



Name of the Technology: GTEM (Gigahertz Transverse Electromagnetic) Cell with E field Sensor

Summary: Radiations from mobile towers , Mobile Phone, WiFi router and Microwave Oven can cause harmful effect on human being which need to be limit as per their radiation is concern. Government of India has made several guidelines regarding maximum radiations from mobile towers and electronic gadgets. To make these measurement traceable in country, CSIR NPL have developed GTEM alongwith E-Field sensor which is traceable to SI unit. This system will be utilized for the calibration of any E-Field probe or sensor used in wireless communication or Mobile Tower Radiation Measurements. It is a compact, light weight and small volume system and word wide very few National Metrology Institute has developed this facility. CSIR-NPL India has developed a GTEM cell with E-field sensor based on IEEE Standards 1309-2013. The E-field strength standard is based on Gigahertz Transverse Electromagnetic (TEM) cell. The uncertainty in E-field strength is ±0.58V/m per 10V/m for different frequency in the range from 300MHz to 8GHz. Indigenous E-field probes are also fabricated for Ultrawide band(3GHz-8GHz), GSM frequencies (700MHz to 950 MHz, 1.8 GHz and 2.45 GHz).

Applications: Calibration of E-field Probe and sensors, EMI/EMC Applications and SAR Measurements

Advantages: Unique System with calibrated probe which makes system compatible with IEC and MIL standards too.

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

Choose the Readiness level of the Technology





Related Patents: Patent No: NA; Country: NA; Publication Date: NA; Grant Date: NA;

Year of Introduction: 2016

Broad Area/Category: Electronics & Instrumentation

User Industries: (Mention the industries/users in which the technology is applicable to)