



Overview

MacB's Research and Development Lab is a 10,000 sq. ft. facility located in the All American Military Business Park in Fayetteville, NC, next to Fort Bragg. The lab provides electro-magnetic compatibility (EMC) testing, environmental testing, RF emissions pre-compliance testing, engineering design, integration and consulting services to local, state and regional government and commercial clients.

Engineering Services

- Feasibility Studies
- Design Engineering
- Network Engineering
- Network Connectivity
- 100 Megabit per second Ethernet connection to the North Carolina Research and Engineering Network (NCREN) and peered networks such as the Internet2, National LambdaRail and the Defense Research and Engineering Network (DREN)
- Field Testing
- Network Component Testing
- End User Security Training - Government Only
- IT & Communications System Integration

Environmental Testing

The MacB R&D Lab performs environmental testing utilizing specialized environmental test chambers to include:

Vertical Air-to-Air Thermal Shock Chamber

- Work Space Volume
9 Cubic feet (225 L)
- Temperature Range
-75°C to +190°C (Cold Chamber)
+70°C to +210°C (Hot Chamber)
- Temperature Stability
±1°C after recover period
- Dimensions
Product Test Area: 25"W x 25"D x 25"H

Temperature Humidity Chamber

- Work Space Volume
32 Cubic feet (905 L)
- Temperature Range
-73°C to +190°C
- Humidity Range
10% to 98% RH
- Interior Dimensions
38"W x 38"D x 38"H
- Shelf Load Capacity
100 lbs distributed, 55 lbs concentrated

Temperature Altitude Chamber

- Work Space Volume
32 Cubic feet (905 L)
- Temperature Range
-73°C to +177°C
(Achievable from site level to 40,000 ft.)
- Altitude without temperature control 100,000 ft.
- Temperature Control ±1°C at site level
- Interior Dimensions: 38"W x 38"D x 38"H

EMC Compliance Testing

The MacB R&D Lab performs EMI/EMC testing in a large shielded semi-anechoic test chamber which simulates an open field, RF quiet environment.

- Shielded from outside environment
- Internally lined with RF absorbing materials
- Capable of testing small or large systems
 - Cell phones, routers, wireless devices
 - Vehicular-mounted systems
 - Rack-mounted systems

Semi-Anechoic EMI Chamber

- Dimensions
36'L x 36'W x 18'H
- 24 ft. turntable capable of handling a 55,000 lb payload
- MIL-STD 461 Testing
 - Emissions Measurements:
 - CE101, CE102, CE106
 - RE101, RE102, RE103
- Frequency Range: 20Hz to 18Ghz

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Altitude Chamber



Humidity Chamber

