Concentric Technology Solutions Inc

Testing Solutions for the Wireless Industry

TC-5977A Shield Box

Features

- Reliable High RF Shielding up to 6 GHz
- Specifically designed for various types of Large Device
- Side Cooling Fans
- Easy Opening/Closing of lid
- EMI filters on all Data and DC lines
- Customizable Data connections

*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

Concentric Technology Solutions, Inc.

TEL: 817-503-8862 FAX: 817-503-8866 Email: CTS-Sales@ctscorp-usa.com www.rfshieldbox.com www.ctscorp-usa.com

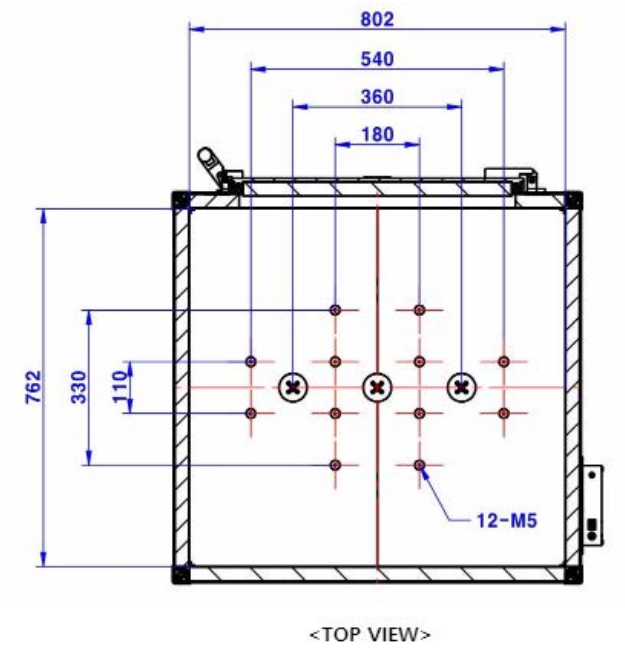
Specifications

Mechanical Specification

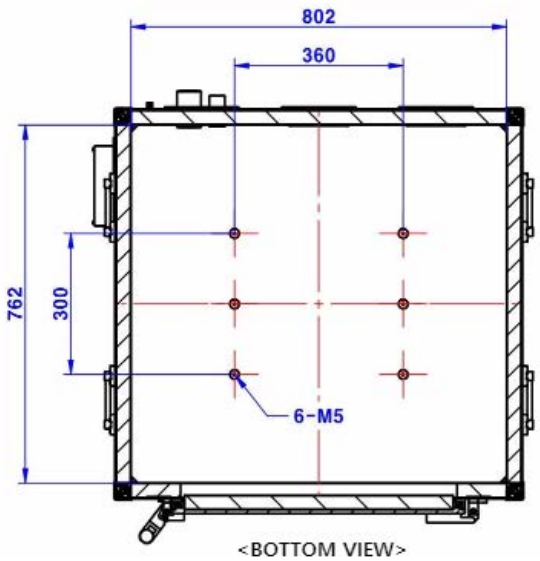
RF Connectors without I/O interface panel	
	three(3) N(f) outside and SMA(f) inside
Dimension	
Inside	802(W) x 764(D) x 644(H) mm
Outside	914(W) x 940(D) x 869(H) mm
Door	624(W) x 624(H) mm
Weight	
TC-5977A	75 kg
***Packing**	
Size	1100(W) x 1100(D) x 1080(H) mm
Weight	Approx. 90 kg
*The size or weight of a package may vary on how to pack a package.	

Dimensions

- TC-5977A Inner Dimension (W×D×H): 802(W) x 764(D) x 643(H) mm



<TOP VIEW>



<BOTTOM VIEW>

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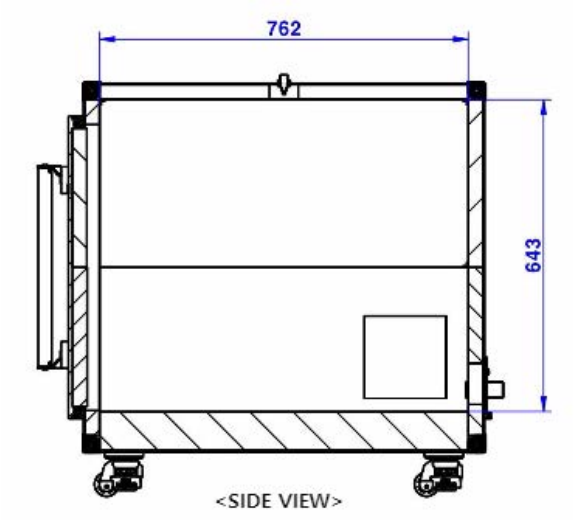
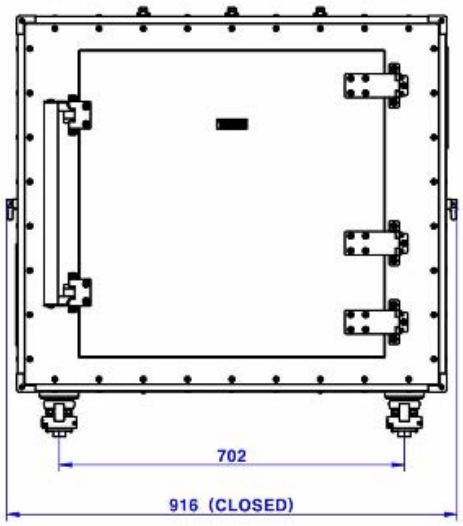
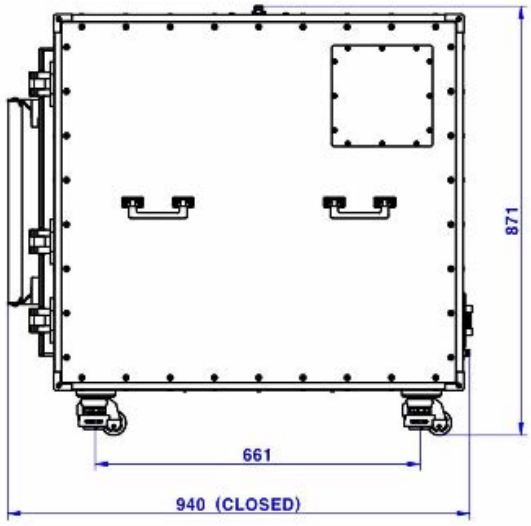
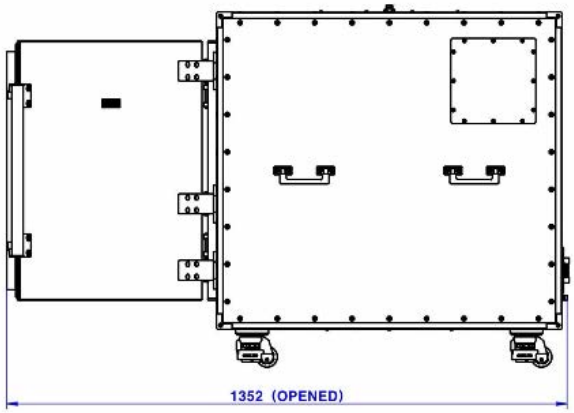
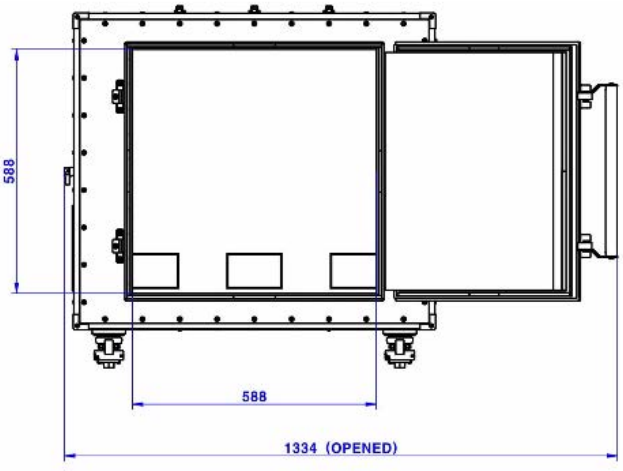


- TC-5977A Outer Dimension (W×D×H): 916(W) x 940(D) x 871(H) mm









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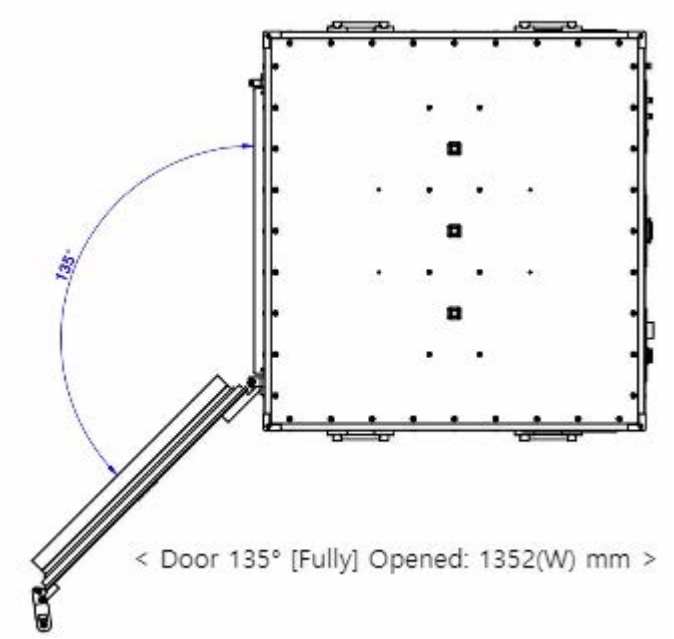
- **Door Opened (Top View)**



< Door 135° [Fully] Opened: 1352(W) mm >

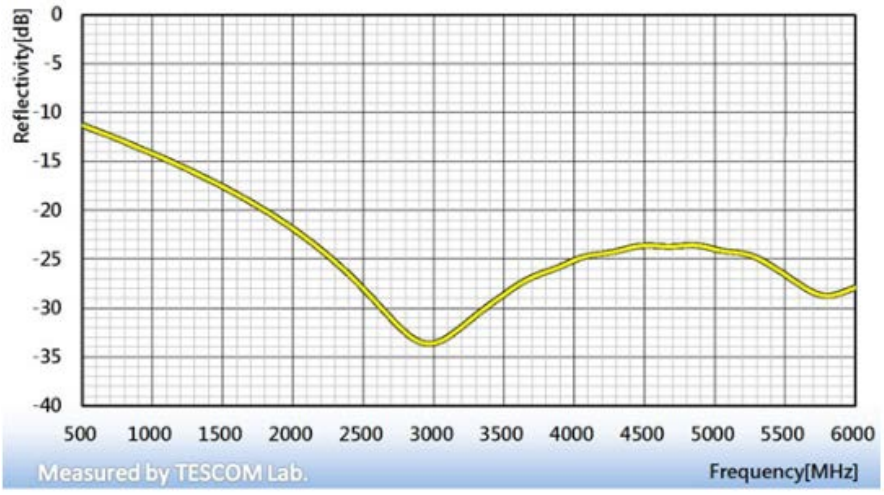
Typical RF Shielding

- The shielding effectiveness below is measured when the blank panel is mounted; other I/O interface panel results a different shielding effectiveness of the shield box.

Frequency	Shielding effectiveness (dB)
100 to 2000 MHz	〉70 dB
2000 to 3000 MHz	〉70 dB
3000 to 6000 MHz	〉60 dB

Absorber Reflectivity

- Measured the reflected signal from the absorber with metal plate using the VNA.



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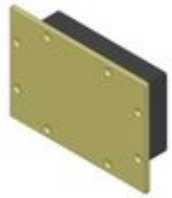
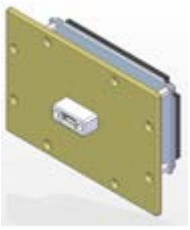
Ordering Information

Order Number	Description
TC-5977A	**Shield Box (including accessories bellow)**
	Test Report RF Cable, RG-400S, N(m) to N(m) cable 1 m, 3 pc

Pre-Configured I/O Interface Panel

I/O Interface Panel	Order Number	Configuration
 Blank Panel	M5970D01A	• Blank module (Absorber)
 Data Interface Panel	M5970C03A	• one(1) N(f) outside and SMA(f) inside • one(1) RJ-45 outside and inside • one(1) DB25(p) outside and DB25(s) inside, 1000 pF Pi filter
 Data Interface Panel	M5970C04A	• one(1) N(f) outside and SMA(f) inside • one(1) USB 2.0 outside and inside • one(1) DB25(p) outside and DB25(s) inside, 1000 pF Pi filter
 Data Interface Panel	M5970C08A	• one(1) USB 2.0 outside and inside

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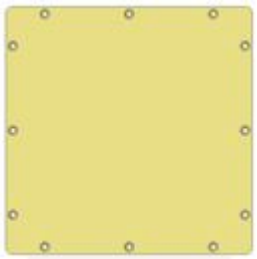
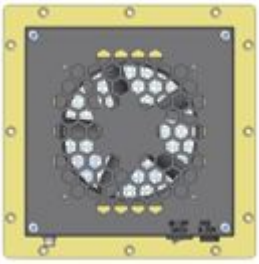
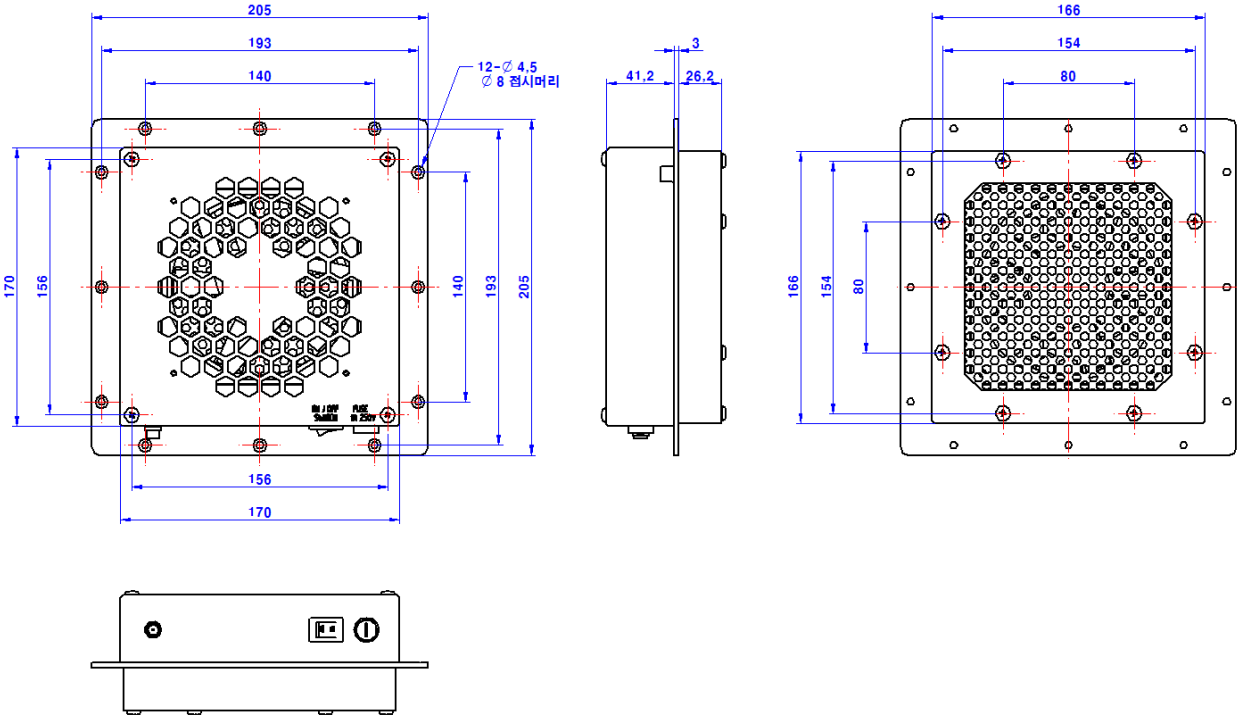
Pre-Configured Side I/O Interface Panel

- Two optional Side I/O Interface Panel

I/O Interface Panel	Order Number	Configuration
 Blank Panel	M5977A01A	Blank module
 Cooling Panel	M5977A02A M5970A02B	M5977A02A: Inlet (Left FAN) M5977A02B: Outlet (Right FAN) (M5977A02A/M5977A02B are the same parts but the instal lation direction is different.)

- Dimension of cooling panel (M5977A02A/5977A02B)



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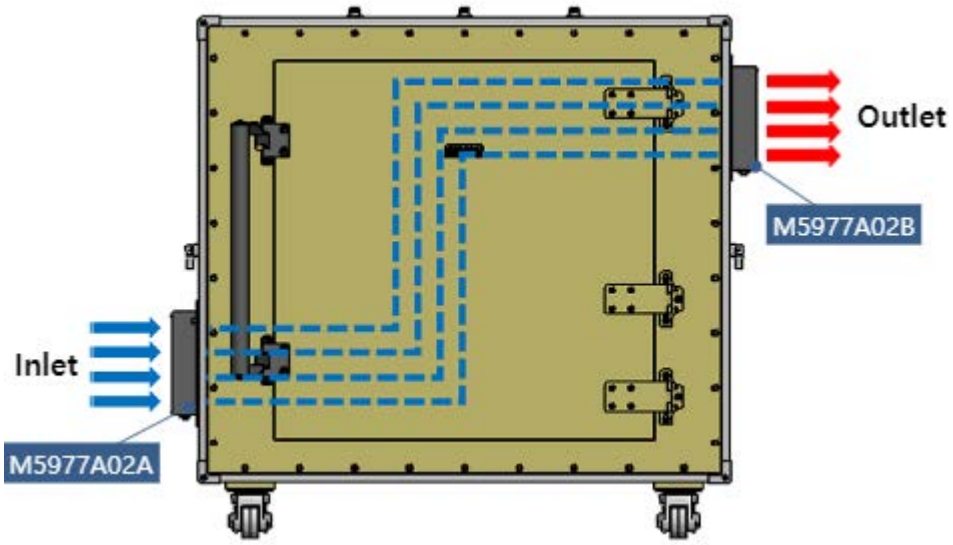
- Air Flow Mechanism of Shield Box
  - The location of the inlet cooling panel and the outlet cooling panel should be installed as sho wn below.



Custom I/O Interface Panel

- Customized I/O Interface panels are available. Please contact Tescom sales team or your local distri butor.

I/O Interface	Order Number	Typical Data Rate / Line Voltage	*Typical Shielding
 DB37, 1000pF pi Filter	3409-0012-1	3 Mbps / 100 VDC, 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 DB25, 1000pF pi Filter	3409-0009-1	3 Mbps / 100 VDC, 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 DB25, 100pF pi Filter	3409-0014-1	10 Mbps / 100 VDC, 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz
 DB9, 1000pF pi Filter	3409-0008-1	3 Mbps / 100 VDC, 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 DB9, 100pF pi Filter	3409-0010-1	10 Mbps / 100 VDC, 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz

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I/O Interface	Order Number	Typical Data Rate / Line Voltage	*Typical Shielding
 USB 2.0 Filter	3409-0018A-3	480 Mbps / 5 V, 500 mA / Max Current: 5A	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 USB 3.0 Filter(Active)	3409-0042A-1	5000 Mbps / 5 V, 900 mA / Max Current: 1.5 A	>70 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >55 dB from 3 to 6 GHz
 RJ-45 Filter	3409-0022A	1 Gbit/s Copper-Line Ethernet (1000 BASE-T)	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 DC Power Adaptor,	3406-0004A	50 VDC, 3 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
 DC Power Adaptor, Banana Jack Type	3406-0005A 3406-0006A	50 VDC, 10 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
 AC Power Adaptor	3103-0009A	250 VAC, 7 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
 RF, N-SMA Connector	3408-0038		>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
 RF, SMA-SMA Connector	3408-0039		>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz

- Each shielding effectiveness is measured when each I/O interface panel, which is shown above, is mounted.
- Above data was measured by Tescom, The Shielding Effectiveness might be different based on the measuring method and condition.
- This data has been measured under the condition that the cables are not connected to each filters. When the cables are connected it can affect the shielding performance.

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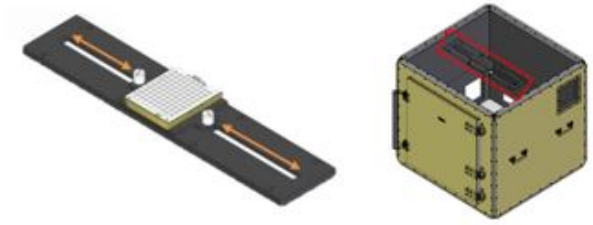
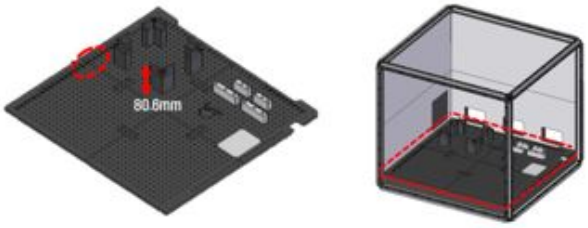
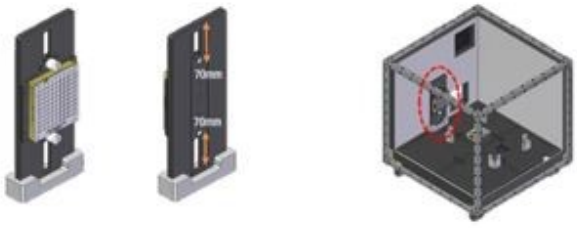
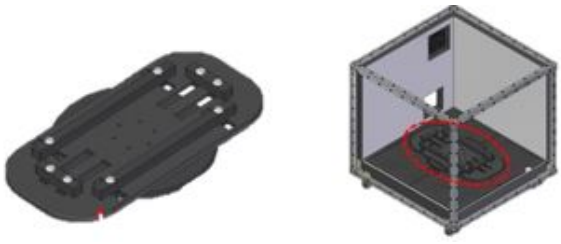
Fixture

- TC-5977A offers flexible fixtures that can change the location of the DUT fixture block. Depending on the shape of DUT, users can create its own fixture using fixture blocks within seconds. Moreover, customized fixtures that meet the demands of customers can be manufactured and supplied if necessary.
- The various types of antenna coupler options with fixtures allow optimal measurement environment configuration that fits the characteristics of each DUT.

Fixture	Order Number	Description
 Top Antenna Fixture	F59771A	**[Fixture Size]** 620(W) x 130(D) x 12(H) mm **[Fixture Motion]** Position adjustment range: ±190 mm from the center **[Antenna Coupler]** TC-93060A, TC-93061A
 Bottom Grid Fixture, 4 divisions	F59772A	**[Fixture Size]** 802(W) x 762(D) x 10 (H) mm **[Antenna Coupler]** TC-93060A, TC-93061A
 Side Fixture	F59773A	**[Fixture Size]** 150(W) x 44(D) x 460 (H) mm **[Fixture Motion]** Position adjustment range: ±120 mm from the center **[Antenna Coupler]** TC-93060A, TC-93061A
 Rotator Fixture	F59775A	**[Fixture Size]** 600(W) x 350(D) x 44 (H) mm

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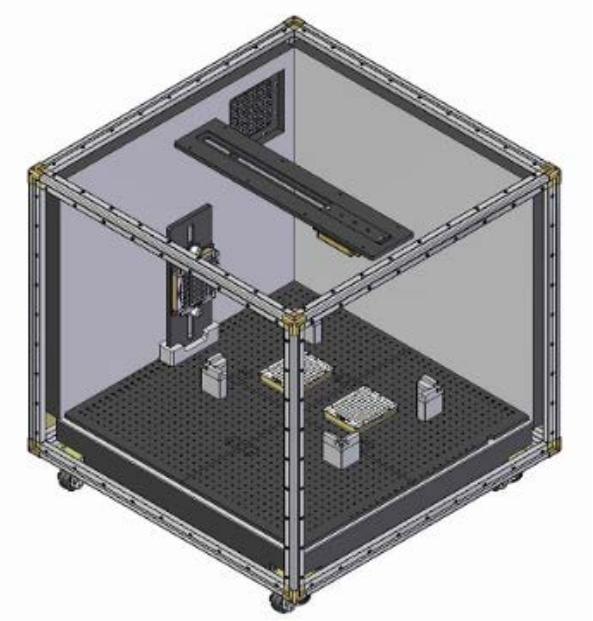
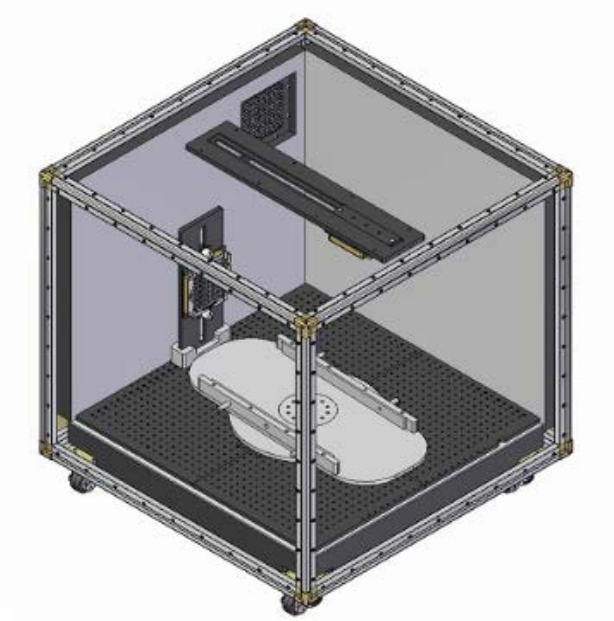
- TC-5977A Fixture Configuration

< Bottom Fixture Concept >



< Rotator Fixture Concept >



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