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ATxTel ShieldMAX

The ATxTel ShieldMAX is a robust, reliable solution that shields radio frequency interference for various RF testing applications. It provides an optimal environment for conducting tests, experimentation, and measurements that require isolation from external RF signals.

The ShieldMAX provides excellent shielding effectiveness, up to 100dB of RF isolation from external interference across a wide frequency range, minimizing external RF interference. Advanced designs provide high-rejection filters, ensuring minimal interference. The ShieldMAX filters include Multi-Gig Ethernet, USB 2.0 (USB-A connector), USB 3.0 with (USB-C connector), HDMI, DC Power and AC Power. Unlike other stainless steel constructed RF shielded enclosures, the ATxTel ShieldMAX enclosure uses a high-grade **aluminum** RF-tight material, ensuring durability and long-term shielding performance. The ShieldMAX minimizes internal reflections with RF-absorbing foam. Combined with the high-rejection filter designs, the ShieldMAX chambers provide near-complete isolation, preventing RF leaks and maintaining a controlled testing environment. The ShieldMAX enclosure can be **customized** with various components, including RF connectivity, filters, rack mount, and ventilation, to accommodate different testbed configurations and requirements. Multiple size options are available, ranging from compact benchtop rack-mount to large chamber stack for large DUT and complicated testbed configurations such as mesh, MIMO, and handover.

Applications

· **Wireless Communication Testing**

· **Certification Testing**

· **Quality Assurance**

· **Network Optimization**

· **Production Testing**

Specifications

· **Supported Wireless Standards:** Wi-Fi 7 (802.11be), Wi-Fi 6 (802.1ax), Wi-Fi 5 (802.11ac), Wi-Fi 4 (802.11n), LTE, 5G NR, Bluetooth, Zigbee, and more.

· **Shielding Effectiveness:** Up to 100 dB

· **Frequency Range:** 10 MHz to 18 GHz

· **Construction Material:** Aluminum (Other materials available upon request)

· **Interior:** Semi-anechoic absorption foam (5cm) with high gain directional antennas

· **Dimensions:** Customizable (Standard sizes available)

· **Safety Standards:** Compliant with relevant industry standards and regulations

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Built-in Turntable

The built-in programable turntable is a rotating platform that allows for controlled movement and positioning of objects, such as antennas, receivers, or devices under test (DUTs). It provides precise speed control and angular positioning capabilities to simulate different orientations and angles for the device under test, allowing testers and engineers to assess the performance and characteristics of RF devices, such as their radiation patterns or sensitivity to different signal directions.

- Support up to 22 lbs (10 kg)
- 0 to 10 RPM
- 1º Angular Resolution
- Routing duct for DC Power, USB and Ethernet interfaces
- Front panel touchscreen control: Forward, Back and Reset
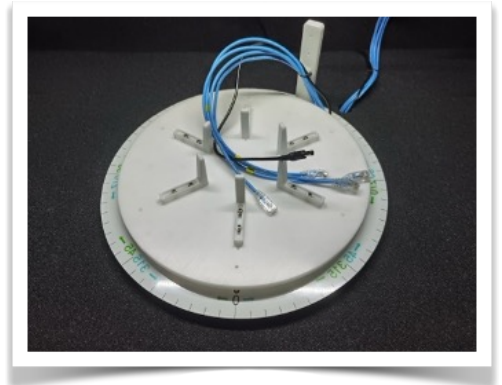
Stackable Configuration

ATxTel ShieldMAX XD110 and MD48 are designed to allow stackable configuration with a sturdy caster base. The width of MD48 is about half the width of XD110. Each chamber is equipped with mounting plates designed to secure the base on the chamber above it. It enables complicated testbed design with up to 6 chambers on a base for advanced testbed configuration such as mesh and handover.

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Rack-mount Chambers:

Rack-mountable RF chambers are designed to be mounted in standard equipment racks, allowing easy integration into existing testing setups and infrastructure. ATxTel's ShieldMAX offers standard 10U or 12U configurations. The rack-mountable RF chambers are constructed with high-grade aluminum and provide the same isolation and filter options as the larger standalone chambers for RF testing, ensuring accurate and reliable measurements.

Inside the rack-mountable chamber, there is typically ample space to accommodate the RF devices under test. The chambers can also be configured with different mounting options, such as shelves or brackets, to mount antennas or position the devices at the desired location.
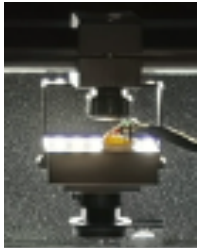
Options

- Built-in 2D or 3D turntable with front panel displa

- Filtered multi-gigabit Ethernet, USB, HDMI, BNC and Waveguide filter for feeding fiber optic cable for high-speed connections

- Additional SMA Filter Plate

- Additional High Gain Antennas and Racks

- Filtered AC and DC power

- Filtered low-noise ventilation fans

- Internal LED light and camera

- Base with Casters

Filters and Options

View	Description
	4-Port 10G ethernet port
	AC and DC power filter with 4-port USB
	Waveguide and BNC connector
	SMA connectors
	2D Turntable

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View	Description
	High gain antennas
	LED Light
	Camera option
	Base with Casters

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XD110 Specifications

Feature	Specification
Construction	Aluminum
Isolation	Up to 100dB. Typical > 90dB
AC power	120/240VAC 50/60Hz
Cooling	100mm fans (x4); filters over inlet and outlet for isolation
Filtered data connections	4x 10Gig, 4x USB (2.0), DC power ports standard. Optional USB 3 (USB C), and HDMI
RF ports	33 RF barrel SMA connectors (11 connectors on each side and back), 1 barrel BNC-connector
Internal	8x High-gain antennas with rails on the right, left, back, and top of the chamber
Waveguide	Fiber optic or other non-metallic feeds
Absorption	Up to 50mm interior foam. >20 dB from 1.3 to 18 GHz
Rack Mountable	No

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MD48 Specifications

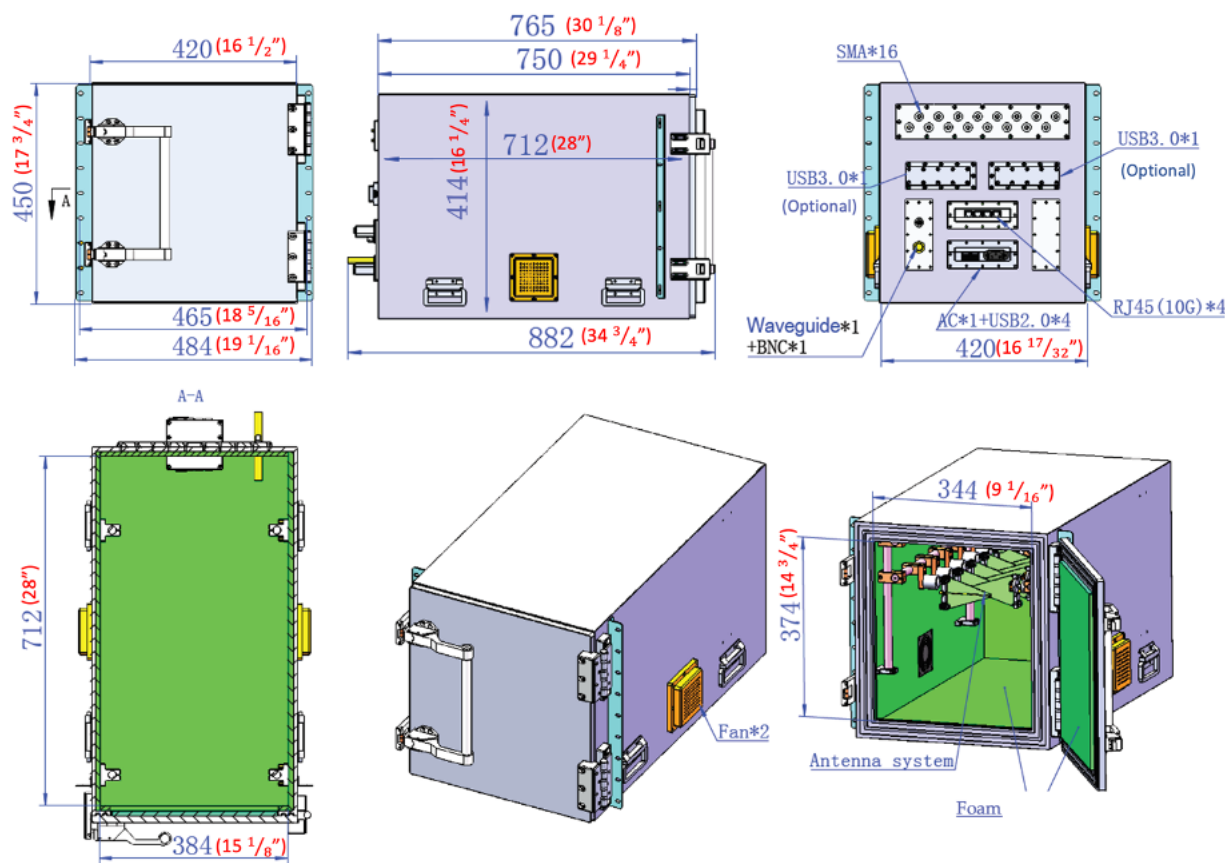| Feature	Specification
Construction	Aluminum
Isolation	Up to 100dB. Typical > 90dB
AC power	120/240VAC 50/60Hz
Cooling	100mm fans (x2); filters over inlet and outlet for isolation
Filtered data connections	4x 10Gig, 4x USB (2.0), DC power ports standard. Optional USB 3 (USB C), and HDMI
RF ports	22 RF barrel SMA connectors (11 connectors on each side), 1 barrel BNC connector
Internal	8x High-gain antennas with rails on the right, left, back, and top of the chamber
Waveguide	Fiber optic or other non-metallic feeds
Absorption	Up to 50mm interior foam. >20 dB from 1.3 to 18 GHz
Rack Mountable	No

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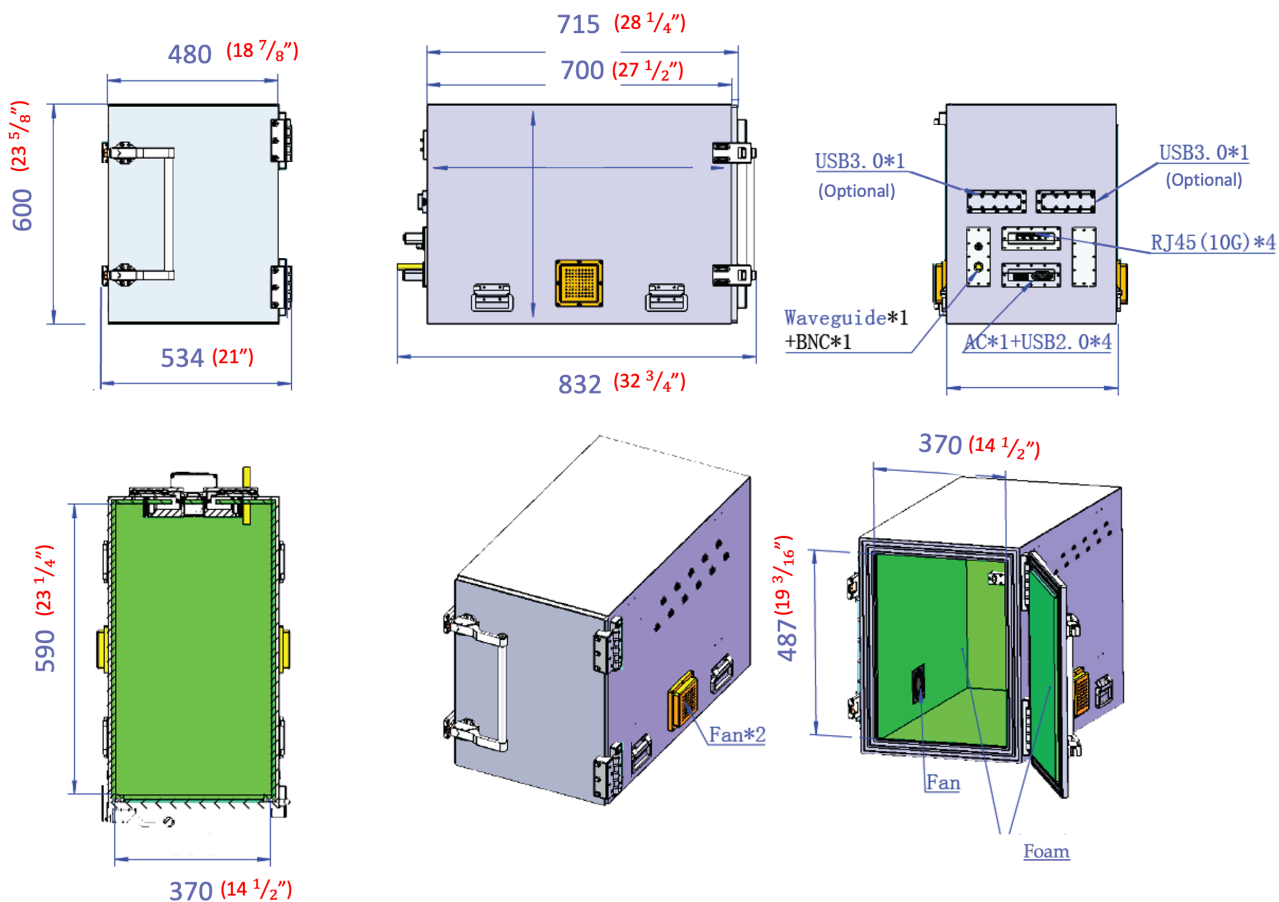
MD42-10U Specifications

Feature	Specification
Construction	Aluminum
Isolation	Up to 100dB, Typical >90dB
AC power	120/240VAC 50/60Hz
Cooling	100mm fans (x2); filters over inlet and outlet for isolation
Filtered data connections	4x 10Gig, 4x USB (2.0), DC power ports standard. Optional USB 3 (USB C), and HDMI
RF ports	16 RF barrel SMA connectors (back panel), 1 barrel BNC-connector
Internal	8x High-gain Antenna with rails on the right, left, back, and top of the chamber
Waveguide	Fiber optic or other non-metallic feeds
Absorption	Up to 50mm interior foam. >20 dB from 1.3 to 18 GHz
Rack Mountable	Yes

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MD42-12U Specifications

Feature	Specification
Construction	Aluminum
Isolation	Up to 100dB, Typical > 90dB
AC power	120/240VAC 50/60Hz
Cooling	100mm fans (x2); filters over inlet and outlet for isolation
Filtered data connections	4x 10Gig, 4x USB (2.0), DC power ports standard. Optional USB 3 (USB C), and HDMI
RF ports	16 RF barrel SMA connectors (back panel), 1 barrel BNC-connector
Internal	8x High-gain Antenna with rails on the right, left, back, and top of the chamber
Waveguide	Fiber optic or other non-metallic feeds
Absorption	Up to 50mm interior foam. >20 dB from 1.3 to 18 GHz
Rack Mountable	Yes