Concentric Technology Solutions Inc
Testing Solutions for the Wireless Industry

TC-5977D Shield Box

Features

- Reliable high RF shielding up to 6 GHz
- Specifically designed for various types of large devices
- Easy open/close of the door
- EMI filters on all data ports and power lines
- Customizable data connections
- Side cooling fans (optional)

Concentric Technology Solutions Inc.
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Specifications

Mechanical Specifications

Basic RF Connector	One(1), N(f) outside and SMA(f) inside
Dimensions	
Inside	802(W) x 762(D) x 644(H) mm
Outside	916(W) x 940(D) x 856(H) mm
Door	588(W) x 588(H) mm
Weight	Approx. 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 blank panels are installed;
other I/O interface panels may result in different shielding effectiveness.

Frequency	Shielding Effectiveness (dB)
100 to 2000 MHz	> 70 dB
2000 to 3000 MHz	> 70 dB
3000 to 6000 MHz	> 60 dB

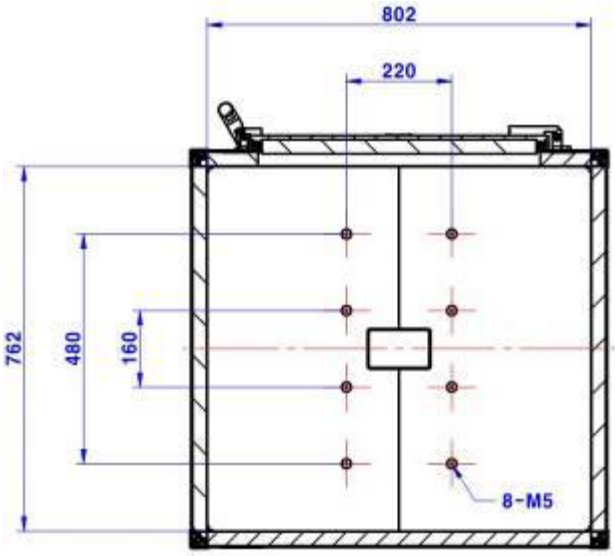
Absorber Reflectivity

A signal reflected on the absorber with metal plate is measured by a vector network analyzer.

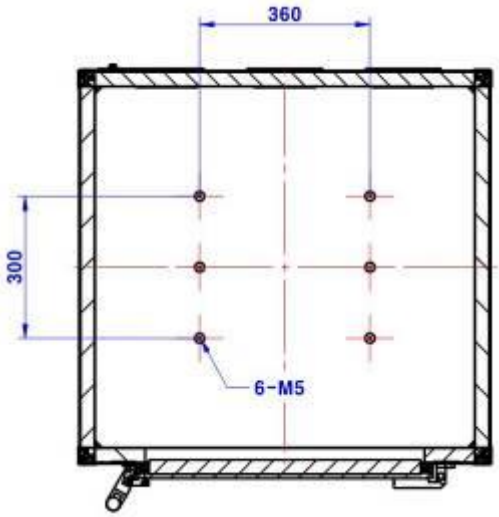
Frequency	Reflectivity [dB]
500 to 2000 MHz	15 dB (Typ.)
2000 to 6000 MHz	20 dB (Typ.)

Dimensions

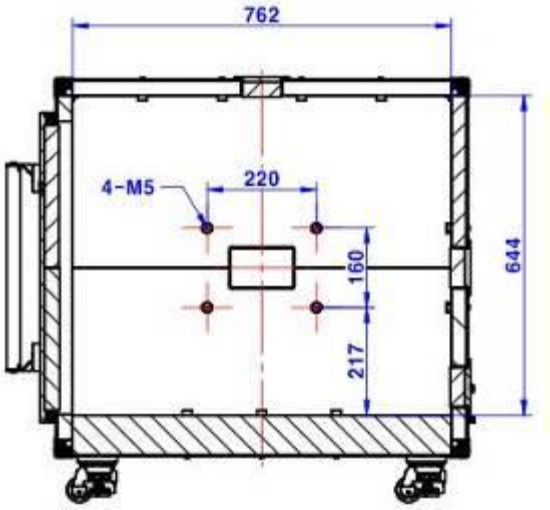
- TC-5977D Inner Dimensions: 802(W) x 762(D) x 644(H) mm



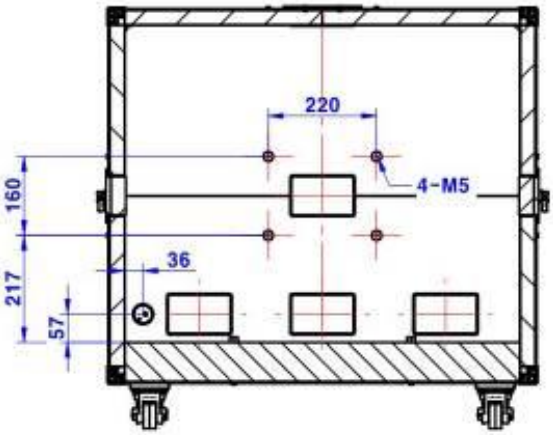
[Bottom View (Top Side)]



[Top View (Bottom Side)]

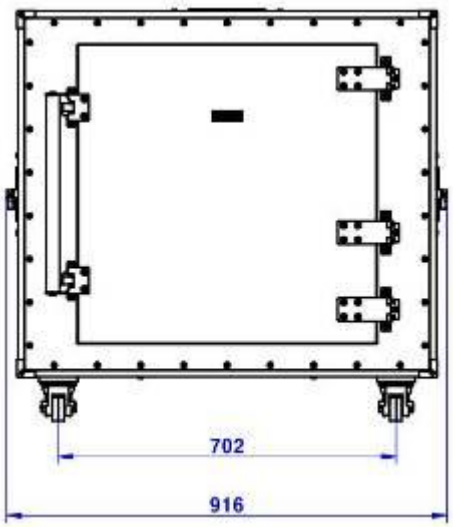


[Side View]

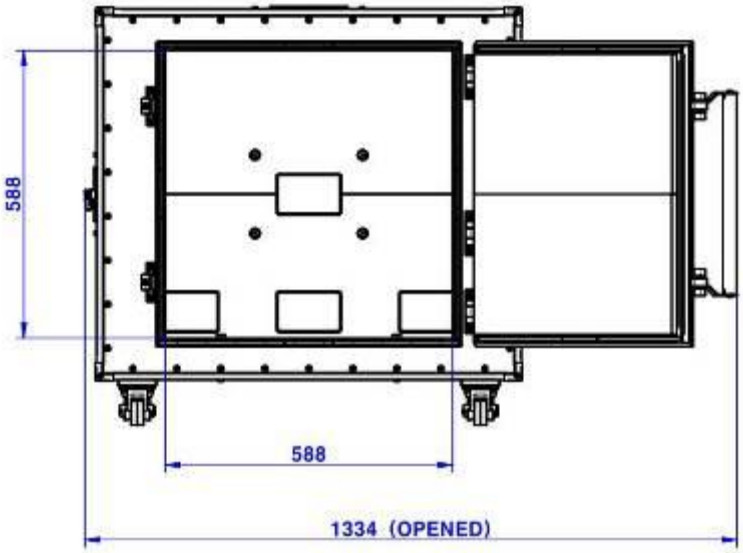


[Rear View]

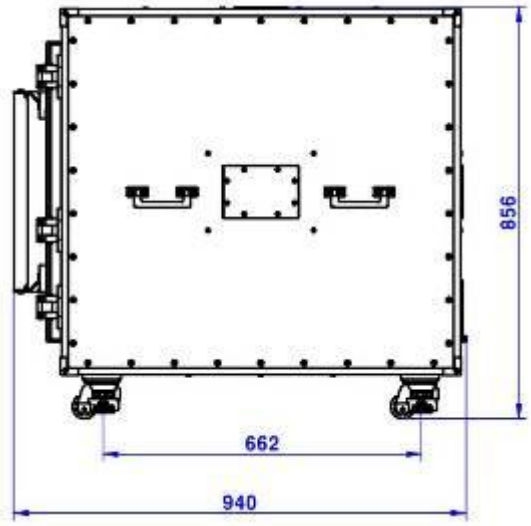
- TC-5977D Outer Dimensions: 916(W) x 940(D) x 856(H) mm



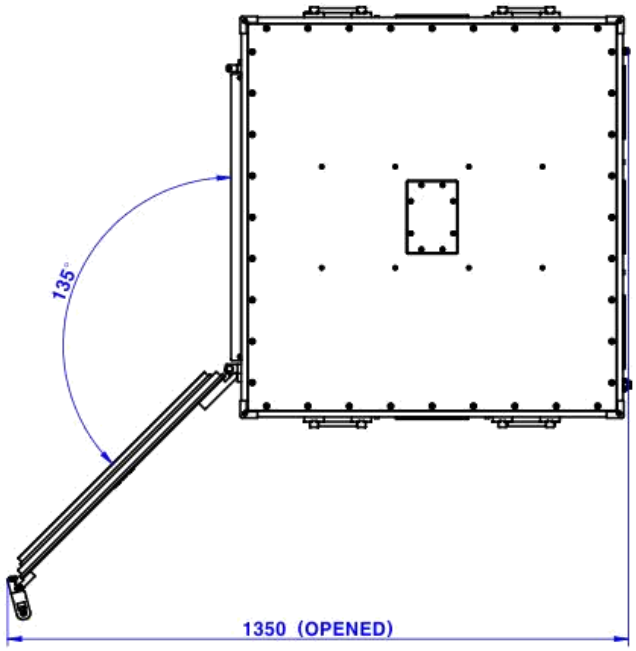
[Front View]



[Front View (Door Open)]

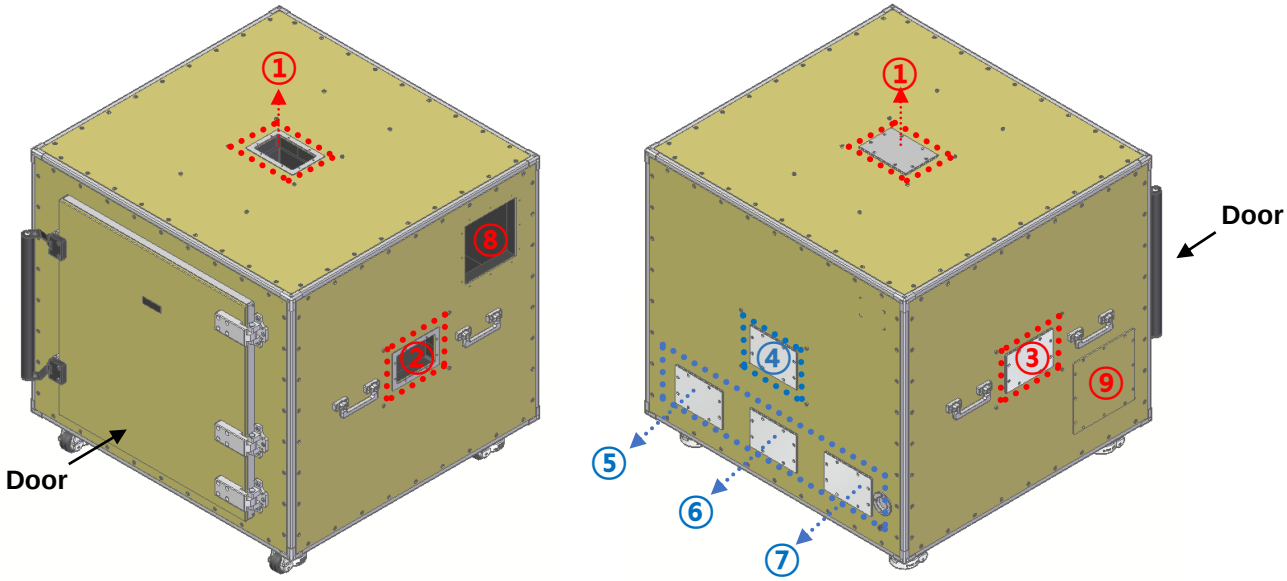


[Side View]



[Top View]

TC-5977D Sample Configurations



[Sample Configurations]

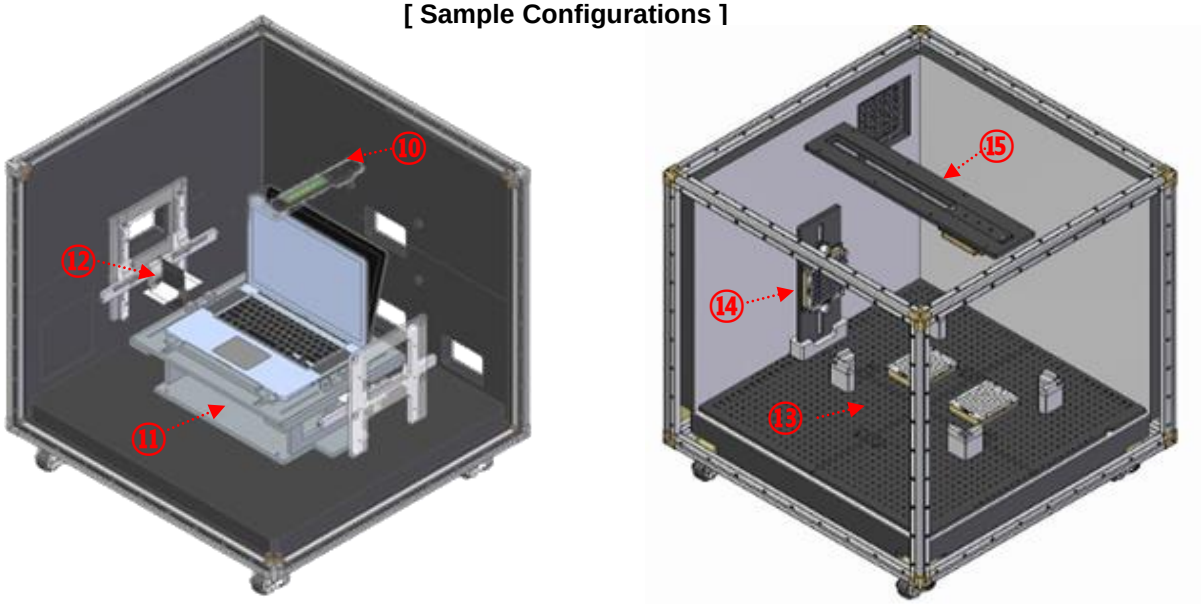


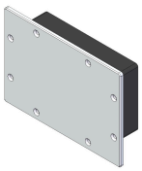
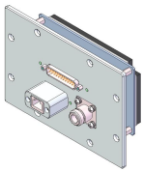
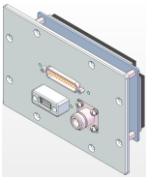
Table 1. TC-5977D Optional Components

No.	Description	No.	Description
①	Top I/O Interface Panel	⑩	F55702A, Top LED Assembly
②	Right Side, I/O Interface Panel	⑪	F55706B, Laptop Fixture
③	Left Side, I/O Interface Panel	⑫	F55708A, DPV Antenna Fixture
④,⑤,⑥,⑦	Rear, I/O Interface Panel	⑬	F59772A, Bottom Grid Fixture
⑧	M5977A02B, Cooling Fan Panel	⑭	F59773A, Side Fixture
⑨	M5977A02A, Cooling Fan Panel	⑮	F59771B, Top Fixture

Ordering Information

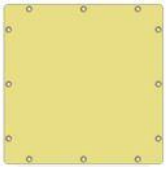
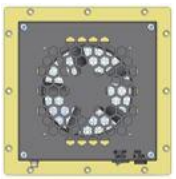
Order Number	Description
TC-5977D	**Shield Box (including accessories below)** Test Report

Pre-Configured I/O Interface Panels

I/O Interface Panel	Order Number	Configuration
 **Data Interface 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

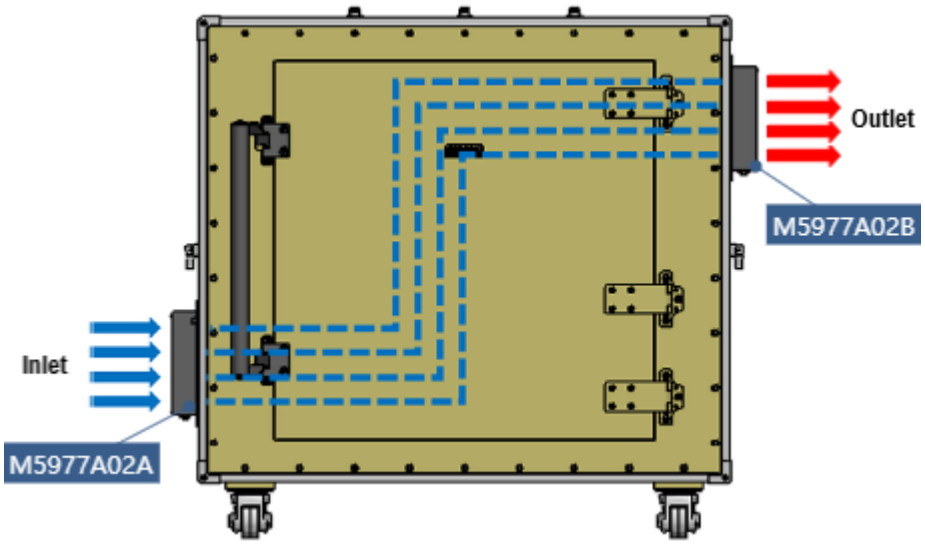
Pre-Configured Side I/O Interface Panel

- Two optional side I/O interface panels available.

I/O Interface Panel	Order Number	Configuration
 **Side Blank Panel**	M5977A01A	• Blank module
 **Cooling Fan Panel**	M5977A02A M5977A02B	• M5977A02A: Inlet (Left FAN), • M5977A02B: Outlet (Right FAN) ▫ M5977A02A/M5977A02B are identical except that the assembly is symmetrical. ▫ Including AC adapter (switching mode power supply) ▫ Input voltage: 100 - 240 VAC, 50/60 Hz, 1.8 A ▫ Output voltage: 24 VDC, 2.5 A

Air Flow Mechanism of Shield Box

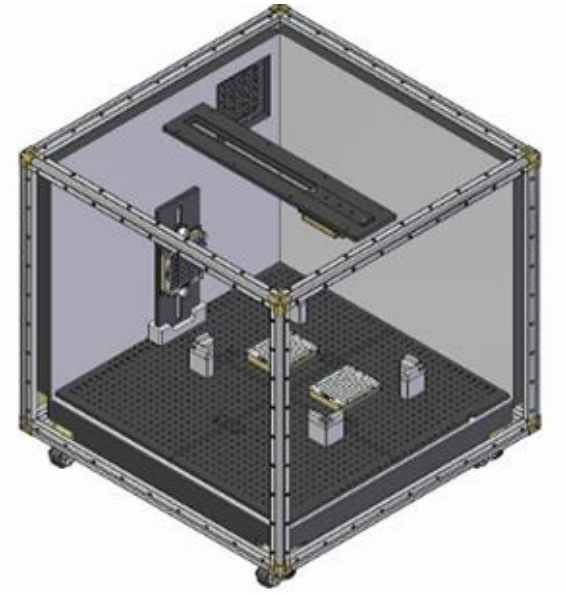
• Note: the positioning of inlet and oulet fans CANNOT be changed.



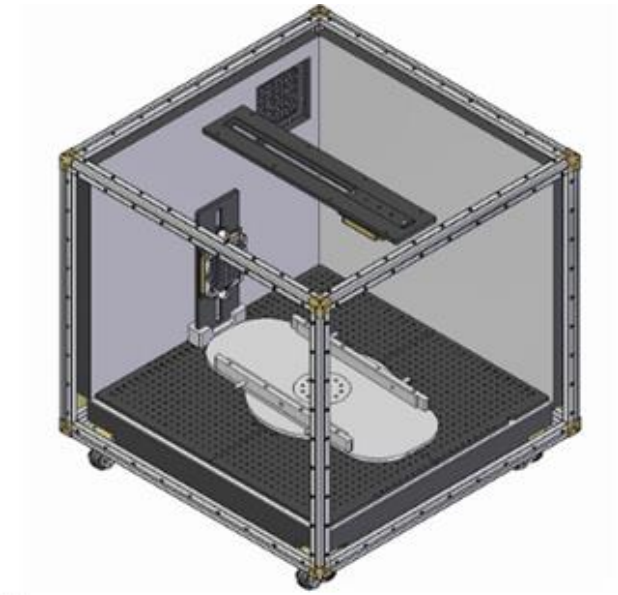
Fixtures

- CTS offers grid type fixtures that allow changing of the placement of DUT fixture blocks. Corresponding to the shape of DUT, users can adjust the fixture by moving fixture blocks within seconds. We also can make, custom fixtures to meet customer needs.
- In conjunction with fixtures, various types of antenna coupler options help configuring the optimal measuring environment for the characteristics of each DUT.

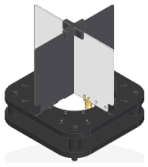
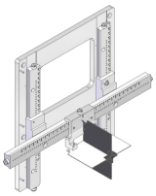
[Bottom Grid Fixture Concept]



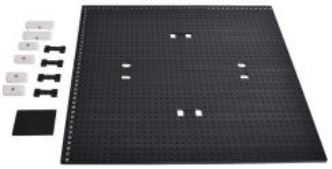
[Rotator Fixture Concept]

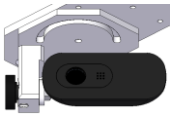


DPV Antenna Fixtures

Antenna Fixture	Order Number	Configuration
	F59777A	• DPV Antenna Fixture - DPV Antenna(Optional) ▫ TC-93083A: 0.6 GHz to 7.2 GHz ▫ TC-93076A: 0.7 GHz to 6 GHz ▫ RF Connector: Two(2) SMA Connector (Female) - F59772B Grid Fixture required
	F55708A	• DPV Antenna Rail Fixture - DPV Antenna(Optional): TC-93076A ▫ Frequency Range: 0.7 GHz ~ 6 GHz ▫ RF Connector : two(2) SMA Connector (Female)

Optional Fixtures

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 - Components: ▫ 1 ea, Antenna Coupler holding bracket ▫ 2 ea, guide block(L) ▫ 4 ea, guide block(S) ▫ 4 ea, sssembly braket - 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
	F59775A	• Rotator Fixture - 600(W) x 350(D) x 44 (H) mm - F59772B Grid Fixtures required

	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

Custom I/O Interface Panels

- Custom I/O Interface Panels are available by selecting and arranging I/O interfaces below. Please contact CTS sales team.

I/O Interface	Description / Order Number	Typical Data Rate / Line Voltage	*Typical Shielding
	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
	USB 2.0 Filter / 3409-0018A-3	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
	USB 3.0 Filter(Active) / 3409-0042A-2	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
	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

I/O Interface	Description / Order Number	Frequency Range / Impedance / V.S.W.R
	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

- ***Typical Shielding** is an estimated value with each I/O interface applied.
- The data above were measured by our internal group, and results may vary based on testing environmental conditions and method.
- Each shielding effectiveness is measured without any cable. It is likely affected when a cable is connected. Also, it may vary depending on the type of cable.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE