

# Pre-Configured Spherical Near-Field Measurement System



SNF-RAZ-1.3



## DESCRIPTION

Model SNF-RAZ-1.3 is a pre-configured three axes spherical near-field measurement system ideal for measuring low to medium gain antennas from 0.37 to 110 GHz. The system is constructed of high strength aluminum and can support AUT payloads of up to 75 kg (165 lb). The independent probe stand and AUT positioner are easy to assemble, align and can be quickly dismantled for transport or storage.

## FEATURES

- 370 MHz to mmWave measurements
- Full spherical characterization
- Automatic scan setup
- Powerful plotting and antenna analysis software
- Far-field, holographic and near-field patterns

## TYPICAL APPLICATIONS

- Cellular base stations
- Dipole arrays
- General broad pattern antennas

## CAPABILITIES

The SNF-RAZ-1.3 supports AMETEK NSI-MI, Keysight, and Rohde & Schwarz RF receivers and is capable of measuring amplitude and phase patterns from UHF band to mmWave. The system includes a software workstation pre-loaded with NSI2000 Antenna Measurement Software and Windows® and provides automatic setup of scans based on measurement parameters and desired output. Measured data can be processed for far-field or holographic patterns yielding complete characterization of the antenna's performance. A single data set provides information on antenna gain, side lobe structure, beam pointing and cross polarization.

## SPECIFICATIONS

Positioning System		Model
Positioner	Spherical - Phi over Theta (Roll over Az) AUT Positioner with Probe Stand Pol Positioner	
Max AUT Diameter	1.3 m (51.1 in.)	
Max Torque Load	84 Nm (62 ft-lb)	
Max AUT Weight	75 kg (165 lb), Bending Moment: 168 Nm (124 ft-lb)	
Max Probe Weight	19 kg (42 lb) (WR975)	
Repeatability	0.03° RMS Phi/Theta/Pol	
Resolution	0.0125° Phi/Theta/Pol	
Scan Speed	10/10/40°/s Phi/Theta/Pol	
Position Controller	ELE-IMC (Intelligent Measurement Controller)	
Motor Cables	Quick-connect 12.2 m (40 ft)	
Slip Ring	24 Contact, 220V-10A each (Theta)	
PC Workstation	Computer with LCD Monitor	
Power	800W, 100–240 VAC switchable, 50/60 Hz	
Software	NSI2000	
Absorber	12.7 cm (5 in.) pyramidal	
Frequency Range	0.37–110 GHz	
RF System		
Scanner RF Cables	20, 40, or 50 GHz, 3 m (10 ft) L-Bracket & Probe Stand	
Rotary Joint	26.5, 40, or 50 GHz (Phi, Theta, Pol)	
Range RF Cables	20, 40, or 50 GHz 7.6 m (25 ft) to Theta Stand, 3 m (10 ft) to Probe Stand	
RF Receiver	AMETEK NSI-MI VFA, Keysight PNA, Rohde & Schwarz ZVA	
Weights and Dimensions		
Installed Envelope W x L x H	2.4 m (94 in.) x Variable Depth x 2.7 m (106 in.)	
Installed Weight (scanner only)	327 kg (722 lb) with full counterweight set	
Crated Dimensions W x L x H	2 crates up to 2.8 x 1.2 x 1.2 m (108 x 48 x 48 in.) 1 D container 1.5 x 1.1 x 1.2 m (58 x 42 x 45 in.)	

## BASELINE SYSTEM

Each NSI-MI Pre-Configured System includes the following:

- Positioning subsystem including mechanical scanner with absorber kit and motion control system
- State-of-the-art RF subsystem
- Mounting hardware installation kit
- Full standard system interface and operations documentation
- Interface kits to easily integrate a wide variety of common RF equipment, antennas and test devices
- AMETEK NSI-MI or customer supplied RF receiver connection

### Positioning Subsystem

- Multi-axis Mechanical Positioner
- Absorber Kit
- Motion Controller
- Control and Motor Cabling
- Cable Management
- NSI2000 Software
- PC



*SNF-RAZ-1.3*

### RF Subsystem

- Scanner and Range RF Cables
- Rotary Joints
- RF Components and Devices (as needed)
- Software Device Drivers
- Data Acquisition, Processing and Plotting Software



*RF Components and Devices*

### Site Deliverables

- Product Guide and Interface Control Documents
- Hardware, System and Software Manuals
- Anchoring Kit
- Shipping Crates



*Shipping Crates and Anchoring Kits*

## OPTIONS AND ACCESSORIES

Our Pre-Configured Systems are designed to operate with a wide range of popular accessories and support services to meet budget and test needs. These include:

- Full range of Probes and Standard Gain Horns
- Additional software to enhance productivity
- AUT supports, stands and other accessories
- On-site installation, training and verification by AMETEK NSI-MI experts
- Interface kits to easily integrate a wide variety of common RF equipment, antennas and test devices

### RF Options

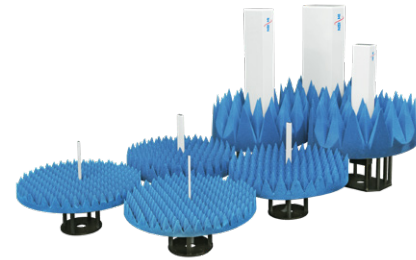
- RF Frequency Options: 20, 40, 50 GHz
- RF Receiver Options: NSI-MI or Customer Supplied

### Antenna Accessories

- Waveguide Probe Assemblies
- Standard Gain Horn Assemblies
- Broadband Probes Assemblies



Vector Field Analyzer™



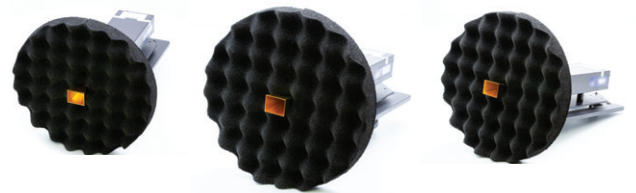
Waveguide Probes

### mmWave RF Upgrade Options

- mmWave Band: 50–75 GHz module and Probe-SGH set
- mmWave Band: 60–90 GHz module and Probe-SGH set
- mmWave Band: 75–110 GHz module and Probe-SGH set

### Software Add-ons

- Additional NSI2000 License
- Professional Upgrade
- Far-Field
- MARS



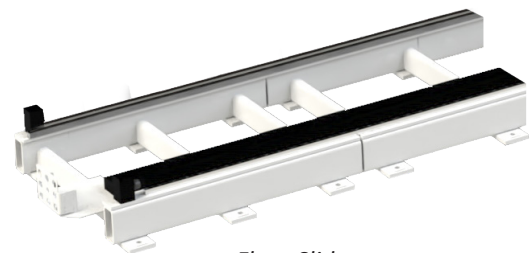
mmWave RF Upgrade

### System Accessories

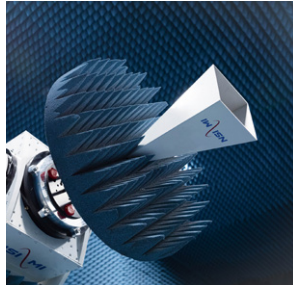
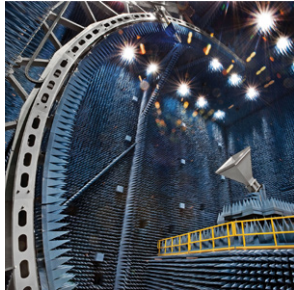
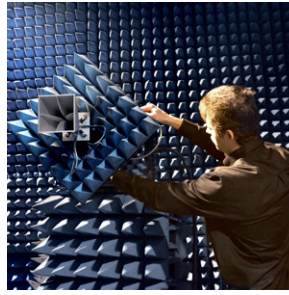
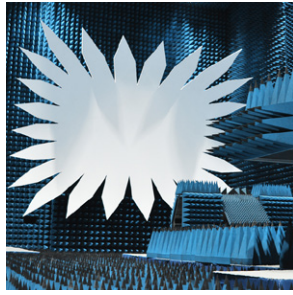
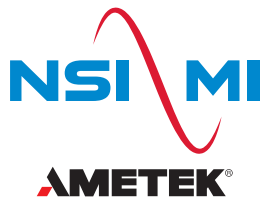
- Floor Slides

### Site Services

- Installation
- Training



Floor Slides



Test  
with  
Confidence

## LOCATIONS

1125 Satellite Blvd., Suite 100  
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**AMETEK NSI-MI Technologies** introduced the world to microwave antenna measurement systems and is the preferred global supplier of antenna, radar cross section, and radome measurement solutions. Today, our innovative products, systems, and services lead the industry in setting new standards for tomorrow's performance. From world-class in-house testing facilities to delivering industry-leading turnkey systems, we provide the highest quality measurement products on the market.

Our full range of standard products and custom-designed systems are backed by our longstanding commitment to precision-engineered accuracy, reliability, and lasting performance. We provide the right solution for every RF measurement need and our worldwide network of service professionals are always available to offer support.

For more information on ordering AMETEK NSI-MI Technologies' products, applications or services please contact your nearest NSI-MI office. Our complete sales team information is available at: [www.nsi-mi.com/contact-us](http://www.nsi-mi.com/contact-us)

## ISO 9001:2015 CERTIFIED

