

Pioneering RF Engineering Services

Certification Services

EMC-EMI Anechoic Chambers/OATS



Description

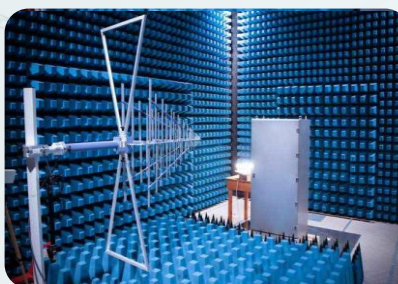
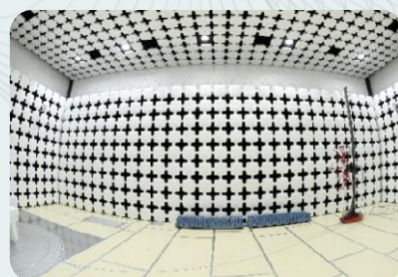
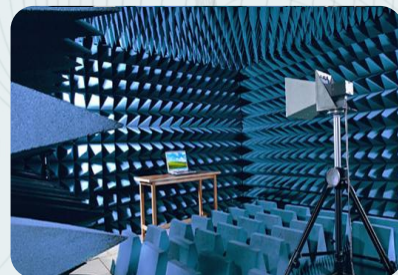
EMR Division, BNN Communication Engineers Pvt. Ltd. is 17025 accredited on-site testing laboratory established in Delhi NCR. The laboratory has been in operation since 2018 and has tested several chambers for both Government and Private customers.

Services

1. Shielding effectiveness
2. Normalized site attenuation
3. SVSWR, TDSVSWR
4. Field uniformity
5. ALSE performance validation
6. Ambient noise
7. Absorber reflectivity

Applies To

1. Anechoic chambers
2. Open Area Test Sites
3. Cabinets
4. Shelters/nuclear survivable bunkers
5. Reverberation chambers
6. Shielded rooms/boxes
7. Semi anechoic chambers
8. Materials (honeycombs, gaskets, radar screens, cable glands)



DAK Systems

Dielectric Material Measurement
Frequency Band 4MHz – 67MHz



Description

BNNSPEAG Test and Calibration Laboratory (I) Pvt. Ltd., a joint venture between BNN India and SPEAG Switzerland undertakes precise measurement of dielectric properties of materials (solids and liquids) from (4MHz – 67MHz) using Dielectric Assessment Kits from SPEAG Switzerland.

Services

1. Permittivity
2. Loss tangent
3. Conductivity

Applies To

Boron, teflon, ecostock, water, methanol, FR4, blood, head and body simulating liquids and di-methyl sulphoxide.



Absorber Reflectivity Test

Onsite/ In-Lab



Description

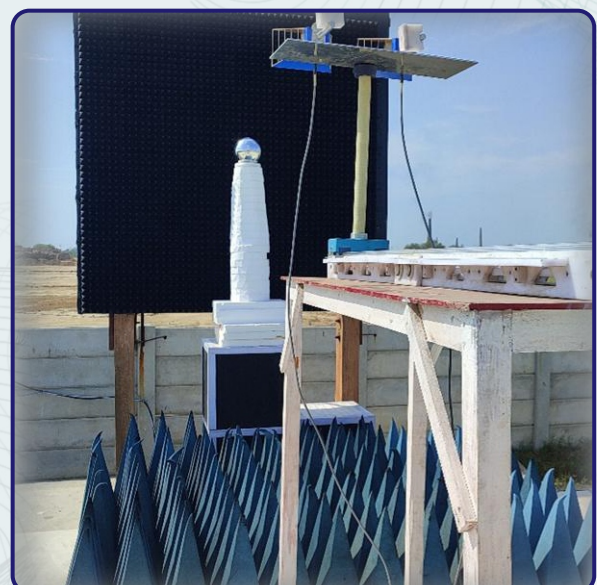
Performance of absorbers, which may degrade over time, is a major factor in how well EMC-EMI chambers perform. The urgent need is for performance to be verified by an independent lab before installation and then onsite periodically afterwards.

Services

1. Reflectivity in-lab (IEEE 1128, NRL Arch Method)
2. Reflectivity In-lab/onsite (RCS method, IEEE AMTA, 2016)

Applies To

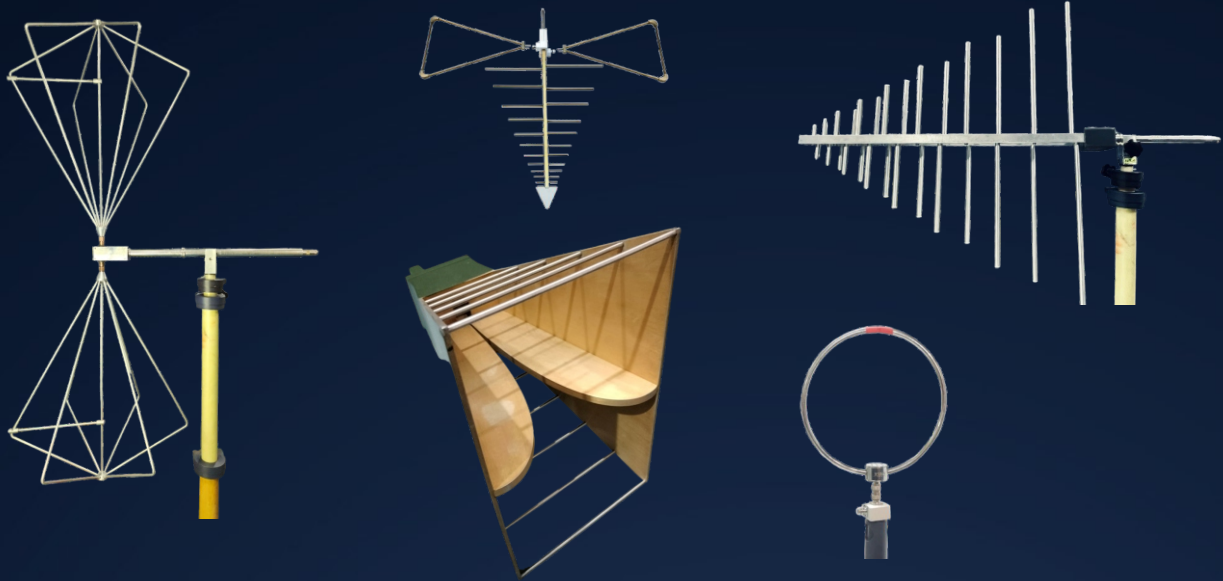
1. In-lab independent third-party testing
2. Onsite testing of absorbers in existing chambers
3. In-lab testing of radar absorbent materials



EMC Antennae

Loop, Biconical, LPDA, Horn & Others

Designed, Manufactured and Calibrated in INDIA



Description

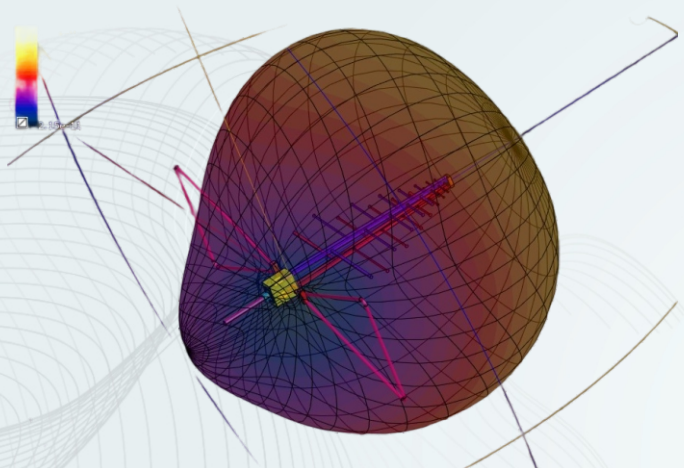
EMC testing requires antennae with exceptional performance and accurate calibration. Our Antennae have been designed and modelled using CATIA (Dassault) and Sim4life (SPEAG). Manufacturing is done locally through partners and calibrated in our 17025 accredited Open Area Test Site (OATS).

Products

1. Loop (9KHz – 30MHz)
2. Biconical (20MHz - 300MHz)
3. LPDA (20MHz – 3GHz)
4. Hybrid (LPDA/Biconical) (20MHz - 7GHz)
5. Dual ridge horn (1GHz-40GHz)
6. Monopole (9KHz - 30MHz)

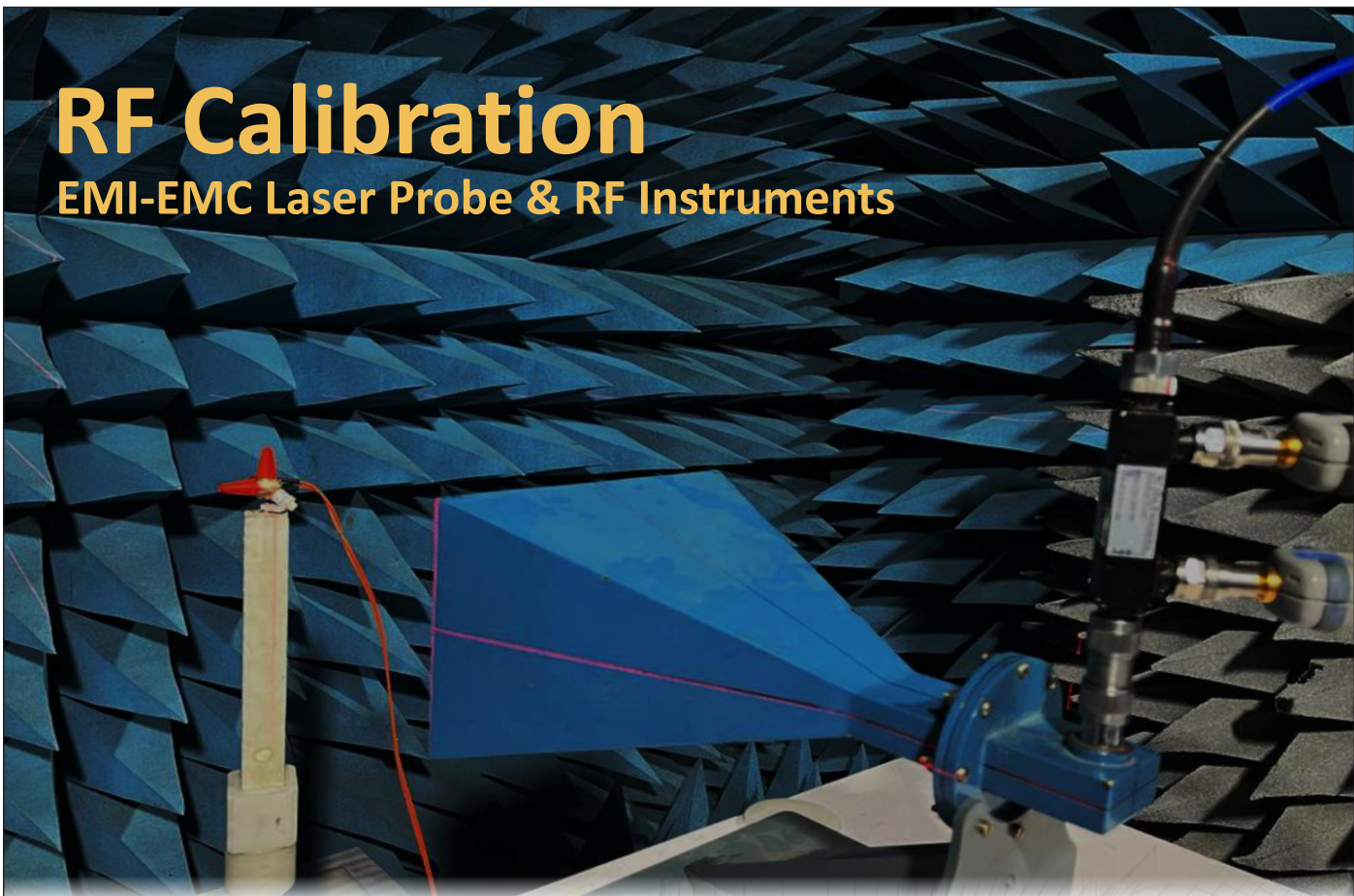
Services

1. Repair of precision antennae (any make)
2. 17025 Accredited calibration at OATS



RF Calibration

EMI-EMC Laser Probe & RF Instruments



Description

BNNSPEAG Test and Calibration Laboratory (I) Pvt. Ltd., a joint venture between BNN India, and SPEAG Switzerland, undertakes accredited onsite/in-lab calibration of EMI-EMC probes, signal generators, spectrum analyzers, EMI receivers and other active and passive RF devices.

Services

1. Calibration of EMI-EMC probes (IEEE 1309, IEC 61000-4-3)
2. Calibration of RF instruments-spectrum analyzers, signal generators, VNA, power meters.
3. Calibration of EMI receivers.

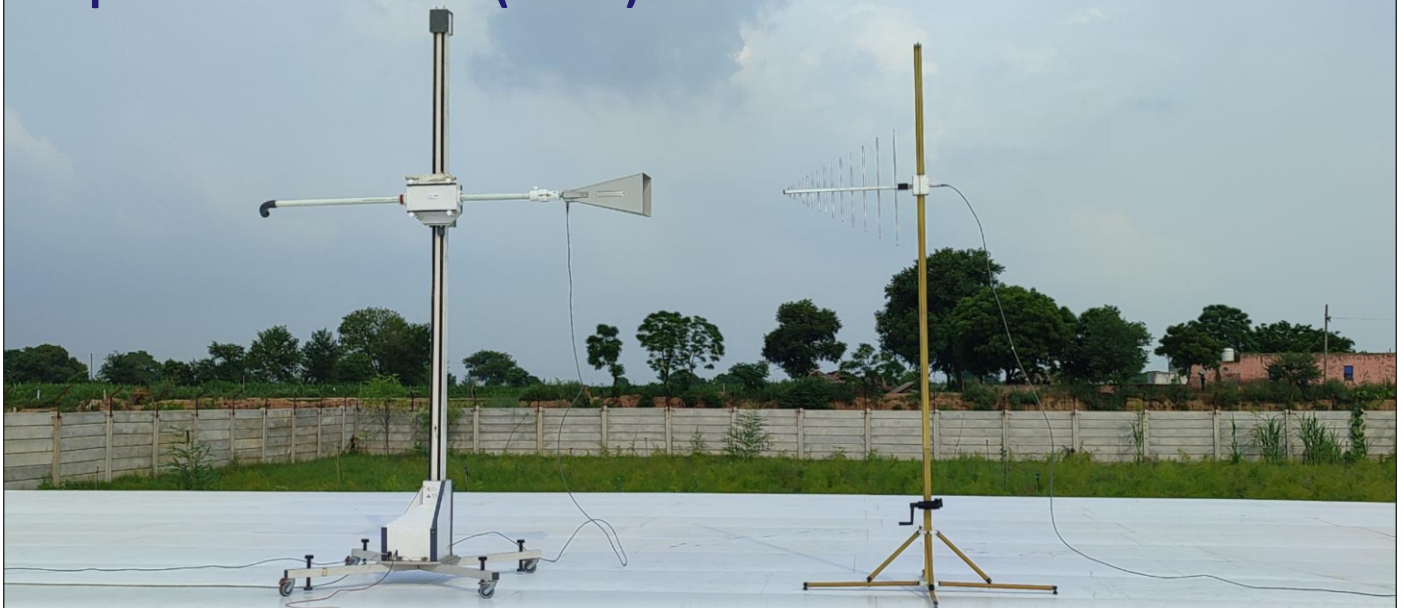
Applies To

1. EMC probes and field meters of all makes (Narda, AR world, ETS etc.)
2. RF instruments of all makes (R&S, Keysight, Anritsu etc.)
3. Comb generators, transponders, LISN etc.



Antenna Calibration Services

Open Area Test Site (OATS)



Description

BNNSPEAG undertakes NABL/17025 accredited calibration of all types of antennae in the frequency band (9KHz-18GHz). Calibrations are carried out at OATS as well as inside fully anechoic chambers.

Services

1. Calibration of antennae as per international standards ARP 958, ANSIC63.5, CISPR 16-1-6
2. Frequency range (9KHz - 18GHz)

Applies To

1. EMC-EMI antennae
2. Loop antenna
3. LPDA
4. Horn antenna
5. Monopole antenna
6. Biconical antenna
7. Hybrid antenna
8. Dipole antenna
9. Various other types of antennae



BNN Communication Engineers Pvt. Ltd.

Organizational Services

Wireless Services

1. Network planning for RF transmissions, LOS surveys
2. Spectrum scanning
3. Interference source hunting
4. EMF measurements

Products

1. SAR laboratory supply setup & installation
2. Sim4life
3. Dielectric measurement systems

EMR Division, BNN Communication Engineers Pvt. Ltd.

One stop certification of EMC-EMI Anechoic Chambers/OATS (17025 accredited)

1. Shielding effectiveness
2. SVSWR
3. ALSE performance validation
4. Normalized site insertion loss (NSIL)
5. Normalized site attenuation
6. Field uniformity
7. Absorber reflectivity testing

Antenna Division, BNN Communication Engineers Pvt. Ltd.

1. Design and simulation of precision antennae using FDTD simulation software Sim4life
2. Mechanical design using CATIA
3. Production in precision manufacturing workshops
4. Repairs of EMC antennae (any make)

BNNSPEAG Test and Calibration Laboratory (I) Pvt. Ltd.

Calibration Services

1. Field Probes (laser driven included)- Govt. of India/DoT/TEC registered
2. RF instruments- signal generators, spectrum analyzers, RF components, EMI receivers, LISN
3. Antennae

Testing Services

1. Specific absorption rate
2. 5G power density measurement
3. Human body phantoms



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