

TC-5530B mmWave Shield Box



Features

- Reliable high RF shielding from 0.1 GHz to 67 GHz
- Specifically designed for testing in millimeter wave band
- Easy to open & close
- Absorbing materials for stable measurement results
- EMI filters on all data ports and power line
- RF switch option

Specifications

RF Specifications

Frequency Range 0.1 GHz to 67 GHz

Shielding Effectiveness*

0.5 GHz to 30 GHz > 70 dB (meas.)

30 GHz to 50 GHz > 60 dB (meas.)

50 GHz to 67 GHz > 60 dB (Typ.)

* The shielding effectiveness is measured with blank panels mounted; other I/O interface panel may result in different shielding effectiveness.

Mechanical Specifications

Basic RF Connector None

Dimensions

Inside 424(W) x 375(D) x 424(H) mm

Outside 537(W) x 568(D) x 513(H) mm, Door closed.

Door 334(W) x 400(H) mm

Weight Approx. 32 kg

***Packing**

Size 620(W) x 710(D) x 683(H) mm

Weight Approx. 37 kg

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

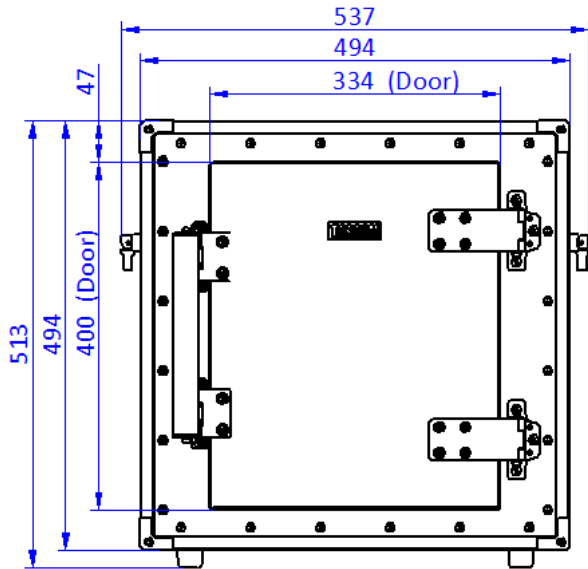
Absorber Reflectivity

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

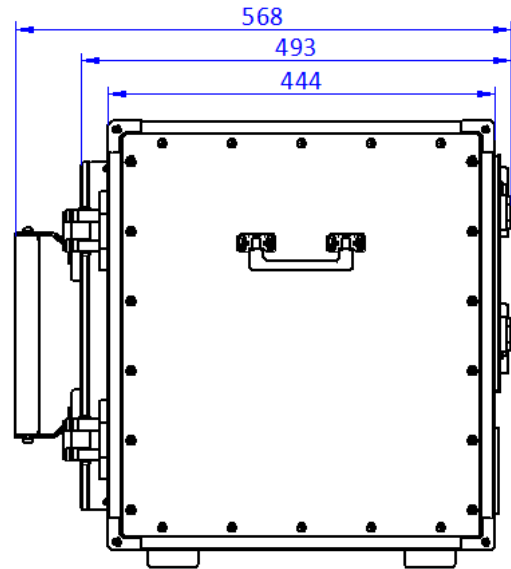
Frequency Range	Reflectivity [dB]
0.5 GHz to 2 GHz	15 dB (Typ.)
2 GHz to 67 GHz	20 dB (Typ.)

Dimensions

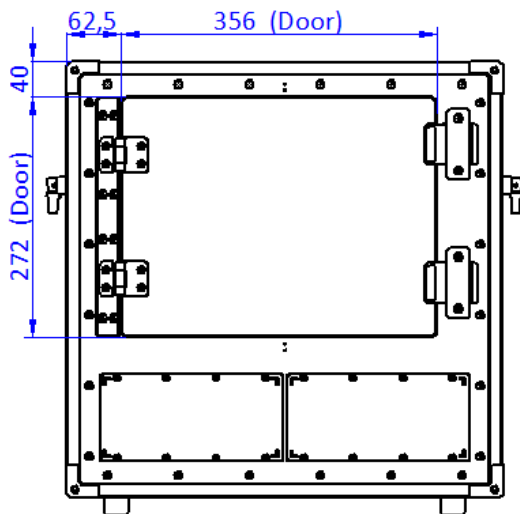
- TC-5530B Outer Dimensions (W×D×H) : 537(W) × 568(D) × 513(H) mm
(Internal dimensions may vary by lot.)



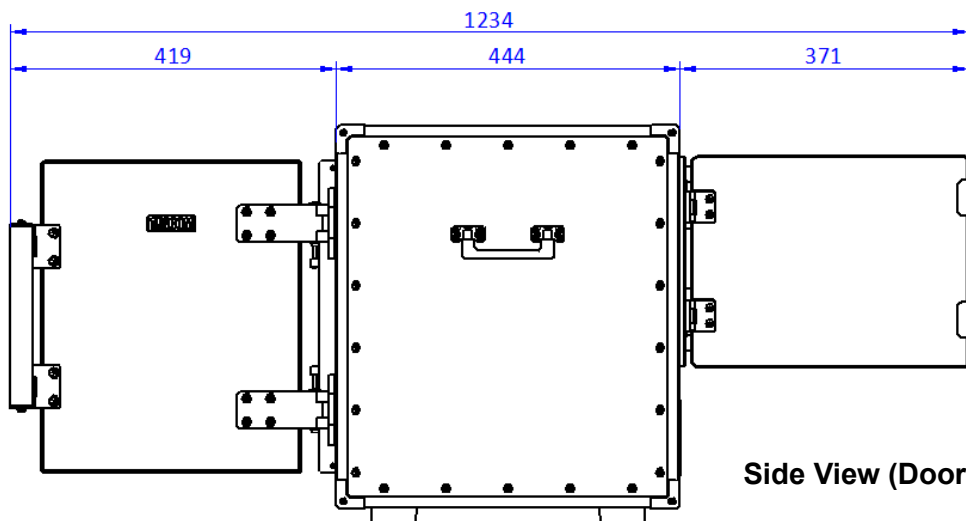
Front View



Side View

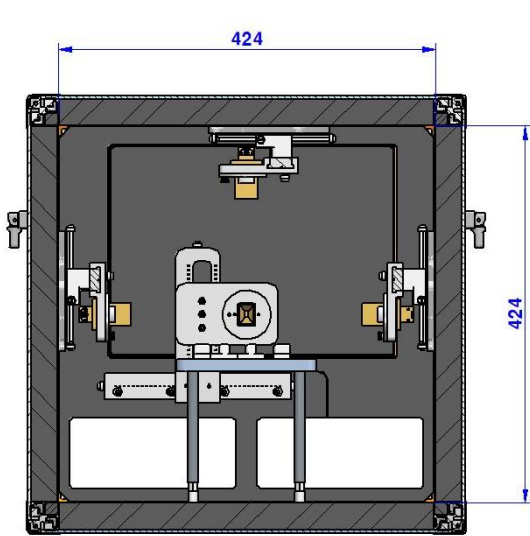


Rear View

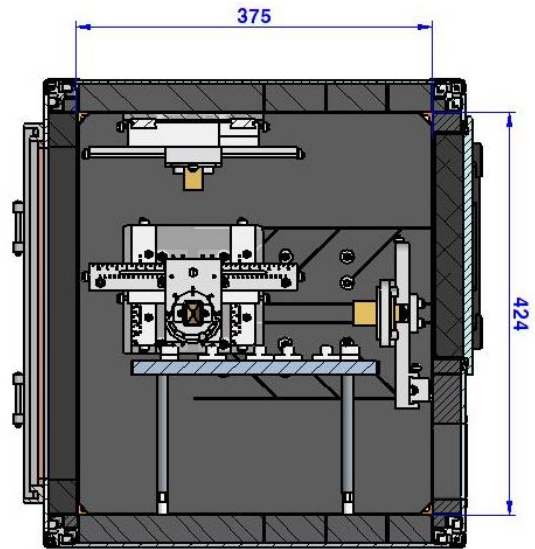


Side View (Door Open)

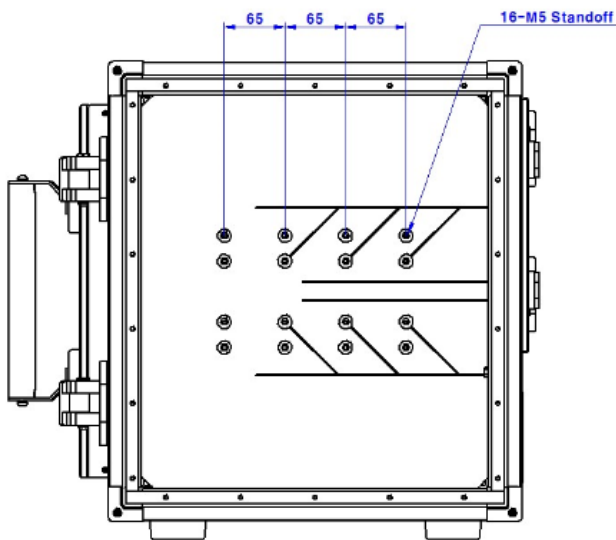
- TC-5530B Inner Dimensions (W×D×H) : 424(W) × 375(D) × 424(H) mm



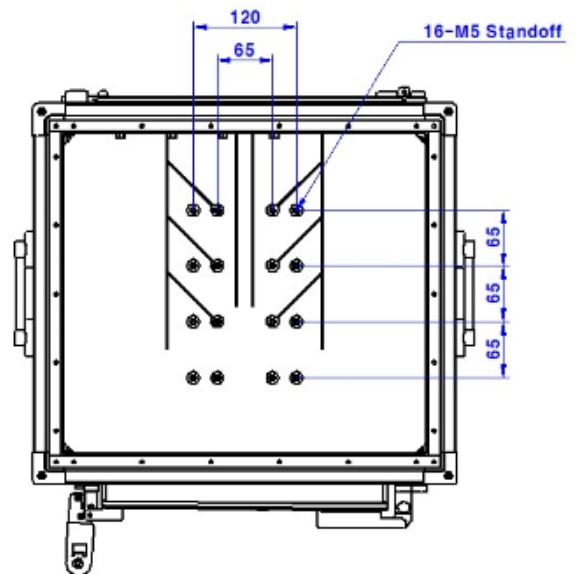
Front Inner View



Side Inner View



Side Inner View (Ant. Removed)



Bottom Inner View (Ant. Removed)

TC-5530B Configuration Example



<ISO View>

<Side Inner View>

<Rear View>

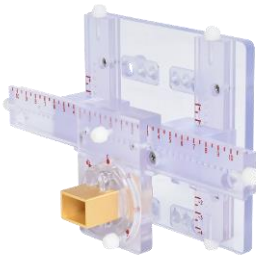

No.	Detailed View	Order Number & Description
①		<ul style="list-style-type: none"> Horn Antenna XY-Rail Fixture (Quantity and mounting position selectable) <ul style="list-style-type: none"> - XY-Rail Fixture: N55307B - Horn Antenna: TC-93472A (24 GHz ~ 40 GHz) TC-93472B (24 GHz ~ 44 GHz)
②		<ul style="list-style-type: none"> Rear Horn Antenna XY-Rail Fixture <ul style="list-style-type: none"> - Rear XY-Rail Fixture: N55307C - Horn Antenna: TC-93472A (24 GHz ~ 40 GHz) TC-93472B (24 GHz ~ 44 GHz)
③		<ul style="list-style-type: none"> DPV Antenna Fixture (Quantity and mounting position selectable) <ul style="list-style-type: none"> - DPV Antenna Fixture C5530AP-2031A - DPV Antenna: C93076A (700 MHz ~ 7.5 GHz)
④		<ul style="list-style-type: none"> RF Switch Box <ul style="list-style-type: none"> - 6:1 RF Switch
⑤		<ul style="list-style-type: none"> Custom I/O Interface Panel <ul style="list-style-type: none"> - M5530BP05A (RF, 1.85 Thru Adapter / 3412-0001, Default) - DC, RJ45, USB 2.0, USB 3.0, AC
⑥		<ul style="list-style-type: none"> Custom Grid Fixture

Ordering Information

Order Number	Description
	mmWave Shield Box (including accessories below)
TC-5530B	Test Report

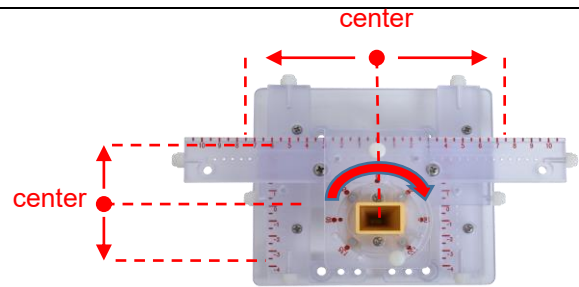
Optional Antenna Fixture

■ Horn Antenna Fixture

Antenna Fixture	Order Number	Configuration
	Fixture Horn Antenna RF Cable	<ul style="list-style-type: none"> ● Horn Antenna XY-Rail Fixture Set <ul style="list-style-type: none"> - XY-Rail Fixture: N55307B <ul style="list-style-type: none"> * Antenna rotation range: 135° (45° increments) - Horn Antenna <ul style="list-style-type: none"> * TC-93472A(24 ~ 40 GHz) or TC-93472B(24 ~ 44 GHz) * Antenna Gain: 14.5 dBi @ 28GHz, 16.5 dBi @ 38 GHz * RF Connector type <ul style="list-style-type: none"> TC-93472A: one(1), 2.92 mm Female TC-93472B: one(1), 2.4 mm Female - RF Cable <ul style="list-style-type: none"> * 2.92 mm Type (~40 GHz) <ul style="list-style-type: none"> 4006-0043: 2.92 mm(M) to 2.92 mm(M), 135 cm 4006-0033: 2.92 mm(M) to 2.92 mm(M), 80 cm * 2.4 mm Type (~44 GHz) <ul style="list-style-type: none"> 4006-0048: 2.4 mm(M) to 2.4 mm(M), 180 cm 4006-0046: 2.4 mm(M) to 2.4 mm(M), 90 cm
	Fixture Horn Antenna RF Cable	<ul style="list-style-type: none"> ● Rear Horn Antenna XY-Rail Fixture Set <ul style="list-style-type: none"> - XY-Rail Fixture: N55307C <ul style="list-style-type: none"> * Antenna rotation range: 135° (45° increments) - Horn Antenna <ul style="list-style-type: none"> * TC-93472A(24 ~ 40 GHz) or TC-93472B(24 ~ 44 GHz) * Antenna Gain: 14.5 dBi @ 28GHz, 16.5 dBi @ 38 GHz * RF Connector type <ul style="list-style-type: none"> TC-93472A: one(1), 2.92 mm Female TC-93472B: one(1), 2.4 mm Female - RF Cable <ul style="list-style-type: none"> * 2.92 mm Type (~40 GHz) <ul style="list-style-type: none"> 4006-0034: 2.92mm(M) to 2.92mm(M), 50 cm * 2.4 mm Type (~44 GHz) <ul style="list-style-type: none"> 4006-0046: 2.4 mm(M) to 2.4 mm(M), 90 cm

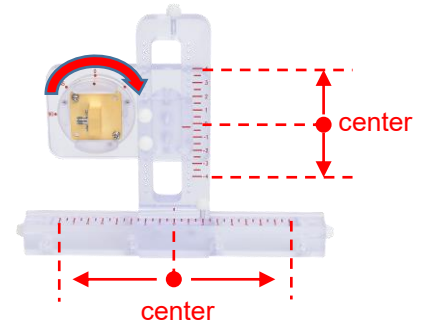
■ Horn Antenna XY-Rail Fixture Motion

- X-axis Range: ± 75 mm from the center
- Y-axis Moving Range: ± 40 mm from the center
- Antenna Rotation Range: $0^\circ \sim 135^\circ$ (increment : 45°)



■ Rear Horn Antenna XY-Rail Fixture Motion

- X-axis Range: ± 80 mm from the center
- Y-axis Moving Range: ± 40 mm from the center
- Antenna Rotation Range: $0^\circ \sim 135^\circ$ (increment : 45°)



■ DPV Antenna Fixture

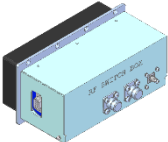
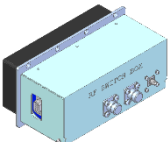
Antenna Fixture	Order Number	Configuration
	F55303A	<ul style="list-style-type: none"> • DPV Antenna Fixture - Frequency Range: 0.7 GHz ~ 7.5 GHz - DPV Antenna: TC-93076A - RF Connector type: SMA Female
	F55303B	<ul style="list-style-type: none"> • DPV Antenna Fixture - Frequency Range: 0.6 GHz ~ 8 GHz - DPV Antenna: TC-93083A - RF Connector type: SMA Female
	DPVA Angle Fixture	<ul style="list-style-type: none"> • DPV Antenna Fixture (Angle Type) - DPV Antenna: TC-93076A or TC-93083A - RF Connector type: SMA Female

Optional DUT Fixture

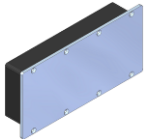
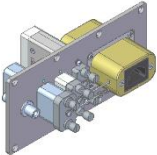
Fixture	Order Number	Configuration
	F5530001A	<ul style="list-style-type: none"> • DUT Guide Fixture - Grid Fixture Type

Optional I/O Interface Panel

RF Switch Box Panel

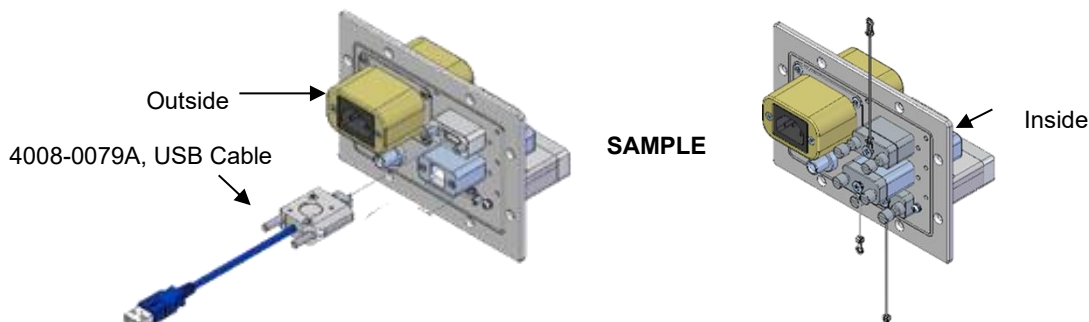
RF Switch Box	Order Number	Configuration
	40 GHz RF Switch Box	Max 40GHz 6:1 RF Switch Box <ul style="list-style-type: none"> RF Switch: Radiall, SP6T, DC~40GHz, No-Term, Latching, 28 VDC, 9Pin D-sub Seven(7), 2.92 mm Thru Adapter Seven(7), 2.92 mm(M) to 2.92 mm(M) Cable Two(2), SMA(f) to SMA(f) Connector Two(2), N(f) to SMA(f) Connector Two(2), SMA(M) to SMA(M) Cable
	50 GHz RF Switch Box	Max 50GHz 6:1 RF Switch Box <ul style="list-style-type: none"> RF Switch: Radiall, SP6T, DC~50GHz, No-Term, Latching, 28 VDC, 9Pin D-sub Seven(7), 2.4 mm Thru Adapter Seven(7), 2.4 mm(M) to 2.4 mm(M) Cable Two(2), SMA(f) to SMA(f) Connector Two(2), N(f) to SMA(f) Connector Two(2), SMA(M) to SMA(M) Cable

Pre-Configured I/O Interface Panel

I/O Interface Panel	Order Number	Configuration
	M5530BP01A	Blank Panel (Absorber)
 <p>Data Interface Panel</p>	M5530BP05A	<ul style="list-style-type: none"> one(1), USB 2.0 outside and inside one(1), USB 3.0 outside and inside one(1), RJ-45 outside and inside one(1), DC Power Jack outside and inside one(1), AC Power Adaptor






Custom I/O Interface Panel

- Customized I/O Interface Panel is available by selecting below I/O interfaces and combine. Please contact Tescom sales team or your local distributor.









■ RF Connectors

- Custom RF Connector Panel is available by selecting or combining the below RF Connectors.

RF Connector	Description / Order Number	Frequency Range / Impedance / V.S.W.R
	RF, 2.92 mm Thru Adapter / 3407-0029	From DC to 40 GHz, 50 Ω, 1.3 max
	RF, 2.4 mm Thru Adapter / 3407-0030	From DC to 50 GHz, 50 Ω, 1.3 max
	RF, 1.85 Thru Adapter / 3407-0031	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

■ RF Filtered Data Connectors & RF Filtered Power I/O

I/O Interface	Description / Order Number	Typical Data Rate / Line Voltage	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

I/O Interface	Description / Order Number	Typical Data Rate / Line Voltage	Typical Shielding ^(*)
	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