

LAMBDA Series Hybrid Field Test System



Applications

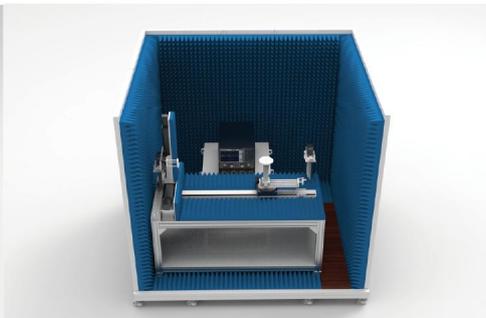
General Antenna Testing, Metasurface Testing, Phase Array Diagnosis, Radar Testing, etc.

Capabilities

LAMBDA Series Hybrid Field Test System supports Planar Near-Field, Cylindrical Near-Field and Far-Field Testing.

The system test function depends on the specific requirements of the user. Our test system supports the customization of microwave anechoic chamber dimension and operating frequency range.

- Support a variety of passive and active antenna test requirements.
- Fast testing near-field patterns of amplitude and phase, far-field patterns and holographic patterns.
- Easy to upgrade for cylindrical or spherical near-field measurements.
- Support data export files: antenna gain, 2D/3D radiation patterns, beam pointing and cross polarization.



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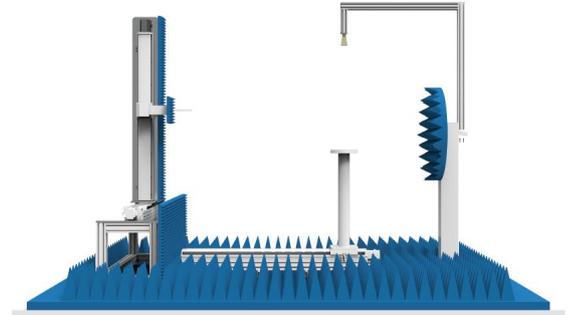
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Specifications

Frequency: 1GHz ~ 110GHz (up to 500GHz upon request)
 Drive System: Precision Stepper Motor; Servo Motor; Rack and Pinion
 Scan Area: 0.3m × 0.3m ~ 1.5m × 1.5m (larger scan area can be customized)
 Planarity: 0.05mm ~ 0.125mm RMS (cylindrical near-field available)
 Position Repeatability: 0.05mm RMS
 Scan Speed (X-Y Axis): X (0.2 ~ 1m/s); Y (0.2 ~ 1m/s)
 RF Cables: High Performance Stable Amplitude and Phase Cables (up to 110GHz)
 Probe: Standard Rectangular Waveguide Probe (up to 110GHz)
 Probe Mount: Custom Bracket - Allows "V" and "H" Polarization
 Supply Power: 100 ~ 240V AC Switchable; 50 / 60Hz, 500 Watts
 Supported RF Instrument: Keysight, Rohde & Schwarz, Anritsu, Ceyear, etc.



System Configuration

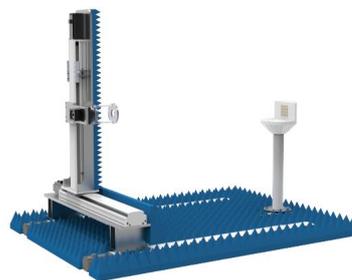
- Customized Microwave Anechoic Chamber
- X-Y Stepper / Servo Motor Driven Scanner
- Motor System and Controller Kit
- PC Workstation
- Antenna Measurement Software
- Installation Tool Kits
- Optional Components: LNA, PA, RF Cables
- Test Instruments (Vector Network Analyzer, Signal Generator / Spectrum Analyzer)
- Probes
- System Documentation and Operation Manual



Optional Configuration



Magpie Test System (Near-Field & Far-Field)



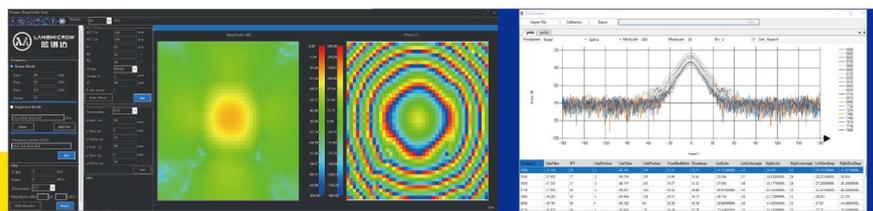
Silkworm Test System (Near-Field & Far-Field)



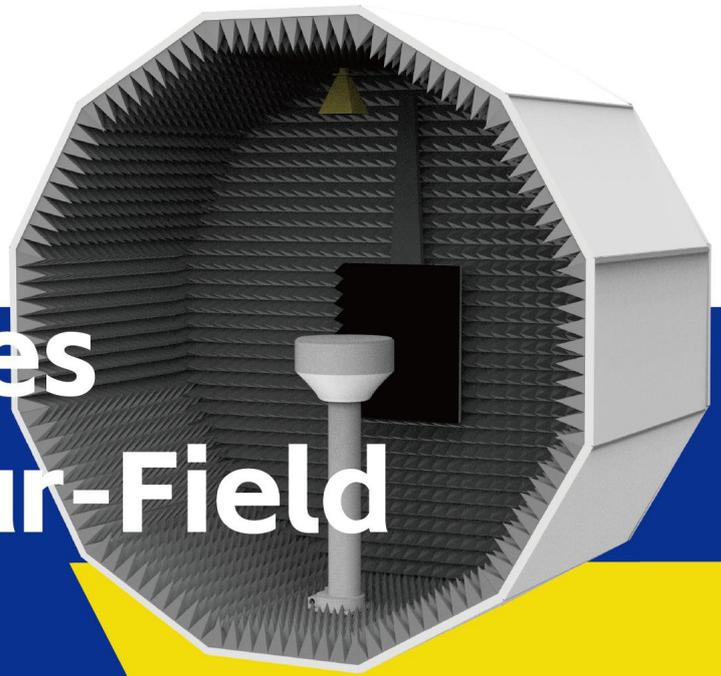
Spider Test System (Near-Field)

Software System

- Near-Field Test System
- Export 2D/3D radiation patterns.
- Far-Field Test System
- Fast 2D radiation pattern export.



LAMBDA Series Spherical Near-Field Test System



Applications

General Antenna Testing, Mobile Terminal Antenna, Satellite Antenna, etc.

Capabilities

LAMBDA Series Spherical Near-Field Test System has a variety of functions depending on the users' specific requirements. This system supports the customization of microwave anechoic chamber dimension, operating frequency range and test specifications.

- Configured with a single/dual-probe rocker arm and a DUT rotating platform.
- Support a variety of passive and active antenna test specifications.
- Fast testing near-field patterns of amplitude and phase, far-field patterns and holographic patterns.
- Support data export files: antenna gain, beam pointing, 3D radiation pattern, cross polarization, axial ratio and efficiency.

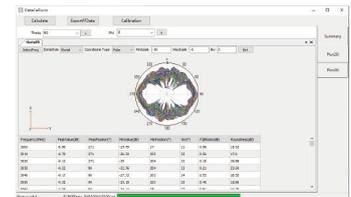
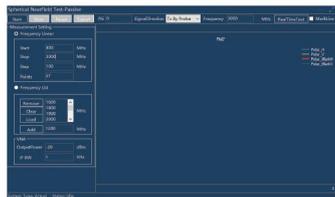
Specifications

Frequency: 600MHz ~ 67GHz (up to 110GHz upon request)
 Drive System: Precision Stepper Motor; Servo Motor
 Max. Size of DUT: 30cm x 30cm, 40cm x 40cm, 60cm x 60cm (customizable)
 Max. Weight of DUT: 30kg with Styrofoam Mast (customizable)
 RF Cables: High Performance Stable Amplitude and Phase Cable (up to 110GHz upon request)
 Supply Power: 100 ~ 240V AC Switchable; 50 / 60Hz, 500 Watts
 Supported RF Instrument: Keysight, Rohde & Schwarz, Anritsu, Ceyear, etc.



Software System

- System Operation Software
- Data Post-Processing Module



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LAMBDA Series Compact Antenna Test Range System (CATR)

Applications

In terms of applications, the setup of LAMBDA CATR has a variety of applications including antenna characterization, automotive radar, interference tests, Radar Cross Section and advanced radiation test, provide a larger DUT quiet-zone with fast far-field measurement in a compact room.

Key Facts

- Compact and transportable far-field over-the-air (OTA) test system based on CATR technology.
- Large quiet-zone to accommodate large devices (quiet-zone: 0.3 ~ 2m, customization available).
- Frequency range (8 ~ 110 GHz, customization available).
- High-precision high-speed 3D rotating platform system.
- High shielding effectiveness (Typ. > 90 dB).
- Suitable for ETSI and FCC validation, including interference tests, angular calibration and antenna characterization.

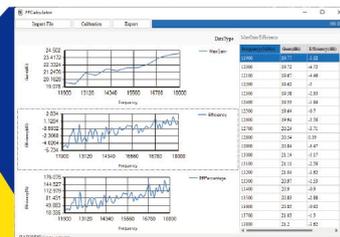
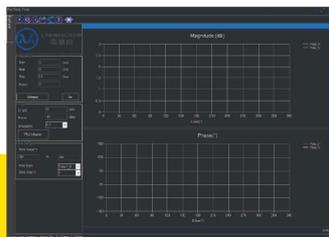
Specifications

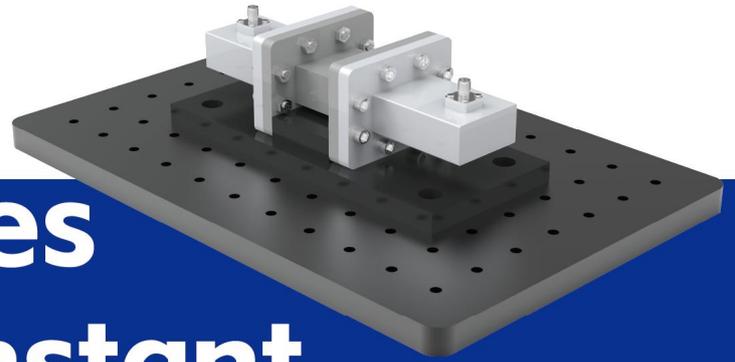
Frequency	/	8 ~ 110GHz (Support for a customization of frequency range)
Shielding Effectiveness	Chamber	≥ 90dB (Typ.)
Accuracy (Gain)	/	± 0.5dB
Repeatability (Gain)	/	± 0.3dB
Accuracy (HPBW)	/	≤ 10%
Angular Resolution	Positioner	0.03°
Pointing Accuracy	Positioner	0.03°
Tilt Angle	Positioner	Azimuth Axis: ± 180°; Elevation Axis: ± 45°
Power Supply	Chamber	100 ~ 240V AC, MAX.13A
Temperature Range	Chamber	+20°C to +35°C
Quiet-Zone	Reflector	Φ 30cm / Φ 60cm / Φ 120cm / Φ 150cm (customization available)
	Amplitude taper	≤ 1.5dB
	Amplitude ripple	≤ 0.5dB



Software System

- Far-Field Test system
- Data Post-Processing Module





LAMBDA Series Dielectric Constant Test System

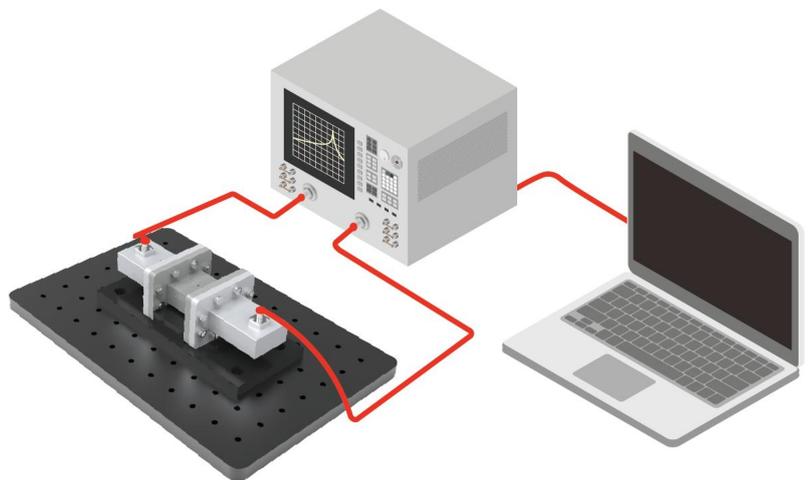
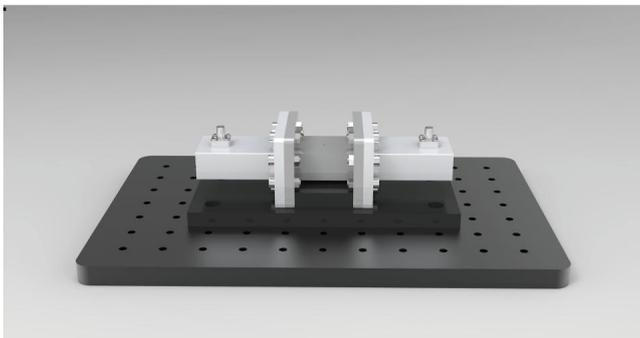
Applications

Measurement of non-metallic solid materials such as ceramics, plastics, rubber, glass, rock, resin, composites, PCBs, etc.

Capabilities

LAMBDA Series Dielectric Constant Test System is capable of testing material's complex dielectric constant, complex magnetic permeability and other parameters. The system consists of a vector network analyzer, test fixtures, system software, etc. According to the user's requirements of different frequencies and material types, a variety of different fixtures such as waveguides, waveguide coaxial air lines, resonant cavities, can be customized for testing.

- Waveguide Transmission Dielectric Constant Measurement System
- Closed Resonant Cavity Dielectric Constant Measurement System
- Rectangular Resonant Cavity Dielectric Constant Measurement System



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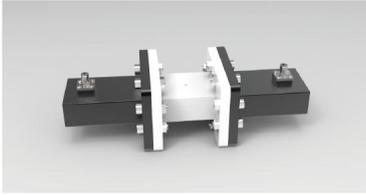
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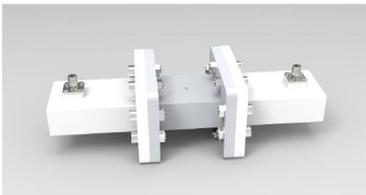
Specifications



- Waveguide Transmission Dielectric Constant Measurement System
- Frequency: 490MHz ~ 40GHz (can be customized)
- Range: dielectric constant 1 ~ 100; loss tangent 0.1 ~ 2.0
- Accuracy: dielectric constant 1%; loss tangent 15%



- Closed Resonant Cavity Dielectric Constant Measurement System
- Frequency: 1GHz ~ 15GHz (can be customized)
- Range: dielectric constant 1 ~ 100; loss tangent 0.00005 ~ 0.005
- Accuracy: dielectric constant 0.2% ~ 1%; loss tangent 1% ~ 3%

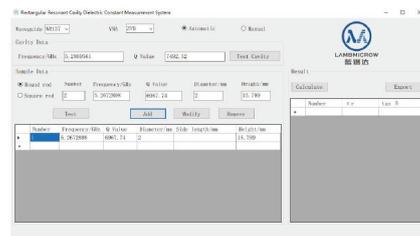


- Rectangular Resonant Cavity Dielectric Constant Measurement System
- Frequency: 1GHz ~ 8GHz (can be customized)
- Range: dielectric constant 2 ~ 20; loss tangent 0.0001 ~ 0.005
- Accuracy: dielectric constant 5%; loss tangent 20%

LAMBDA Series Dielectric Constant Test System	Permittivity	Permeability	Liquid Testing	Medium to high loss materials	Samples
Waveguide Transmission Dielectric Constant Measurement System	√	√	×	√	solid, rectangular shape (need to be fully embedded in the waveguide segment)
Closed Resonant Cavity Dielectric Constant Measurement System	√	×	×	×	solid, cylindrical shape (0.2-0.8 times of the cavity size)
Rectangular Resonant Cavity Dielectric Constant Measurement System	√	×	√	×	solid, round or square bar shape (require to penetrate the upper and lower surface holes of the cavity)

Software System

- Dielectric Constant Test System





Power Amplifier

Applications

LAMBDA Series Power Amplifier is one of the most common types of amplifiers used in the electronic measurement industry, the main purpose of which is to increase the power amplitude of a given input signal, so that the input signal power is increased and thus driven to the load level of an output device such as a transmitter.

Specifications

Type	KPA02050038-1	KPA03067018-1	KLNA00043038-1
Frequency	2 ~ 50 GHz	3 ~ 67 GHz	10MHz ~ 43 GHz
Gain	35dB Min.; 38dB Typ. @ 2GHz - 45GHz 30dB Min.; 32dB Typ. @ 45GHz - 50GHz	16dB Min.; 18dB Typ.	35dB Min.; 38dB Typ.
Gain flatness	± 3dB Typ.@ 2GHz - 45GHz	/	± 3dB Typ.; ± 5.0dB Max.
Noise figure	4.5dB Typ.; 6.5dB Max.@ 2GHz - 40GHz	6dB Typ.	4.5dB Typ.; 6.5dB Max.@ 1GHz - 40GHz
P1 Output	20dBm Typ.@ 2GHz - 40GHz	20dBm Typ.@ 2GHz - 40GHz	20dBm Typ.
Psat	22dBm Typ.@ 2GHz - 40GHz	22dBm Typ.@ 2GHz - 40GHz	22dBm Typ.
Input VSWR	2.0Typ.	2.5Typ.	2.0Typ.
Output VSWR	2.0Typ.	2.5Typ.	2.0Typ.
DC Supply Voltage	12V	8V	12V
Current Consumption	380mA Typ.	220mA Typ.	380mA Typ.
Impedance	50 Ω	50 Ω	50 Ω
Maximum Input Power	10dBm Max.	10dBm Max.	15dBm Max.
Connectors	2.4mm (f)	1.85mm (f)	2.92mm (f)
Manufacturing Material	copper	aluminum	coppe
Surface Process	gold-plated	spray paint	gold-plated
Working Temperature	-20°C ~ +70°C	0°C ~ +50°C	-20°C ~ +70°C
Storage Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-55°C ~ +85°C
Weight	0.08kg	0.1kg	0.1kg

(AVAILABLE FOR CUSTOMIZATION)

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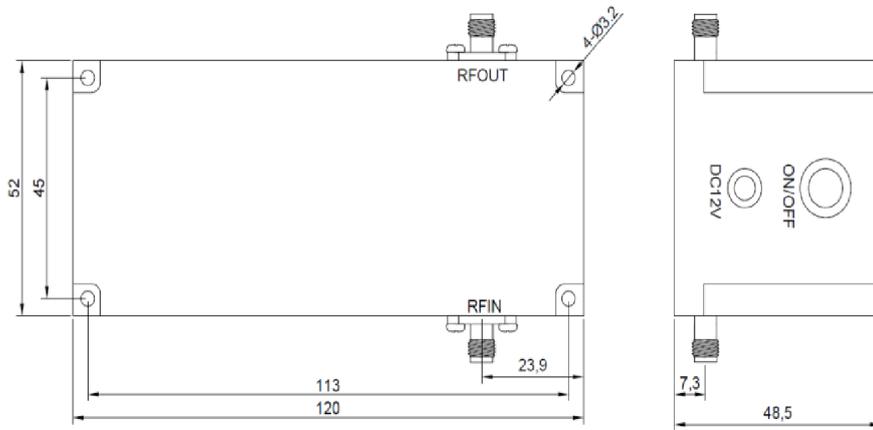
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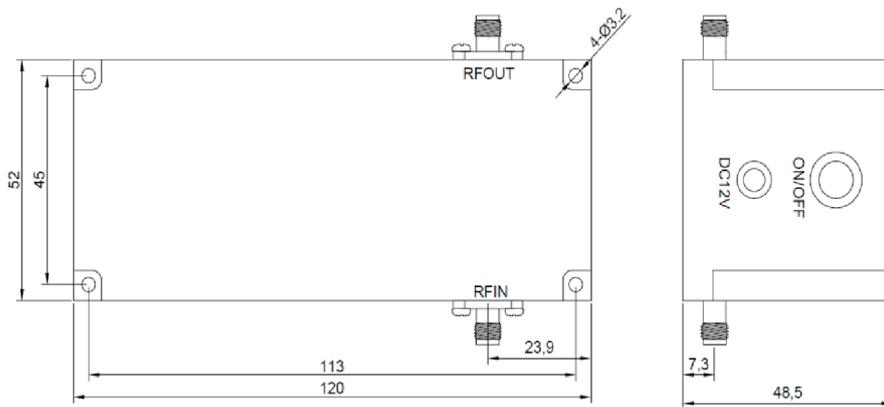
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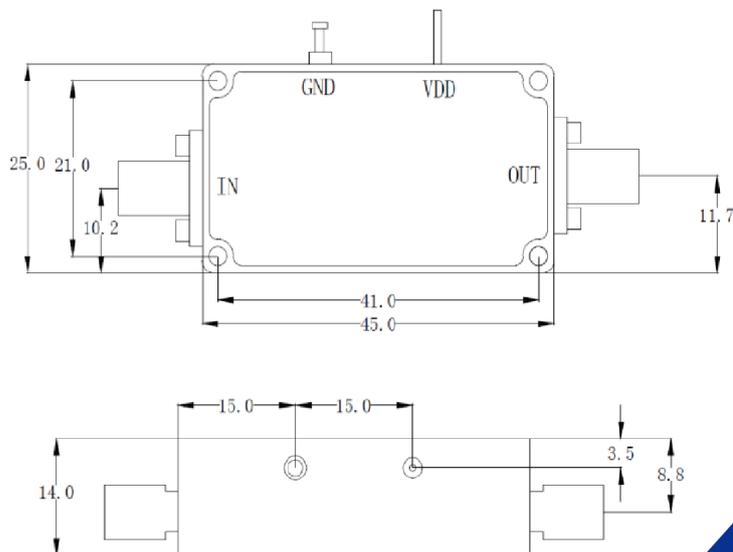
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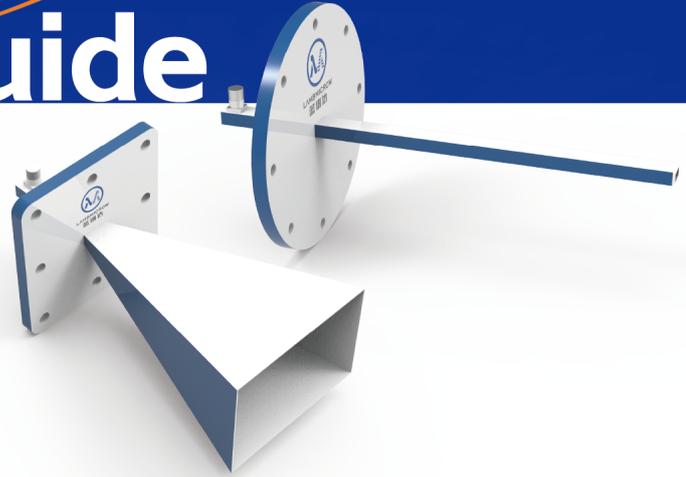
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KLNA00043038-1



Horn & Waveguide



Applications

LAMBDA Series Horn & Waveguide provides a wide frequency range of Microwave and Millimetre-wave antenna up to 110GHz, such as Standard Gain Horn Antenna, Broadband Horn Antenna, which can be customized for requirements.

Specifications

Model Number	Frequency Range	Terminal	Gain (TYP.)	VSWR	Material
LAMBDA32SGAH15N	2.6 ~ 3.95GHz	N-K	15dBi	≤ 1.5	aluminum
LAMBDA48SGAH15N	3.94 ~ 5.99GHz	N-K	15dBi	≤ 1.5	aluminum
LAMBDA70SGAH20N	5.38 ~ 8.17GHz	N-K	20dBi	≤ 1.5	aluminum
LAMBDA100SGAH20S	8.2 ~ 12.5GHz	SMA-K	20dBi	≤ 1.5	aluminum
LAMBDA140SGAH20S	11.9 ~ 18GHz	SMA-K	20dBi	≤ 1.5	aluminum
LAMBDA220SGAH20K	17.6 ~ 26.7GHz	2.92-K	20dBi	≤ 1.5	copper
LAMBDA320SGAH20K	26.3 ~ 40GHz	2.92-K	20dBi	≤ 1.5	copper
LAMBDA500SGAH25+1.85	40 ~ 67GHz	1.85-K	25dBi	≤ 1.5	copper
LAMBDA14WOEWP	1.13 ~ 1.73GHz	N-K	/	≤ 2.2	aluminum
LAMBDA22WOEWP	1.72 ~ 2.61GHz	N-K	/	≤ 2.2	aluminum
LAMBDA32WOEWP	2.6 ~ 3.95GHz	N-K	/	≤ 2.2	aluminum
LAMBDA48WOEWP	3.94 ~ 5.99GHz	N-K	/	≤ 2.2	aluminum
LAMBDA70WOEWP	5.38 ~ 8.17GHz	N-K	/	≤ 2.2	aluminum
LAMBDA100WOEWP	8.2 ~ 12.5GHz	SMA-K	/	≤ 2.2	aluminum
LAMBDA140WOEWP	11.9 ~ 18GHz	SMA-K	/	≤ 2.2	aluminum
LAMBDA220WOEWP	17.6 ~ 26.7GHz	2.92-K	/	≤ 2.2	copper
LAMBDA320WOEWP	26.3 ~ 40GHz	2.92-K	/	≤ 2.2	copper
LAMBDA500WOEWP+1.85	40 ~ 67GHz	1.85-K	/	≤ 2.2	copper
LAMBDA0680DRHA10N	0.6 ~ 8GHz	N-K	10dBi	≤ 2.5	aluminum
LAMBDA80180DRHA20S	8 ~ 18GHz	SMA-K	20dBi	≤ 2.5	aluminum
LAMBDA180400DRHA20K	18 ~ 40GHz	2.92-K	20dBi	≤ 2.5	copper

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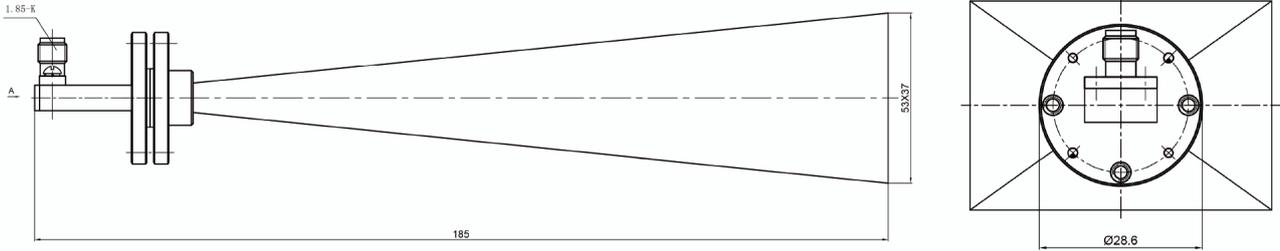
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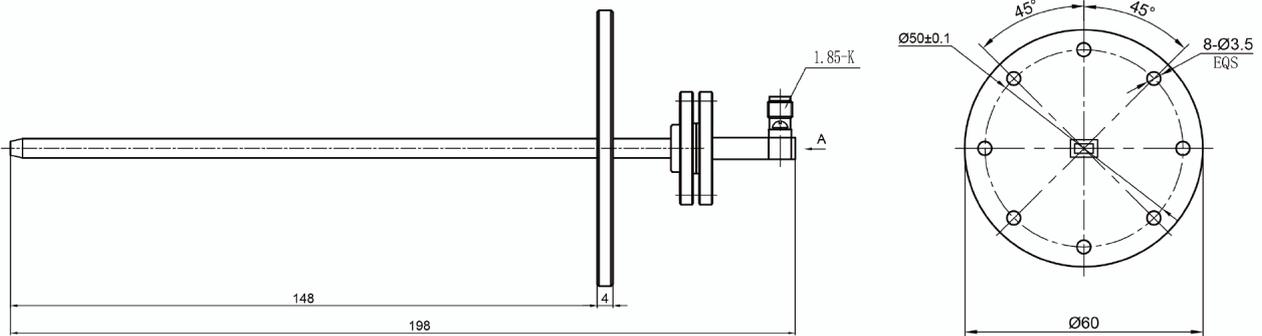
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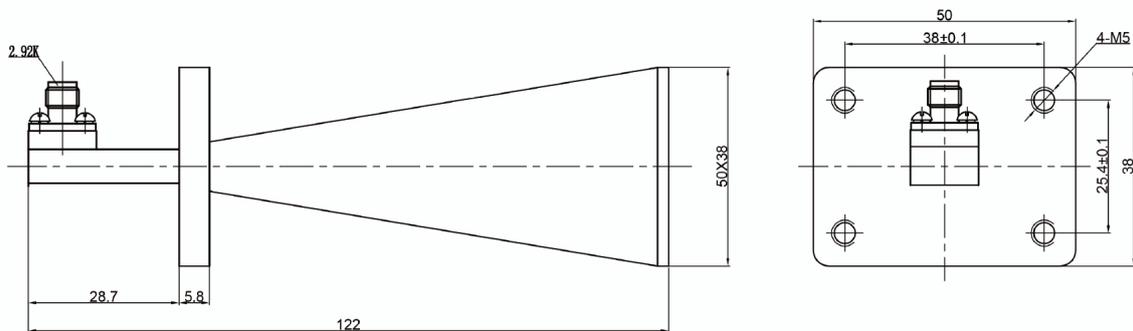
Horn



Waveguide



Dual-Ridged Horn





High-Speed Connectivity Solutions for Communication

Multicoax Solution

LAMBDA series solutions allow 8 or 16 channels to measure DUT's frequency up to 67GHz, without altering their PCB.



Adaptors

LAMBDA series adaptors provide all kinds of high quality adaptors of the in-series and between-series from DC to 110GHz, mainly including SMP, SMPM, MMCX plus, SMA, SSMA, N, 3.5mm, 2.92mm, 2.4mm, 1.85mm, 1.0mm, etc.



Connectors

LAMBDA series connectors offer a wide range of RF coaxial PCB connectors from DC to 67GHz, mainly including SMPM, SMA, 2.92mm, 2.4mm, 1.85mm, etc.



Loads

LAMBDA series coaxial fixed loads have the characteristics of wide frequency range, low VSWR, and high pulse resistance. The coaxial fixed load is mainly used to absorb the power of radio frequency in microwave systems.



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Electromagnetic Wave Absorbing Material

Applications

LAMBDA Series Electromagnetic Wave Absorbing Material has broadband power absorbing characteristic.

Capabilities

Composition: Carbon and retardant chemicals loaded polyurethane foam

Operation Temperature: -50°C ~ 70°C

Retardancy: UL94, NRL8093, DIN4102, ISO11925-2, GB8624-B2

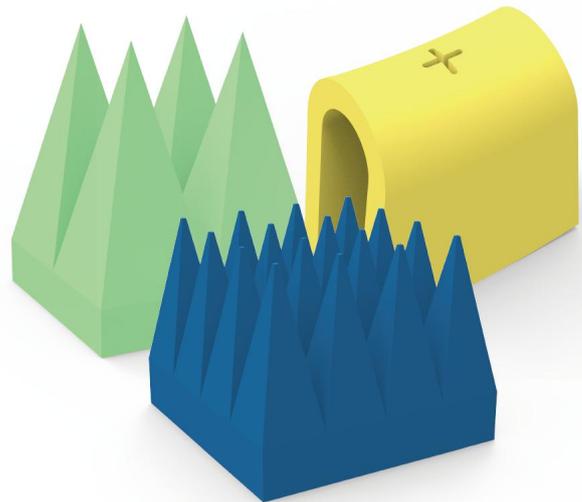
Power Handling: 1000W/sqm

Environment: indoor use

Shape: truncated pyramid

Application: EMC / RF chamber, shielding room

- High reflection loss of electromagnetic wave.
- Effectively reduce the reflection of electromagnetic waves.



Specifications

Type	Height (mm)	Weight (kg/m ²)	Reflectivity at Normal Incidence-dB(GHz)										Size (mm)
			40	15	10	5	3	1	0.5	0.3	0.2	0.1	
MB-30	30	1.3	40	35	30	20	17	8	/	/	/	/	500 × 500
MB-50	50	1.8	45	40	35	25	20	13	/	/	/	/	500 × 500
MB-70	70	2.6	45	40	35	30	25	15	/	/	/	/	500 × 500
MB-100	100	3.3	50	45	40	35	30	20	13	/	/	/	500 × 500
MB-150	150	4.2	55	50	45	40	35	25	15	/	/	/	500 × 500
MB-200	200	5.5	60	55	50	45	40	30	17	/	/	/	500 × 500
MB-300	300	8.3	60	55	55	45	40	35	20	/	/	/	500 × 500
MB-400	400	10.6	60	60	55	50	45	40	25	17	/	/	500 × 500
MB-500	500	13.0	60	60	60	50	45	40	30	20	17	/	500 × 500
MB-700	700	17.7	60	60	60	55	50	45	35	30	20	12	250 × 500
MB-800	800	19.6	60	60	60	55	50	45	35	30	20	17	250 × 500
MB-1000	1000	25.5	60	60	60	60	55	48	35	30	25	20	334 × 334
MB-1200	1200	28.8	60	60	60	60	60	50	40	35	30	25	400 × 400

(SUPPORT CUSTOMIZED SIZE OF ABSORBING MATERIALS)

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