenna:** Dual polarized 23 antenna array system
- **Feed Antenna Spacing:** Every 15°