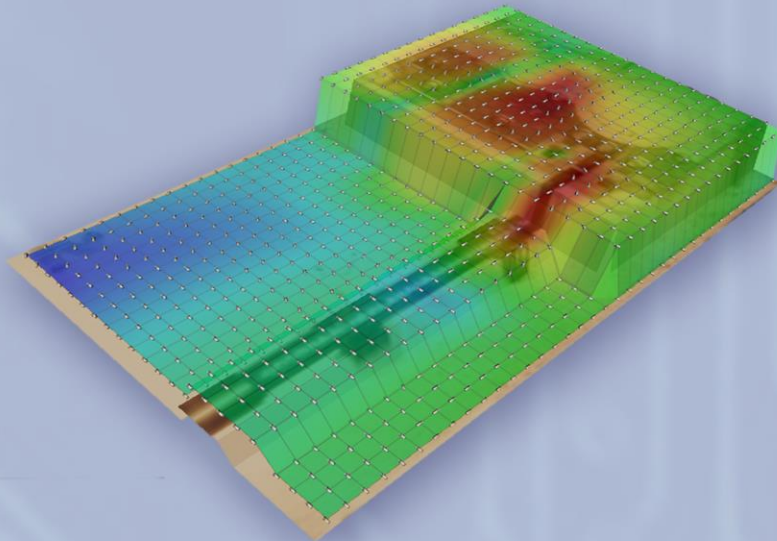


APREL



EM-ISight-4 **Electromagnetic Scanning System** **Single Probe Solution 10kHz – 40GHz**



The APREL EM-ISight presents resultant data from 5 or 6 dimensions of kinematical scanning of a test sample. The measurement system can be used in support of many international standards. Pre-certification or product approval for Integrated Circuits, LCD, GPS, Video Controllers, connectors, wireless modules, antennas and electrical/electronic interfaces can be conducted on the EM-ISight using the fully flexible test application software. The integration of 5 or 6 axis robots as supplied by DENSO means that this system can measure in traditional Cartesian or advanced horizontal plains. Users have an option of an available frequency span of 10 kHz to 40 GHz using our proprietary single probe solution.

The EM-ISight is a fully flexible measurement system designed to support multiple applications and industries including networking, automotive, integrated circuits, aviation, military, and consumer products. Used as a compliance system for IEC-61967-1-6 or a pre-compliance / development tool the power of features will meet most requirements for modern design and analytical needs. Custom applications can be added to this truly unique test platform. The footprint of the system means that it can be introduced to most measurement environments with little effort. The system can be used within the optional mobile shield, and has an assessed noise floor (sensitivity) of below -140 dBm when used with high end spectrum analyzers.

EM-ISight is an affordable and easy to use system with great return of investment, a true alternative to costly pre-compliance EMC chambers which have high maintenance costs and use significant floor space. System integration includes K-Type connector upgrade and Spiro Flex integration for low insertion loss throughout frequency range of operation.

Applicable Standards

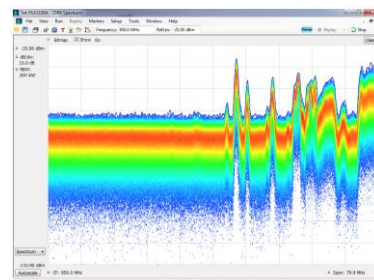
IEC-61967-1-6
 VCCI/CISPR 22/FCC Pt 15/22 EN55022
 CISPR 12/FCC Pt 18/EN55011/
 EN60555/VDE0871
 EN55024/EN6100-6-4/GR-1089-CORE
 ITU-T/ETS300/
 IEC-6100-3

Applications

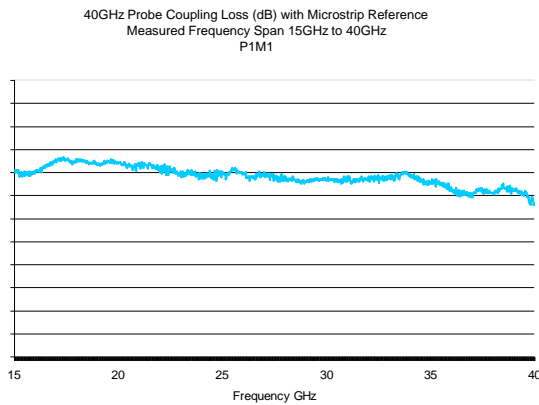
Integrated Circuit/Printed Circuit Board
 Wireless modules
 De-Sense testing (receiver circuits)
 Medical devices
 Automotive and aviation
 Electronic device emissions
 Pre-Compliance testing (emissions/susceptibility)
 Quality control/audit
 Consumer products cell phone/computer devices

Supported Spectrum Analyzers

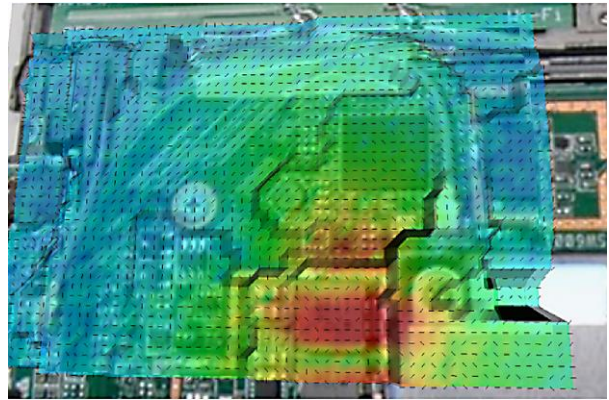
Tektronix
 Agilent
 Anritsu
 Rhode and Schwartz



NOTE: Signal generator, spectrum analyzer is customer supplied.
Some applications require additional upgrades from a standard package spectrum analyzer; please confirm spectrum analyzer compatibility with APREL.



**Probe Frequency Response
15GHz to 40GHz**



4D High Resolution Flux Scan

System Highlights

- Single probe solution from 10kHz to 6GHz/10kHz to 20GHz/10kHz to 40GHz/15GHz to 40GHz
- High resolution scan of problem areas (>0.02mm)
- Coarse scan function with larger steps (>10mm)
- Dynamic touch detection
- Z height distance from 0.05mm up to 250mm for standard system
- 4D Measurements of a PCB using X, Y, Z and PHI movements
- Complete distribution of the fields presented in 2D, 3D or 4D plot
- Source direction plots (vector)
- Customizable reports based on user requirements automatically exported to MS Word
- Delta plot measurement function (compare before/after measurements)
- Frequency distribution plots based on span and trace with added limit lines
- AVI export function for real-time visualization of field and frequency distribution
- Advanced measurement functions, single point analysis, quick check, free move
- Micro Strip Line 10kHz to 6GHz, 6GHz to 40GHz (included)

40GHz Applications

High-speed Either Net IC
High-speed connectors and IO interfaces
10GB Ethernet
Optical Transceivers

Third Harmonic analysis (up to 10th harmonic or 40GHz)

- HDMI
- 3G/4G AWS/BRS/ABS
- 802.11abgn
- 802.11ac
- USB 3.0
- Intel CPU i5
- Intel CUP i7 965 Extreme
- AMD FX-81xx
- AMD A4-34xx
- AMD A6-36xx
- AMD A8-38xx
- Frequency Multipliers

Other applications and technologies can be tested with the 40GHz system the above are highlights of key technologies which have been assessed using EM-ISight-2.

Optional Accessories/Software

Mobile shield for isolation of ambient sources (-145dBm >700MHz)
E-Field antenna probe
Dual Stage Low noise amplifiers DC to 40GHz
FFA Far Field Approximation Software
USA Ubiquitous Server Application

Description	Perform EM Near-field scanning on a PCB, IC, LCD, RFID tag, wireless module, or antenna's for quality control and design optimization, pre-test and certification	
Software	Windows XP, Vista, Win 7 and MAC Boot Camp User friendly GUI that allows for easy setup and data retrieval Automatic antenna probe movement control Automatic system control or user definable parametric setup Visual display including storage and retrieval of measured results in full 3/4D Data tracking for project improvement/quality control Importation of previous measurement profiles to track design/quality improvements	
Applications	Perform EM Test - measurements of (near-field) magnetic fields emitted by a PCB, populated board, LCD or IC in X, Y, Z and θ (probe antenna rotation angle), measure feed current uniformity for antenna design EM field values measured using an optional spectrum analyzer and presented in 2D/3D/4D form via PC Typical applications include, EMI noise emission analysis Shielding placement/optimization PCB board or IC design optimization/placement Antenna design optimization RF-Immunity/emitted radiation analysis of mobile handset LCD Video LCD monitors	
Typical Probe Measuring Unit	Antenna:	H-field with 0.03mm spatial resolution
	Typical frequency range:	Frequency sweep, in band discreet value from 10KHz to 20GHz
	Sensitivity:	Probe Dependent
	VSWR:	<1:2
	Input impedance:	50 Ω
	Linearity:	<0.1dB
	LNA (standard):	30dB Preamplifier for EM Measurements from 100kHz to 6GHz Optional 100MHz to 40GHz 22dB Gain
	Noise floor:	Measured with micro strip line (-30dBm @ 10kHz -139dB @ 750MHz dependent on DANL of Spectrum Analyzer
	Measurement Uc:	0.05dBm @ 0.05mm Z and 0.1dBm @ 0.2mm X & Y
	Optional probes:	Rosenberger Micro-Coax rectangular and small loop and interface
Measuring Reach and Movement	NO. of axes: 5/6 (X, Y, Z and θ) Typical reach*: Along X & Y axes: 400 x 400mm / 800 x 800 mm / 1000 x 1000 mm / 1100 x 1100 mm Along Z axis: 300mm / 700mm / 1140mm Rotation θ axis: 360° Resolution: X and Y axes: 0.02mm Z axis: 0.02mm θ axis: 0.1° Alignment accuracy: X and Y axes: 0.02mm Z axis: 0.02mm θ axis: $\pm 1^\circ$ Optional interface for Rosenberger Micro-Coax probes	
DUT Orientation	Typical:	Horizontal Vertical Custom
System Control	Controller for overall control:	IBM PC compatible machine, Intel i3 and 512 RAM
	Operating system:	Windows XP/Vista/Win 7
	Motor controller:	Denso
	Measuring interface:	GPIB/LAN/Serial port
General	Operating requirement:	Temperature: 0° C to +60°C humidity: 60% or less AC power input: Single phase 100V ~ 230V, 50Hz/60Hz*
	Power consumption:	less than 15A @ 100V
	Weight:	25kg
	Dimension:	80cmx50cmx70cm
Additional Features SW	Multiple plots recorded in single report Multiple layers on single measurement process Automated peak search Dynamic touch detection User defined plotting Limit exceed search function User defined limit function Automated data summary reporting AVI plotting over device or in 3/4D mode Remote access for database data retrieval Multiple driver support for Anritsu, Agilent and Rhode & Schwarz Spectrum Analyzers	

***Customer must specify at time of order (standard build is 110V)**

6 Axis systems require 220V