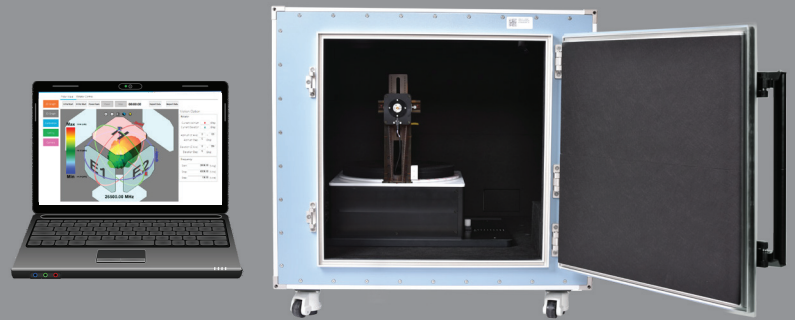


mmWave Antenna Measurement System

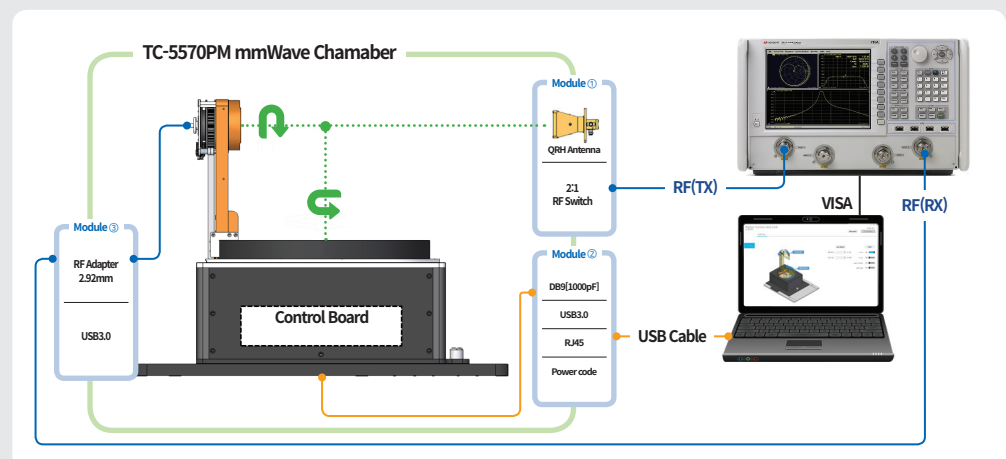


Key Features

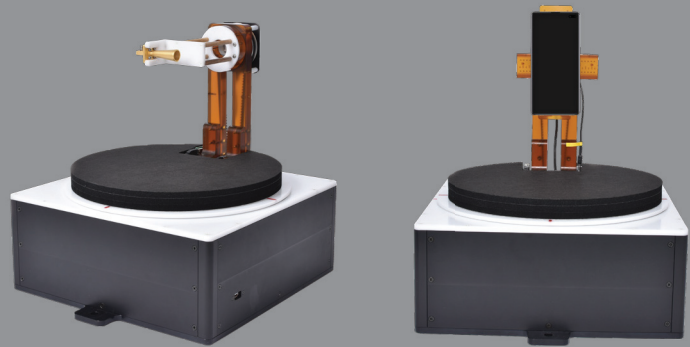
- » **Small chamber specially designed for OTA testing of a DUT antenna in the millimeter wave band**
 - Provides OTA test environment applying with the optimized absorber in millimeter wave band
 - Operating frequency range: 18 GHz ~ 67 GHz
 - Shielding Performance: > 60 dB
 - Easy-to-use wheel mounted
- » **Rotation fixture for 3D radiation pattern measurement**
 - 2-axis rotating system
 - Mechanically designed to avoid cable twist using slip ring and RF thru connector
- » **Quad Ridged Horn Antenna installed: 18 GHz ~ 40 GHz**
 - The antenna can be replaced in module type
 - Passive & Antenna performance test

System Configuration

Description	Model
OTA Chamber	TC-5570PM
3D Rotator	TC-5500A
Antenna Module	H5570PM02A, Quad Ridged Horn Antenna Module
Measurement Software	S5500P, PolaWave (Passive Test Software)



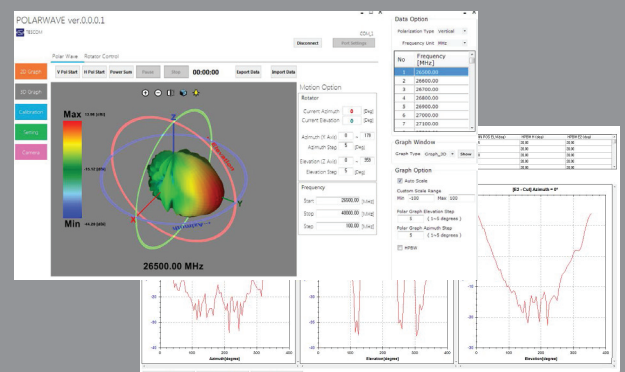
TC-5500A (3D Rotator)



Key Features

- » Rotation fixture for 3D radiation pattern measurement
- » Cradle Base and Cradle rotate, 2-axis rotation system (Elevation and Azimuth)
- » Mechanically designed to avoid cable twist using slip ring and rotary joint
- » Each part is designed and manufactured considering permittivity
- » **3D Rotator Controller:** Control Interface: USB, RS-232C

S5500P Measurement Software (PolarWave)



Key Features

- » Passive Test Software
- » 2D/3D radiation pattern measurement
- » Antenna Gain, Efficiency, Half Power Beamwidth

TC-5570PM

mmWave

OTA Chamber



Key Features

TC-5570PM is a '5G & mmWave' OTA chamber designed to allow OTA (Over-the-Air) testing under the far-field conditions even in a small space. But for the large radiator antennas, it may be difficult to meet Far-Field test conditions. (antenna size within 51 mm at 28 GHz, 42 mm at 40 GHz).

- Shielding Effectiveness : > 60 dB from 18 to 67 GHz
- Inner Dimension : 805(W) x 765(D) x 645(H) mm
- Outer Dimension : 941(W) x 943(D) x 856(H) mm
- Door : 624(W) x 624(H) mm
- Weight : approx. 75 kg

Horn

Antenna

Module



TC-93470A



TC-93472A



TC-93471A & TC-93480A



TC-93670A & TC-93680A

➤ As a standard test antenna, Quad Ridged Horn Antenna, which features dual polarization in which polarization is allowed within 18 ~ 40 GHz, is installed.

Function	Model	Frequency Range	Type
Test Antenna Module	H5570PM02A	18 to 40 GHz	Dual Polarization Quad Ridged Horn Antenna(TC-93470A) & 2:1 RF Switch
	H5570PM03A	26.5 to 40 GHz	Single Polarization Circular Horn Antenna, Designed for mechanical polarity conversion: Rotation angle 90°
	H5570PM04A	50 to 67 GHz	Single Polarization Circular Horn Antenna, Designed for mechanical polarity conversion: Rotation angle 90°
Calibration Antenna Fixture	F93471A01A	26.5 to 40 GHz	Circular Horn Antenna(TC-93471A) & WR-28 Waveguide adapter(TC-93480A)
	F93472A01A	24 to 40 GHz	Rectangular Horn Antenna (TC-93472A, Integrated Horn antenna and waveguide adapter)
	F93670A01A	50 to 67 GHz	Circular Horn Antenna(TC-93670A) & WR-15 Waveguide adapter(TC-93680A)

TC-5570A

• Shielding Effectiveness : > 60 dB from 18 to 67 GHz •

- **Inner Dimension** : 802(W) x 762(D) x 644(H) mm
- **Outer Dimension** : 916(W) x 940(D) x 856(H) mm
- **Door** : 624(W) x 624(H) mm
- **Weight** : approx. 81 kg

• **Optional RF Connector**

- 2.92 mm Thru Adapter, From DC to 40 GHz
- 2.4 mm Thru Adapter, From DC to 50 GHz
- 1.85 mm Thru Adapter, From DC to 67 GHz



TC-5530AP

• Shielding Effectiveness : > 60 dB from 18 to 67 GHz •

- **Inner Dimension** : 425(W) x 374(D) x 424(H) mm
- **Outer Dimension** : 536(W) x 540(D) x 583(H) mm
- **Door** : 176(W) x 130(H) mm
- **Weight** : approx. 39 kg



TC-5531AP

• Shielding Effectiveness : > 60 dB from 18 to 67 GHz •

- **Inner Dimension** : 206(W) x 436(D) x 231(H) mm
- **Outer Dimension** : 290(W) x 683(D) x 390(H) mm
- **Door** : 176(W) x 70(H) mm
- **Weight** : approx. 32 kg



Manual Shield Box

- » Excellent RF Shielding Effectiveness
- » Provides various I/O interfaces
- » Strong Build Durability
- » The shielding effectiveness of a box itself is measured with a blank module.
- » The net shielding effectiveness and usable frequency range are determined by the most limiting value amidst shield box itself or I/O options, if any, which constitute an ultimate user shielding enclosure.

TC-5910D

· Shielding Effectiveness : > 80 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- **Inner Dimension** : 142(W) x 243(D) x 139(H) mm
- **Outer Dimension** : 207(W) x 424(D) x 173(H) mm, lid closed.
435(H) mm, lid open.
- **Weight** : approx. 5 kg



TC-5915A

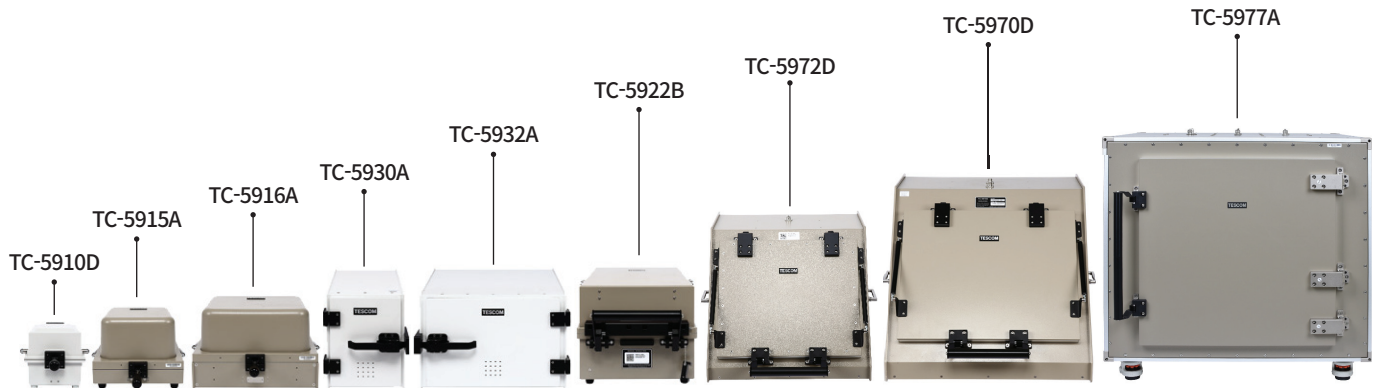
· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- **Inner Dimension** : 236(W) x 297(D) x 180(H) mm
- **Outer Dimension** : 309(W) x 473(D) x 221(H) mm, lid closed.
442(H) mm, lid open.
- **Weight** : approx. 9 kg





Manual Shield Box



TC-5916A

• Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

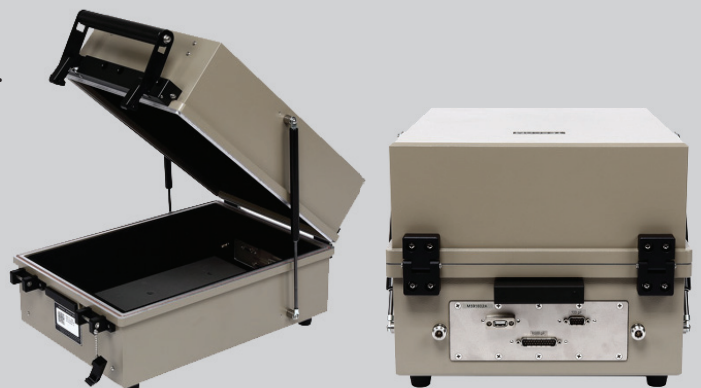
- Inner Dimension : 328(W) x 298(D) x 206(H) mm
- Outer Dimension : 399(W) x 473(D) x 239(H) mm, lid closed.
495(H) mm, lid open
- Weight : approx. 10 kg



TC-5922B

• Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- Inner Dimension : 296(W) x 435(D) x 238(H) mm
- Outer Dimension : 378(W) x 577(D) x 289(H) mm, lid closed.
600(H) mm, lid open
- Weight : approx. 22 kg



TC-5930A/AR

· Shielding Effectiveness : > 80 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

TC-5930A

- Inner Dimension : 170(W) x 312(D) x 240(H) mm
- Outer Dimension : 217(W) x 396(D) x 282(H) mm
- Door : 163(W) x 238(H) mm
- Weight : approx. 9 kg



TC-5930AR 19" Rack Mount Set

- TC-5930A 2ea, Rack Mounting Bracket
- Inner Dimension : 170(W) x 312(D) x 240(H) mm
- Outer Dimension : 483(W) x 488(D) x 310(H) mm
- Weight : approx. 24 kg

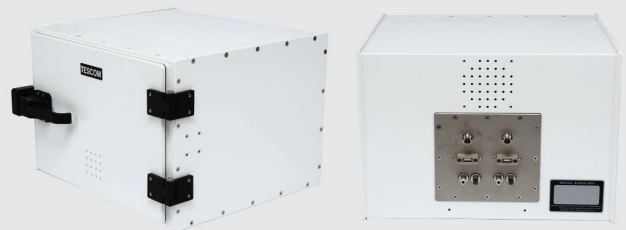


TC-5932A

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

TC-5932A

- Inner Dimension : 369(W) x 313(D) x 240(H) mm
- Outer Dimension : 416(W) x 400(D) x 293(H) mm
- Door : 361(W) x 258(H) mm
- Weight : approx. 14 kg



TC-5932A 19" Rack Mount Set

- TC-5932A 1ea, Rack Mounting Bracket
- Inner Dimension : 369(W) x 313(D) x 240(H) mm
- Outer Dimension : 483(W) x 488(D) x 310(H) mm
- Weight : approx. 21 kg





TC-5972D

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- **Inner Dimension :**
445(W) x 450(D) x 338(H) mm, 208(D) mm top side.
- **Outer Dimension :**
562(W) x 647(D) x 450(H) mm, lid closed. 715(H) mm, lid open
- **Weight :** approx. 28 kg



TC-5970D

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, 60 dB from 3 to 6 GHz

- **Inner Dimension :**
544(W) x 546(D) x 425(H) mm, 201(D) mm top side
- **Outer Dimension :**
662(W) x 703(D) x 537(H) mm, lid closed.
810(H) mm, lid open
- **Weight :** approx. 38 kg



TC-5977A

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- **Inner Dimension :** 802(W) x 762(D) x 644(H) mm
- **Outer Dimension :** 916(W) x 940(D) x 871(H) mm
- **Door :** 588(W) x 588(H) mm
- **Weight :** approx. 73 kg



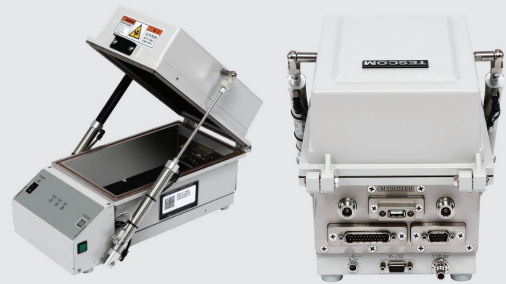
Pneumatic Shield Box

- » Excellent RF Shielding Effectiveness
- » Pneumatic Operation
- » Various I/O Interface
- » Remote Control by RS-232C

TC-5910DP

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- Inner Dimension :
142(W) x 243(D) x 139(H) mm
- Outer Dimension :
218(W) x 375(D) x 195(H) mm, lid closed. 360(H) mm, lid open
- Weight : approx. 7 kg



TC-5924AP

· Shielding Effectiveness : > 80 dB from 0.1 to 2 GHz, > 80 dB from 2 to 3 GHz, > 70 dB from 3 to 6 GHz

- Inner Dimension :
270(W) x 287(D) x 102(H) mm
- Outer Dimension :
341(W) x 401(D) x 208(H) mm, door closed. 606(D) mm, door open
- Weight : approx. 20 kg



TC-5915AP

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- Inner Dimension :
236(W) x 297(D) x 180(H) mm
- Outer Dimension :
324(W) x 432(D) x 252(H) mm, lid closed. 373(H) mm, lid open
- Weight : approx. 11 kg





Pneumatic Shield Box



TC-5916AP

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

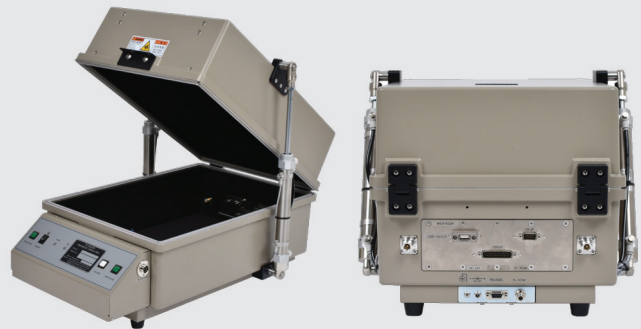
- Inner Dimension :
328(W) x 298(D) x 206(H) mm
- Outer Dimension :
420(W) x 430(D) x 260(H) mm, lid closed. 430(H) mm, lid open
- Weight : approx. 13 kg



TC-5922BP

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

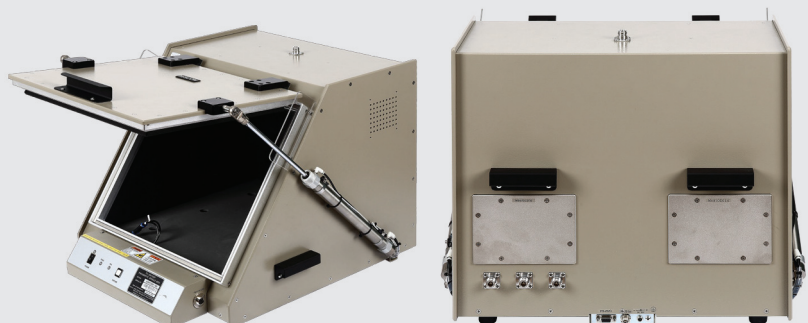
- Inner Dimension :
296(W) x 435(D) x 238(H) mm
- Outer Dimension :
417(W) x 601(D) x 332(H) mm, lid closed. 623(H) mm, lid open
- Weight : approx. 27 kg



TC-5972DP

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 70 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

- Inner Dimension :
445(W) x 450(D) x 338(H) mm, 208(D) mm top side.
- Outer Dimension :
582(W) x 661(D) x 451(H) mm
- Weight : approx. 32 kg



Pneumatic Shield Box

- » Excellent RF Shielding Effectiveness
- » Pneumatic Operation
- » Various I/O Interface
- » Remote Control by RS-232C

TC-5901C

· Shielding Effectiveness : > 70 dB from 0.1 to 2 GHz, > 60 dB from 2 to 3 GHz, > 50 dB from 3 to 6 GHz

- **Inner Dimension :**
407(W) x 206(D) x 133(H) mm
- **Outer Dimension :**
459(W) x 300(D) x 300(H) mm, lid closed. 449(H) mm, lid open
- **Weight :** approx. 17 kg



TC-5955AP/AR

· Shielding Effectiveness : > 60 dB from 0.1 to 2 GHz, > 60 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz

TC-5955AP

- **Outer Dimension :** 534(W) x 526(D) x 583(H) mm, door closed.
786(D) mm, door open.
- **Door size :** 176(W) x 130(H) mm
- **Weight :** approx. 39 kg

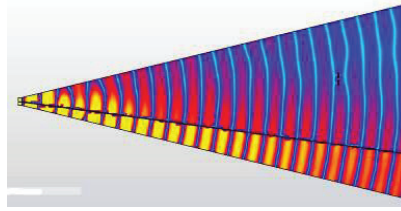


TC-5955AR

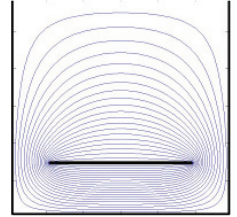
- **Outer Dimension :**
536(W) x 587(D) x 583(H) mm door closed.
867(D) mm, door open.
- **Door size :** 176(W) x 130(H) mm
- **Weight :** approx. 39 kg



- » Supports 100 ~ 6000 MHz
- » Receiver Sensitivity Testing
- » Transmitter Radiation Power Testing
- » EMI /EMS Testing



E-Field Pattern (Side view)

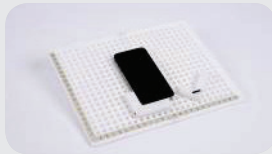
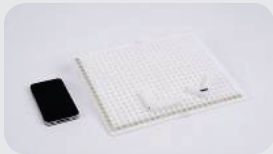


E-Field Pattern (Top View)

TC-5062C 6GHz TEM Cell

- **Effective Shielding without F50621A DUT Rotator :**
 - > 80 dB from 0.1 to 2 GHz, > 80 dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz
- **VSWR :** < 1.7, 100 MHz ~ 6 GHz
- **RF Connector :** 1 N(f) topside, 1 SMA(f) outside and SMA(f) inside
- **Outer Dimension :** 344(W) x 403(D) x 675(H) mm
- **Door Size :** 176(W) x 130(H) mm
- **Weight :** 21 kg

F50622A + TC-5062C



TC-5063C Pneumatic 6 GHz TEM Cell

- **Effective Shielding without F50621A DUT Rotator :**
 - > 80 dB from 0.1 to 2 GHz, > 70dB from 2 to 3 GHz, > 60 dB from 3 to 6 GHz
- **VSWR :** < 1.7, 100 MHz ~ 6 GHz
- **RF Connector :** 1 N(f) topside, 1 SMA(f) outside and SMA(f) inside
- **Outer Dimension :** 344(W) x 420(D) x 725(H) mm door closed. 614(D) mm, door open
- **Door Size :** 176(W) x 130(H) mm
- **Weight :** 27 kg

