TC-5570A mmWave Shield Box

Features

- Specifically designed for testing in millimeter-wave bandwidth
- Reliable RF-shielding from 0.1 GHz to 67 GHz
- EMI filters on all data ports and power lines
- Easy open/close
- Customizable I/O connections

TESCOM

Specifications

Mechanical Specifications

Standard RF connector	One(1) 1.85 mm(f) outside and 1.85 mm(f) inside
Dimensions	
Inside	802(W) x 762(D) x 644(H) mm
Outside	916(W) x 940(D) x 856(H) mm
Door	624(W) x 624(H) mm
Weight	81 kg
***Packing**	
Size	1100 (W) x 1100(D) x 1030(H) mm
Weight	approx. 101 kg

* The size or weight of a package may vary depending on how the product is packed.

Typical RF Shielding

The shielding effectiveness below is measured when the blank panel is mounted; other I/O interface panel may result in different shielding effectiveness.

Frequency Range	Shielding Effectiveness [dB]
0.1 GHz to 30 GHz	> 70 dB
30 GHz to 67 GHz	> 60 dB

Absorber Reflectivity

Referring to a metal plate (0 dB @ 0.5 GHz to 67 GHz), signal reduction is measured with the RF absorber inserted.

Frequency Range	Reflectivity [dB]
0.5 GHz to 2 GHz	15 dB (Typ.)
2 GHz to 67 GHz	20 dB (Typ.)

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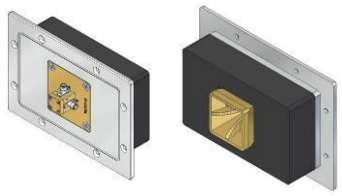
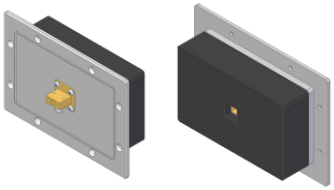
Ordering Information

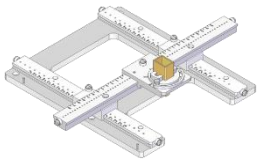
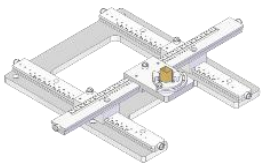
Order Number	Description
	Shield Box (including accessories below)
TC-5570A	Test Report

Optional Antenna Module & Fixture

■ Optional Horn Antenna Module

Horn Antenna Module	Order Number	Configuration
	H5570A02A	• Quad Ridged Horn Antenna (Dual Polarized) - Frequency: 18 GHz to 40 GHz - Antenna: TC-93470A - RF Adapter: K-type 2.92 mm • Antenna Norminal Gain 14.5 dBi @ 28 GHz
	H5570A04A	WR-15 Rectangular Horn Antenna - Frequency: 50 GHz to 67 GHz - Antenna: TC-93671A • Antenna Norminal Gain 16.5 dBi

■ Optional Horn Antenna Fixture

Horn Antenna Fixture	Order Number	Configuration
 TC-93472A/B Horn Antenna Rail Fixture	N55703A	• XY Rail Fixture for TC-93472A or TC-93472B
	C93472A or C93472B	• TC-93472A, Rectangular Horn Antenna - Frequency: 24 GHz to 40 GHz - RF Connector: 2.92 mm female - Gain: 14.5 dBi @ 28 GHz, 16.5 dBi @ 38 GHz • TC-93472B, Rectangular Horn Antenna - Frequency: 24 GHz to 44 GHz - RF Connector: 2.4 mm female - Gain: 14.5 dBi @ 28 GHz, 18 dBi @ 43.5 GHz
 TC-93671A Horn Antenna Rail Fixture	N55702A	• XY Rail Fixture for TC-93671A
	C93671A	• TC-93671A, Rectangular Horn Antenna - Frequency: 50 GHz to 67 GHz - RF Connector: 1.85 mm female - Gain: 15.5 dBi @ 55 GHz, 17 dBi @ 65 GHz

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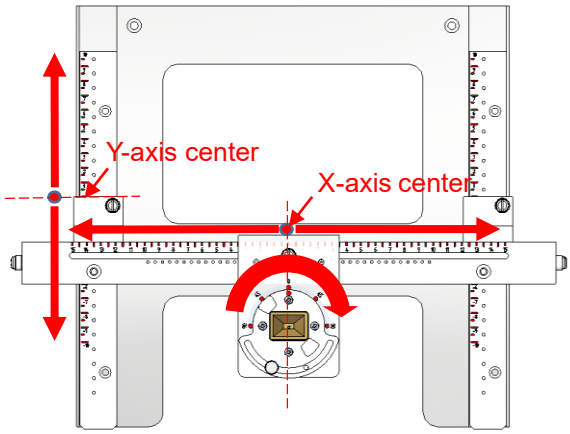
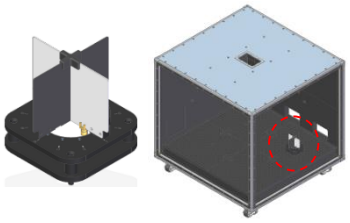
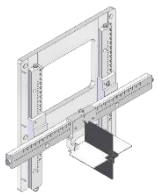
Horn Antenna Fixture Motion



- X-axis Range: ±150 mm from the center (increment: 5 mm)
- Y-axis Range: ±100 mm from the center (increment: 5 mm)
- Antenna Rotation Range: 0° ~ 135° (increment: 45 °)

Optional DPV Antenna Fixture

DPV Antenna Fixture	Order Number	Configuration
 DPV Antenna Fixture	F59777A	• DPV Antenna Bottom Fixture - F59772B Grid Fixtures required
	C93076A or C93083A	• TC-93076A, Dual Polarized Vivaldi Antenna - Frequency: 0.7 GHz to 6 GHz - RF Connector: two(2), SMA female • TC-93083A, Dual Polarized Vivaldi Antenna - Frequency: 0.6 GHz to 8 GHz - RF Connector: two(2), SMA female
 DPV Antenna Rail Fixture	F55708A	• XY Rail Fixture for DPV Antenna
	C93076A or C93083A	• TC-93076A, Dual Polarized Vivaldi Antenna - Frequency: 0.7 GHz to 6 GHz - RF Connector: two(2), SMA female • TC-93083A, Dual Polarized Vivaldi Antenna - Frequency: 0.6 GHz to 8 GHz - RF Connector: two(2), SMA female

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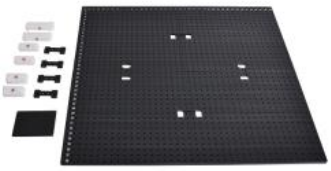
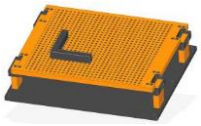
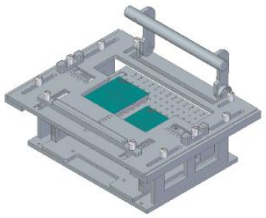
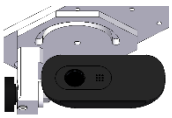
■ Optional Fixture

Fixture	Order Number	Description
	F59771B	• Top Fixture - 620(W) x 130(D) x 12(H) mm - Fixture Motion: Position adjustment range: ±190 mm from the center Antenna - Antenna Coupler(Optional): TC-93061A
	F59772B	• Bottom Grid Fixture, 4 divisons - 802(W) x 762(D) x 10 (H) mm - F59777A DPV Antenna Fixture option selectable
	F59773A	• Side Fixture - 150(W) x 44(D) x 460 (H) mm - Fixture Motion: ▫ Position adjustment range: ±120 mm from the center Antenna - Antenna Coupler(Optional): TC-93061A - F59772B Grid Fixtures required
	F55704A	• DUT Guide Fixture - Grid Fixture Type - Fixture size can be changed
	F55706A F55707A	• F55706A, Laptop Fixture • F55707A, TC-93060A Fixture inside of F55706A
	F55702A	• Top LED Assembly - Power ON/OFF switch - Power supplied by USB - Requires USB 2.0 or USB 3.0 interface
	F59778A	• Camera Fixture - Camera: Logitech, C270 - Power supplied by USB - Requires USB 2.0 or USB 3.0 interface

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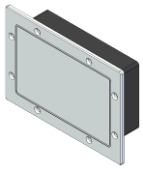
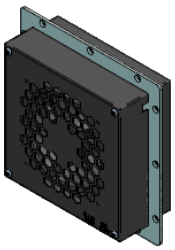
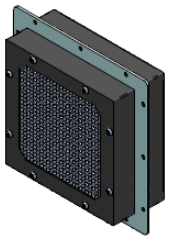
Pre-Configured I/O Interface Panel

■ Optional Data Interface Panel

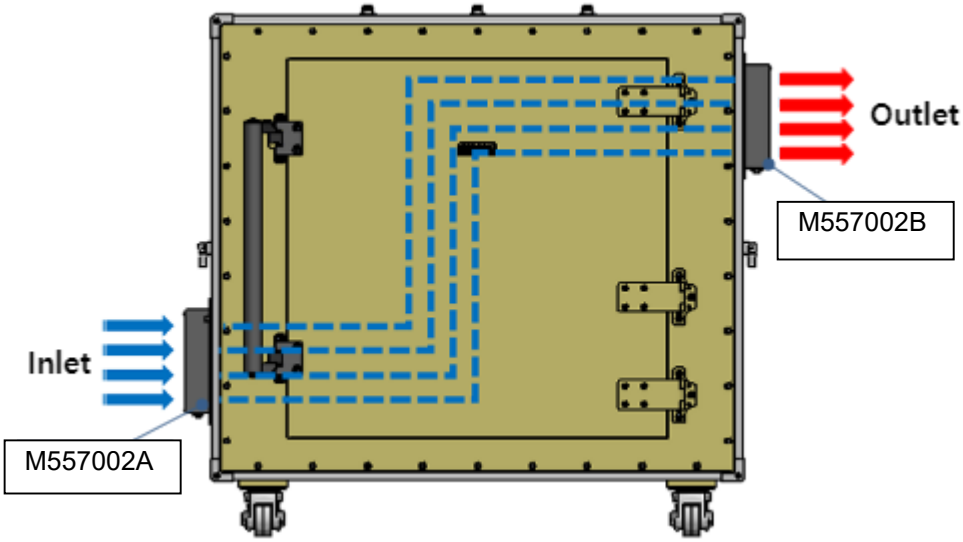
I/O Interface Panel	Order Number	Configuration
	M5570A10A	• Blank panel (with absorber)
	M5570A08A	• Two(2), 2.92 mm RF Connector • One(1), USB3.0 Adaptor

■ Optional Side I/O Interface Panel

I/O Interface Panel	Order Number	Configuration
 	M557002A M557002B	• M557002A: Inlet (Left FAN) • M557002B: Outlet (Right FAN) - Specification Frequency : 0.5 GHz to 48 GHz Shielding Effectiveness : > 70 dB - M557002A/M557002B are the same parts but the installation direction is different - Input voltage: 100 - 240 VAC, 50/60 Hz, 1.8 A - Output voltage: 24 VDC, 2.5 A - Including AC Adapter

Air Flow Mechanism of Shield Box

• Cooling fans should be installed as below.



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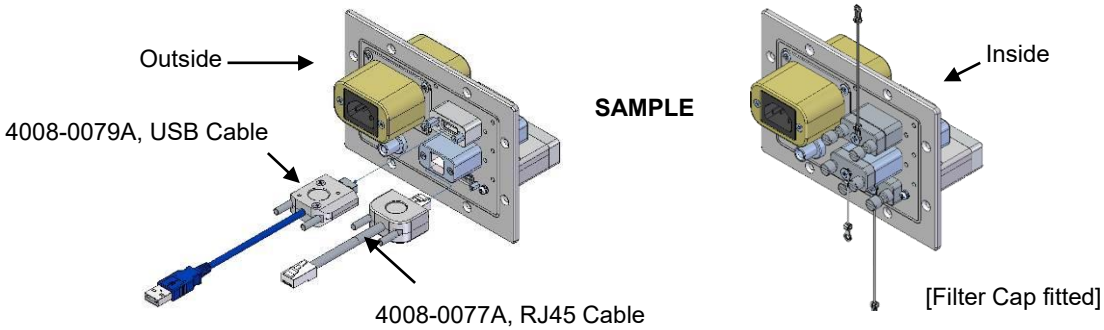
Custom RF Connector Panel

- Custom RF connector panels are available by selecting and combining RF connectors below.

RF Connector	Description / Order Number	Frequency Range / Impedance / V.S.W.R
	RF, 2.92 mm Thru Adapter / 3407-0024	From DC to 40 GHz, 50 Ω, 1.3 max
	RF, 2.4 mm Thru Adapter / 3407-0027	From DC to 50 GHz, 50 Ω, 1.3 max
	RF, 1.85 Thru Adapter / 3412-0001	From DC to 67 GHz, 50 Ω, 1.5 max
	RF, N-SMA Connector / 3408-0038	From DC to 6 GHz / 50 Ω / 1.15 max
	RF, SMA-SMA Connector / 3408-0039	From DC to 8 GHz / 50 Ω / 1.15 max

Custom I/O Interface Panel

- Custom I/O interface panels are available by selecting and combining I/O interfaces below. Please contact TESCOM sales team or your local distributor.



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I/O Interface	Description / Order Number	Typical Data Rate / Line Veltage	Typical Shielding(*)
	USB 2.0 Filter / 3409-0018A-3(a)	480 Mbps / 5 V, 500 mA / Max Current: 5 A	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz >70 dB from 6 to 67 GHz
	USB 3.1 Gen 1 Filter (Active) / 3409-0042A-2(a)	5000 Mbps / 5 V, 600 mA / Max Current: 1.5 A	>80 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >75 dB from 3 to 6 GHz >55 dB from 6 to 67 GHz
	RJ-45 Filter / 3904-0296A	RJ45 Filter: 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 >60 dB from 6 to 67 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 >70 dB from 6 to 67 GHz
	DC Power Adaptor (Banana Jack Type) 3406-0005A-1 (Black) 3406-0006A-1 (White)	50 VAC, 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 >70 dB from 6 to 67 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 >70 dB from 6 to 67 GHz

- (a) : Exclusive cables should be used.
  (USB Cable, 4008-0079A, 2 M, USB 3.0 A(M) - USB 3.0 A(M), Housing: Aluminum)
- ***Typical Shielding** is an estimated value with I/O interface applied.
- The data above were measured by TESCOM standards, and they may be different depending on the measuring method and environment.
- Each shielding effectiveness is measured without any cable, so it will be likely affected when a cable is connected. Also, it may vary depending on the type of cable.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

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