



**BNN**

**PIONEERING ENGINEERING  
RF SERVICES**



# CERTIFICATION SERVICES

EMC/EMI/Anechoic Chambers/OATs



## Description

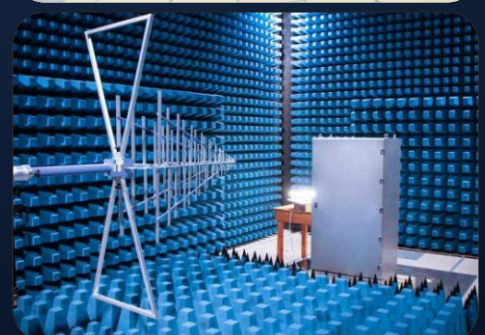
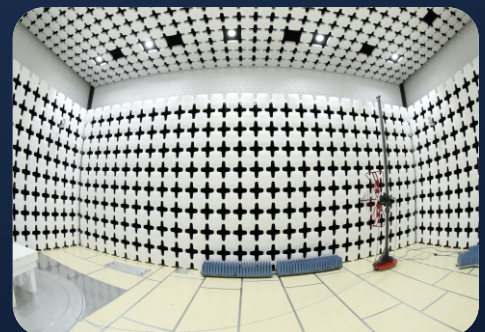
EMR Division, BNN Communication Engineers Private Ltd is 17025 accredited as on site testing laboratory established in Delhi NCR. The laboratory is in operation since 2018 and has tested several chambers for both Government and Private customers.

## Services

- Shielding Effectiveness (IEEE 299:2006, EN 50147)
- Normalized Site Attenuation (CISPR 16-1-4, ANSI 63.4)
- SVSWR (CISPR 16-1-4)
- Field Uniformity (IEC 61000-4-3)
- ALSE Performance Validation (CISPR 25, Annexure J)

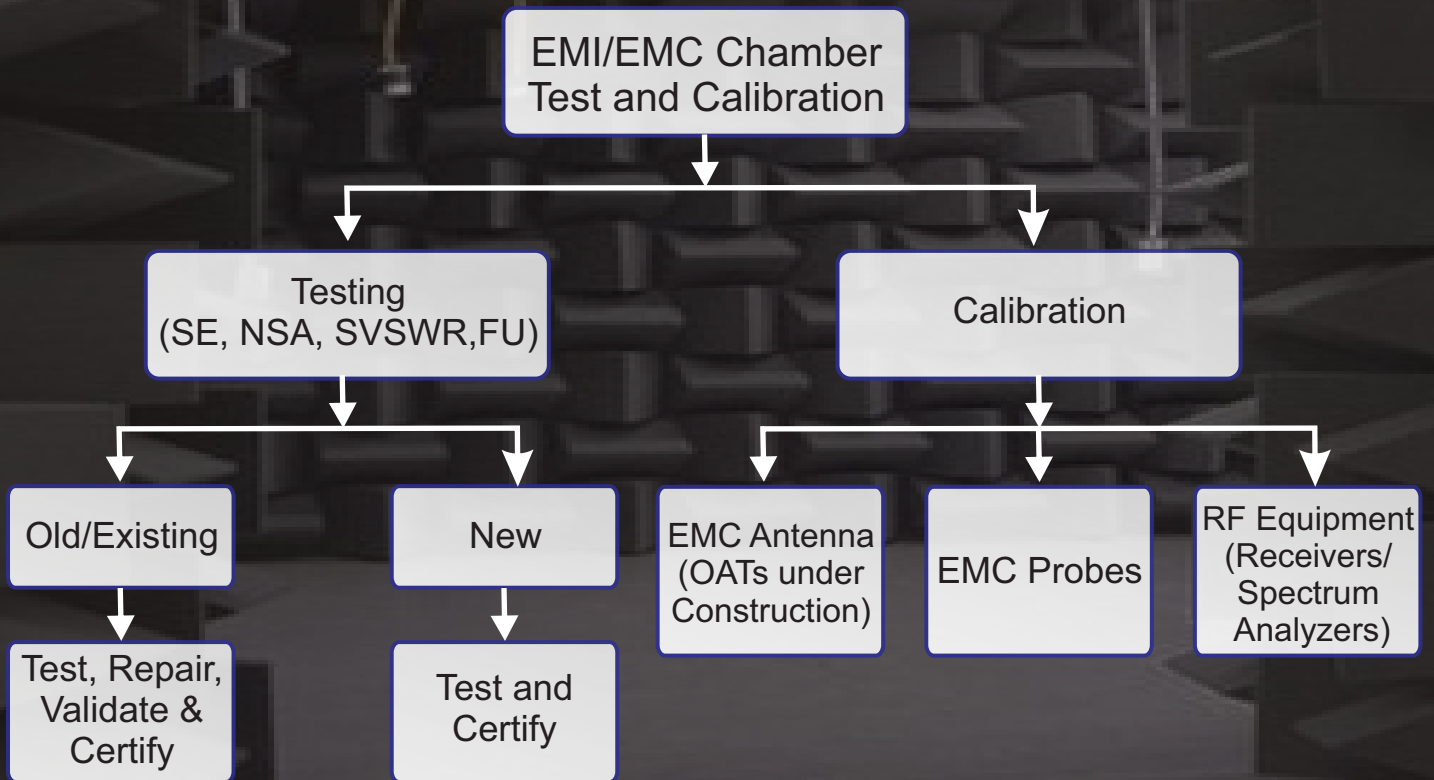
## Applies To

- Anechoic Chambers
- Shielded Rooms
- Open Area Test Sites
- Semi Anechoic Chambers



# EMC/EMI CHAMBER SERVICES

Repair , Testing & Re-Certification



## Description

EMC / EMI chambers are prone to deterioration with usage & time & need periodic verification. BNN provides a comprehensive one stop solution for identification , repairs , validation followed by testing & certification.

## Applies To

- Existing and New EMI/EMC Chambers/OATs
- Existing and New Shield Rooms
- Antenna testing & Measurement installations





# CHAMBER SHIELDING TEST

Nuclear Survivable / Transportable  
Systems as per MIL standard 188-185-1/2



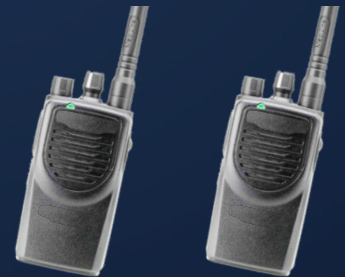
## Description

EMR Division, BNN Communication Engineers Private Ltd is 17025 accredited on site testing laboratory established in Delhi NCR. The laboratory is in operation since 2018 and has tested several HEMP hardened Enclosures and cabinets.



## Services

Shielding Effectiveness (IEEE 299.1:2013,  
MIL Std. 188-125.1/2, IEC 61000-5-7)



## Applies To (Nuclear Environment)

- Subscriber Terminals.
- Data Processing Centers
- Tx/Rx Communication Systems
- Relay Systems



# RF CALIBRATION SERVICES

EMI/EMC Laser Probe & Instruments



CC-2765



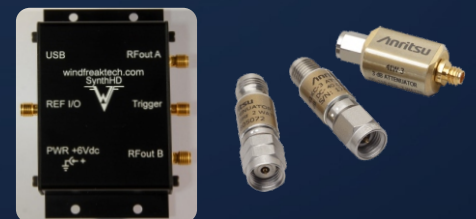
## Description

BNNSPEAG test and calibration Laboratory (I) Private Ltd, is a joint venture between BNN, India and Speag Switzerland undertakes accredited on site/in lab calibration of EMI/EMC probes, Signal Generators, Spectrum Analyzers. It is also accredited by TEC as a Certified Assessment Body (CAB)



## Services

- Calibration of EMI EMC Probes (IEEE 1309:2013, TEC GR TEC/SD/DD/CAL-EMF/01/FEB/19)
- Calibration of RF Instruments – Spectrum Analyzers, Signal Generators, Attenuators, Power Meters



## Applies To

- EMC probes & Field meters of all makes (Narda, AR world, ETS etc.)
- RF instruments of all makes (R&S, Keysight, Anritsu etc.)





# ANTENNA CALIBRATION SERVICES

Open Area Test Site (OATs)



## Description

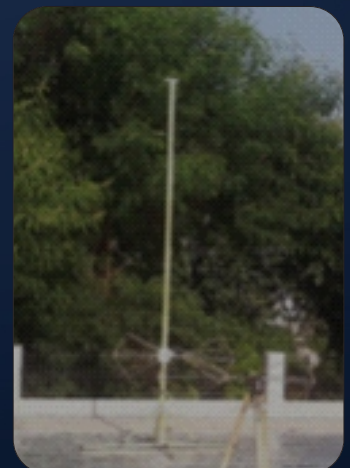
BNN is setting up a 30m\*30m Open Area Test site at village Mehmoodpur, Tehsil and District : Ghaziabad. The measurements would be carried out in a 10m obstacle free area. The site has been acquired & regulatory approvals for frequency assignment by WPC have already been received.

## Services

- Calibration of Antennae as per International standards ARP 958,ANSI C63.5 (2006 & 2017),CISPR 16-1-6.
- Frequency Range (9KHz-40GHz)

## Applies To

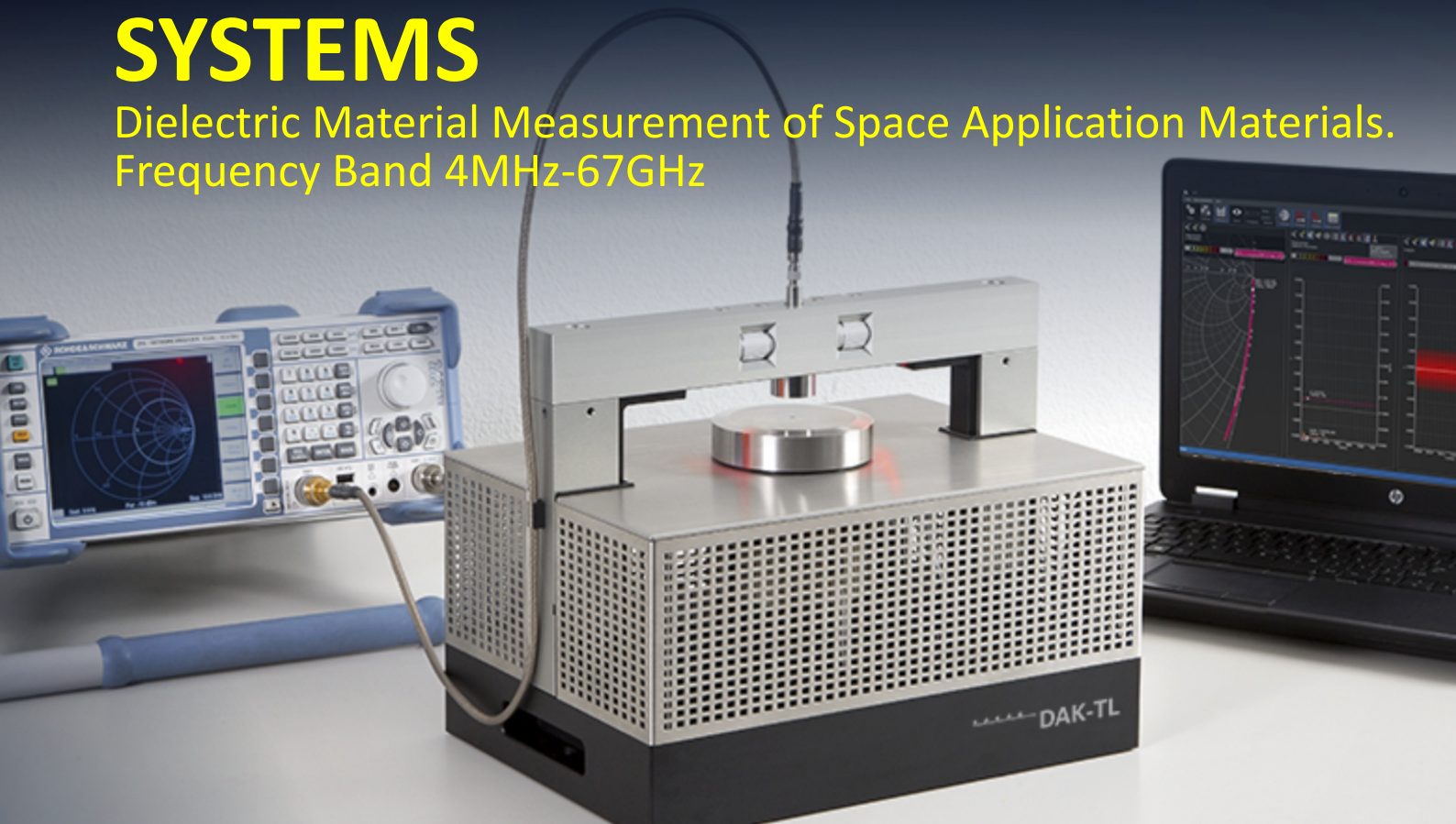
- EMC / EMI Antennae.
- Dipoles, Monopoles, Bi-Conical, Hybrids & various other types of Antennae.





# DIELECTRIC ASSESSMENT SYSTEMS

Dielectric Material Measurement of Space Application Materials.  
Frequency Band 4MHz-67GHz



## Description

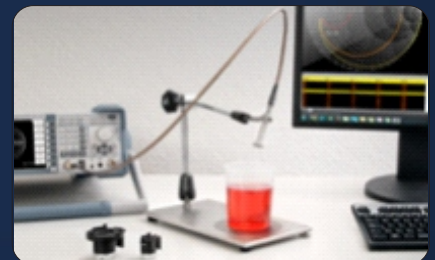
BNNSPEAG test and calibration Laboratory (I) Private Ltd, a joint venture between BNN, India and Speag Switzerland undertakes precise measurement of di-electric properties of materials (solids and liquids) from 4MHz-GHz using Di-Electric Assessment Kits from Speag, Switzerland.

## Services

- Permittivity
- Loss Tangent
- Conductivity

## Applies To

Boron , Teflon , Eccosotck , Water , Methanol , FR4 , Blood, Head and Body simulating liquids , Di-Methyl Sulphoxide



## Organizational Overview

BNN group of Companies originated as a wireless service providing organization as BNN Communication Engineers Pvt. Ltd. , offering turnkey wireless services for the past 25 years. The company has a professional management team headed by CEO Bharat B Jain , M.Tech (IIT Kanpur),MBA with over 40 years of experience in Government & Industry.

In 2012,Company setup a joint venture “BNNSPEAG test & Calibration laboratory Pvt. Ltd.” with M/s Speag, Zurich. The laboratory obtained its 17025 accreditation in 2013.

In 2018,a new Electromagnetic radiation (EMR)Division has been setup to undertake various activities related to validation of EMI/EMC chamber & Enclosures. The division has obtained 17025 accreditation in 2018.

## BNN Communication Engineers Pvt. Ltd.

### Wireless Services

Network Planning for RF & Transmissions , LOS Surveys  
Interference Source Hunting  
Spectrum Scanning  
EMF RF Services

### Products

SAR Laboratory supply , setup & installation  
Di-Electric Measurement Systems  
SEMCAD-X

### Regulatory Services

WPC/SACFA/ETA/Import Licenses/EWL  
TEC/MTCTE  
BIS



OHSAS 18001:2007  
Accredited

## EMR Division , BNN Communication Engineers Pvt. Ltd.

### One Stop Certification of EMC/EMI/Anechoic Chambers/OATs

Shielding Effectiveness  
Normalized Site Attenuation  
SVSWR  
Field Uniformity  
ALSE Performance Validation

### MIL Testing of Nuclear Survivable & Transportable Ground based systems

Shielding Effectiveness



TC-8196

## BNN SPEAG Test & Calibration Laboratory (I) Pvt. Ltd.

### Calibration Services

Field Probes (Laser Driven included) – Govt. of India / DOT/TEC registered  
RF Instruments – Signal Generators, Receivers, RF Components

### Testing Services

Specific Absorption Rate  
5G Power Density Measurement  
OTAs  
Human Body Phantoms



TC-5534

CC-2765

# BNN



# BnnSPEAG

TEST & CALIBRATION LABS

11/11 Sector III, Rajendra Nagar, Sahibabad – 201005, Uttar Pradesh,  
State Code: 09, INDIA Tel: +91 120 4212415,  
Email: [bnncom@gmail.com](mailto:bnncom@gmail.com) Website: [www.bnncom.com](http://www.bnncom.com)