

C & U

CREATIVE
& UNIQUE

Electromagnetic anechoic box/Shield box

Taurus Series



The Taurus series offers a wide variety of interface modules for quick delivery.



High quality and high reliability Electromagnetic anechoic box and Shield box provided by measuring instrument manufacturer.

MICRONIX

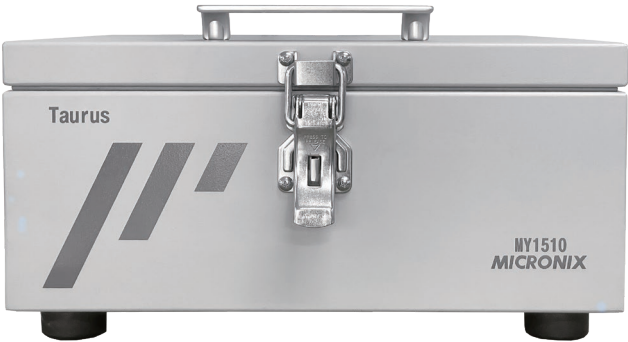
MY1510

Small size, lightweight and convenient to carry.

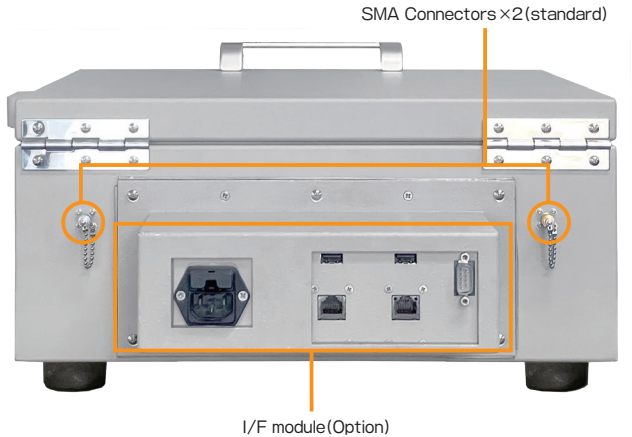
Standard specifications

Model	MY1510
Outside dimensions	380(W) ×165(H) ×380(D)mm
Inside dimensions	315(W) ×100(H) ×315(D)mm
Weight	3.5kg
Shielding peffectiveness	70dB typ @2.4GHz
Reflection loss	≥20dB(MYA-75: ≥2.4GHz)
Connectors	SMA ×2(back)
I/F Module	1 unit(back)
Option	I/F Module

Dimensions exclude protrusions, etc. Weight does not include IF module.
Dimensions and weight are approximate.



When I/F module is installed



MY1515

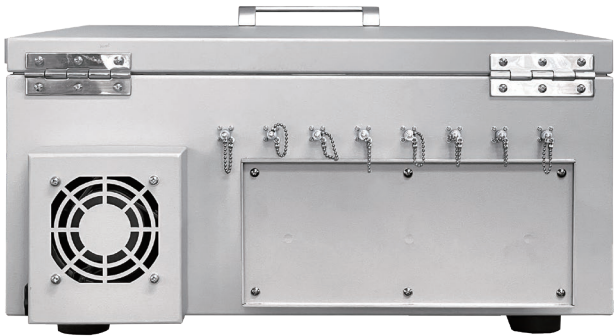
Type equipping with exhaust fan and intake.Exhaust fan/air intake mounted type. The heat rise inside the anechoic chamber is suppressed, providing an ideal test environment for long hours of continuous operation, such as aging tests.



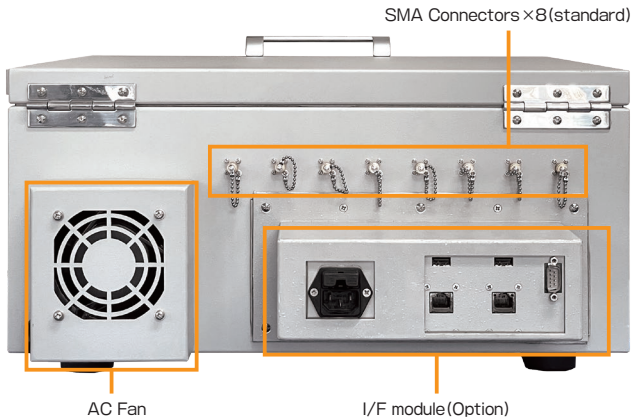
Standard specifications

Model	MY1515
Outside dimensions	465(W) × 214(H) × 465(D)mm
Inside dimensions	400(W) × 150(H) × 400(D)mm
Weight	10kg
Shielding peffectiveness	70dB typ @2.4GHz
Reflection loss	≧20dB(MYA-75: ≧2.4GHz)
AC Fan	0.56m³/min (the maximum force of the wind)
Connectors	SMA ×8(back)
I/F Module	1 unit(back)
Option	I/F Module

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.



When I/F module is installed



MY1520

The most versatile mid-size option, featuring a front-facing opening for excellent ease of use.

Standard specifications

Model	MY1520
Outside dimensions	520(W) × 520(H) × 520(D)mm
Inside dimensions	455(W) × 455(H) × 455(D)mm
Weight	15kg
Shielding peffectiveness	70dB typ @2.4GHz
Reflection loss	≥20dB(MYA-75: ≥2.4GHz)
Connectors	SMA ×2(back)
I/F Module	2 units(back)
Option	<ul style="list-style-type: none">· I/F Module· Wooden table MT104· Change of radio wave absorber· MYA-77

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.



When I/F module is installed

Wooden table MT104



Comes with casters for convenient movement.

Corresponding product	<ul style="list-style-type: none">· MY1520/N· MY1520SW
Dimensions (W × H × D)	600×700×600mm
Load capacity	100kg

There are holes for the rubber legs of the anechoic box to prevent it from slipping.



SMA Connectors × 2 (standard)



I/F module (Option)

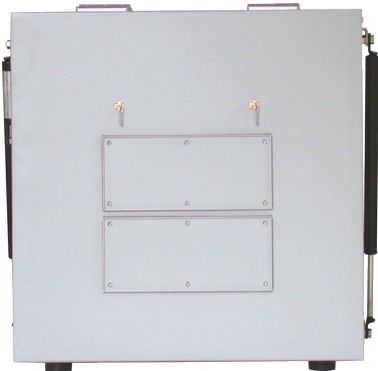
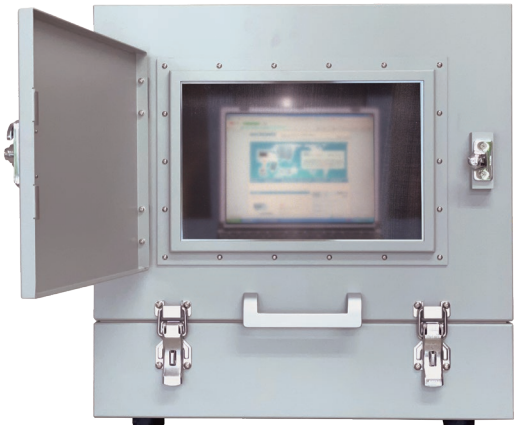
MY1520SW

Equipped with a large shield window as standard. Changes in the EUT's status can be confirmed from outside the box. It supports a wide range of test environments.

Standard specifications

Model	MY1520SW
Outside dimensions	520(W) × 520(H) × 520(D)mm
Inside dimensions	455(W) × 455(H) × 455(D)mm
Weight	15kg
Shielding peffectiveness	70dB typ @2.4GHz
Reflection loss	≥20dB(MYA-75: ≥2.4GHz)
Shield window	300(W) × 200(H)mm
Connectors	SMA ×2(back)
I/F Module	2 units(back)
Option	· I/F Module · Wooden table MT104

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.



When I/F module is installed

Wooden table MT104



Comes with casters for convenient movement.

Corresponding product	· MY1520/N · MY1520SW
Dimensions (W × H × D)	600 × 700 × 600mm
Load capacity	100kg

There are holes for the rubber legs of the anechoic box to prevent it from slipping.



SMA Connectors × 2 (standard)



I/F module (Option)



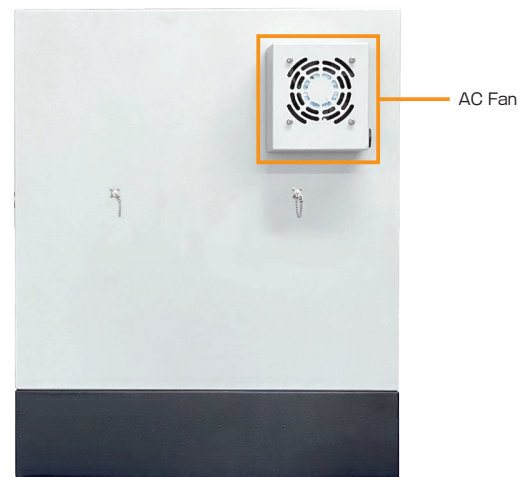
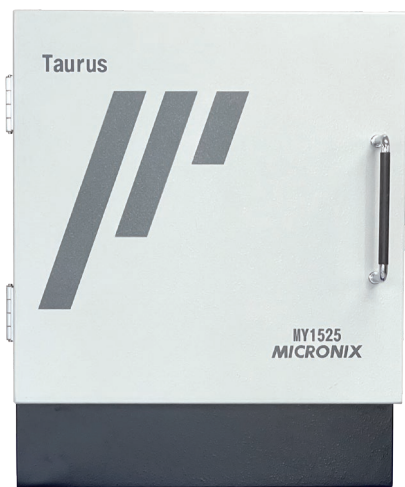
MY1525

With ventilation and supports 90 dB Shielding.

Standard specifications

Model	MY1525
Outside dimensions	460(W) × 570(H) × 582(D)mm
Inside dimensions	340(W) × 340(H) × 400(D)mm
Weight	17kg
Shielding peffectiveness	90dB typ @2.4GHz
Reflection loss	≥20dB(MYA-77: ≥1.2GHz)
AC Fan	0.56m³/min (the maximum force of the wind)
Connectors	SMA ×2 (back)
I/F Module	1 unit (floor surface)
Option	I/F Module (Factory installed)

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.

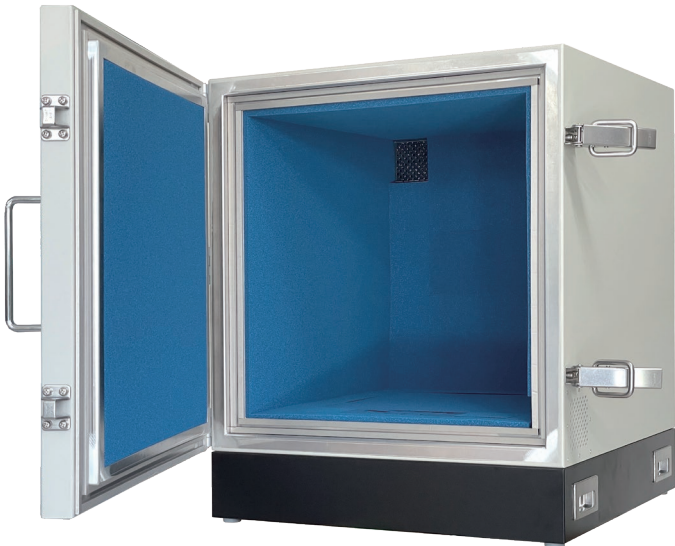


■ When I/F module is installed



MY1527

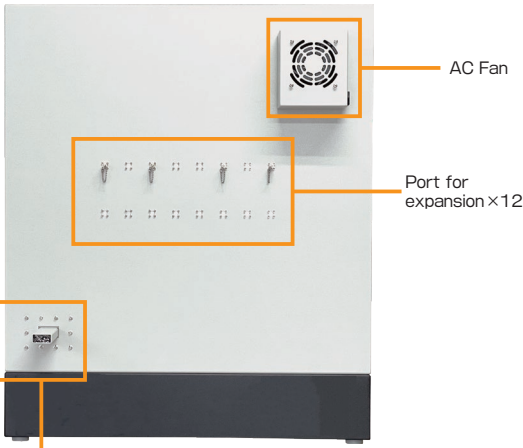
With ventilation and supports 90 dB Shielding. Ideal for evaluation of information communication devices such as low receiving sensitivity test, high-capacity optical communication, and multi-connection system test.



Standard specifications

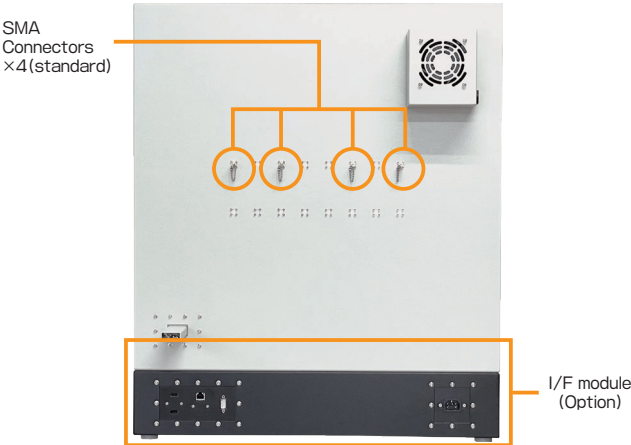
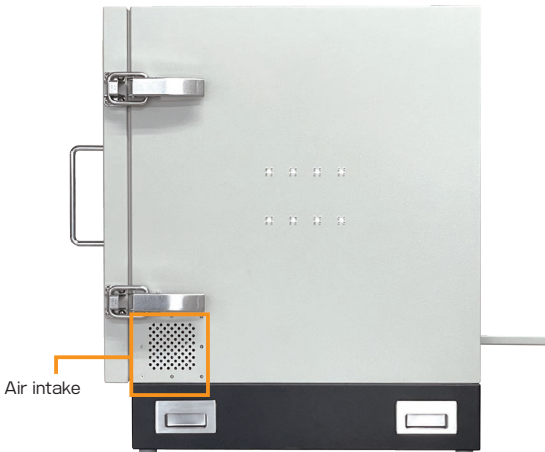
Model	MY1527
Outside dimensions	620(W) × 740(H) × 626(D)mm
Inside dimensions	500(W) × 500(H) × 500(D)mm
Weight	26kg
Shielding peffectiveness	90dB typ @2.4GHz
Reflection loss	≥20dB(MYA-77: ≥1.2GHz)
AC Fan	0.56m³/min (the maximum force of the wind)
Connectors	SMA × 4 (back)
I/F Module	1 unit (floor surface)
Option (Factory installed)	<ul style="list-style-type: none">· I/F Module (IFM10/11)· Through pipe (TP-8/10)· SMA Connectors (max. 16, of which 4 are standard)

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.



Through pipe (Option)

■ When I/F module is installed





MY1530

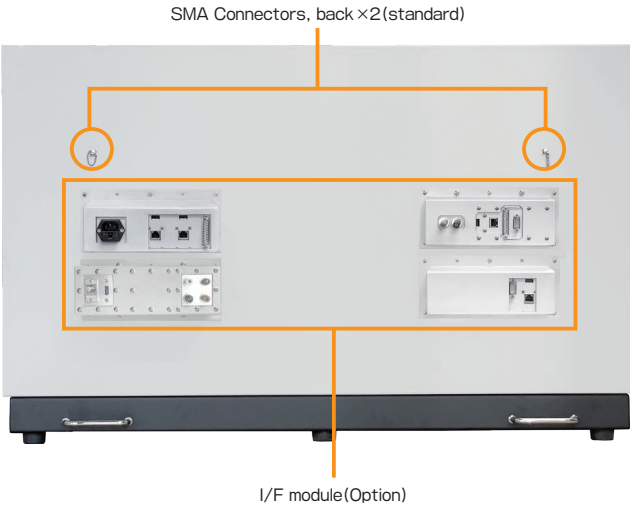
Large size suitable for large test objects. A turntable can be installed as an option.

Standard specifications

Model	MY1530
Outside dimensions	1120(W) × 705(H) × 620(D)mm
Inside dimensions	1000(W) × 500(H) × 500(D)mm
Weight	56kg
Shielding peffectiveness	70dB typ @2.4GHz
Reflection loss	≥20dB(MYA-77: ≥1.2GHz)
Connectors	SMA × 4 (back × 2, each side × 1)
I/F Module	4 units(back)
Option	<ul style="list-style-type: none">· I/F Module· Wooden table MT105· Turn Table Unit MT103· Change of radio wave absorber<ul style="list-style-type: none">· MYA-75· MYA-79

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.

When I/F module is installed



Wooden table MT105



Comes with casters for convenient movement.

Corresponding product	MY1530/N
Dimensions (W × H × D)	1220 × 700 × 720mm
Load capacity	100kg

Turn table unit MT103



Manual Turn table unit for MY1530/1530N

Dimensions	200mm φ
Load capacity	10kg
Table material	Acrylic resin
Rotation angle	360°



Taurus N

Shield box type without radio wave absorber. Suitable for applications where internal reflection is not a concern.

MY1510N

Small size : Portable and light weight type.



Outside dimensions	380(W) × 165(H) × 380(D)mm
Inside dimensions	375(W) × 160(H) × 375(D)mm
Weight	1.9kg
Shielding effectiveness	60dB typ @2.4GHz
Reflection loss	Not covered with an radio wave absorber
Connectors	SMA × 2(back)
I/F Module	1 unit(back)
Option	I/F Module

MY1530N

Large size : Type corresponding to even big EUT. Turntable can be mounted as an option.



Outside dimensions	1120(W) × 705(H) × 620(D)mm
Inside dimensions	1115(W) × 615(H) × 615(D)mm
Weight	42kg
Shielding effectiveness	60dB typ @2.4GHz
Reflection loss	Not covered with an radio wave absorber
Connectors	SMA × 4 (2 on the back, 1 on each side)
I/F Module	4 units(back)
Option	<ul style="list-style-type: none"> • I/F Module • Wooden table MT105 • Turn Table Unit MT103

MY1520N

Medium size : The most general and universal type. The front opening makes it very easy to work with.



Outside dimensions	520(W) × 520(H) × 520(D)mm
Inside dimensions	515(W) × 515(H) × 515(D)mm
Weight	12.3kg
Shielding effectiveness	60dB typ @2.4GHz
Reflection loss	Not covered with an radio wave absorber
Connectors	SMA × 2(back)
I/F Module	2 units(back)
Option	<ul style="list-style-type: none"> • I/F Module • Wooden table MT104

Dimensions exclude protrusions, etc. Weight does not include IF module. Dimensions and weight are approximate.

I/F Module

The I/F module is a module on which AC supply, DC supply, LAN, USB, SMA, BNC, N, D-sub or through pipe connectors are mounted. The I/F modules can be selected according to the intended use.

Available for Taurus, MY2500 and MY3700 series (except MY1525)

Model	Mounting connectors
IFM1	AC(1pc), LAN ^{※1} (1pc), USB ^{※3} (1pc), D-sub9 ^{※5} (1pc)
IFM2	AC(1pc), LAN ^{※1} (2pcs), USB ^{※3} (2pcs), D-sub9 ^{※5} (1pc)
IFM3	AC(1pc), LAN ^{※1} (2pcs), USB ^{※3} (2pcs), D-sub25 ^{※6} (1pc)
IFM4	DC(1pc), LAN ^{※1} (1pc), USB ^{※3} (1pc), D-sub9 ^{※5} (1pc), D-sub25 ^{※6} (1pc)
IFM5B	SMA(4pcs), BNC(2pcs), N(2pcs)
IFM6-1	Through pipe(1pc)
IFM6-2	Through pipe(2pcs)
IFM7	AC(1pc), LAN ^{※2} (1pc), USB ^{※4} (1pc)
IFM8	DC(2pcs), LAN ^{※2} (1pc), USB ^{※4} (1pc)
IFM9	LAN ^{※2} (2pcs), USB ^{※4} (2pcs)

Install one or two IFM6 through pipes from the following five types. Inserting a substance containing an electric conductor inside the through pipe may reduce the shielding performance.

Model	Pipe Inner dimensions	Pipe Length	Applicable frequency	Shielding effectiveness
TP-5	47.6(W) × 22.2(H)mm	170mm	Up to 2GHz	60dB
TP-6	40.4(W) × 20.2(H)mm	170mm	Up to 3GHz	60dB
TP-7	34.9(W) × 15.8(H)mm	150mm	Up to 3.5GHz	60dB
TP-8	28.5(W) × 12.6(H)mm	150mm	Up to 4GHz	60dB
TP-10	22.8(W) × 10.1(H)mm	150mm	Up to 4.5GHz	60dB

Available for MY1525/MY1527

Model	Mounting connectors
IFM10	AC(1pc), LAN ^{※1} (1pc), USB ^{※3} (2pcs), D-sub9 ^{※5} (1pc)
IFM11	DC(1pc), LAN ^{※1} (1pc), USB ^{※3} (2pcs), D-sub9 ^{※5} (1pc)



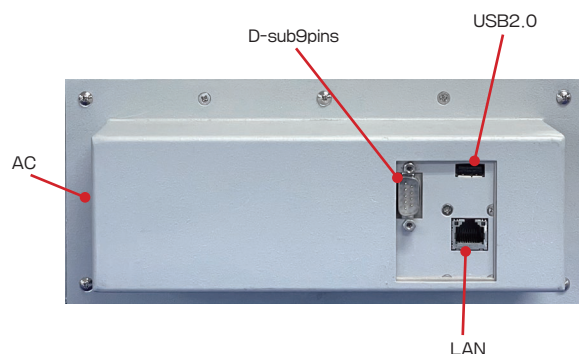
MY1520 equipped with two I/F module

IFM6 Through pipe

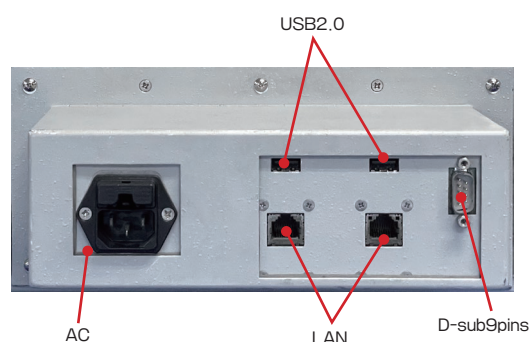


- ※1. Cat 5e equivalent ,PoE not supported
- ※2. Cat 6A equivalent ,PoE++ supported
- ※3. USB2.0,Type-A (Inside/Outside) ,Power Delivery(PD) not supported
- ※4. USB3.1 Gen1,Type-A(Inside/Outside) ,Power Delivery(PD) not supported
- ※5. male(Inside/Outside) ,fit M2.6(metric screw threads)
- ※6. female(Inside/Outside) ,fit M2.6(metric screw threads)

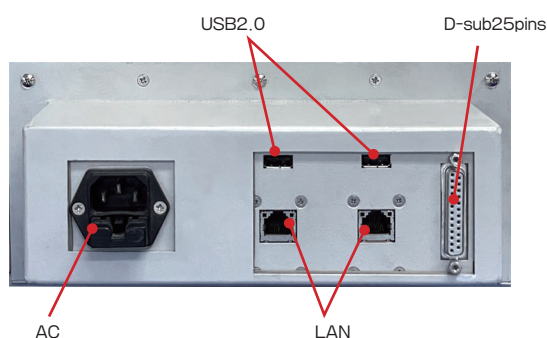
IFM1



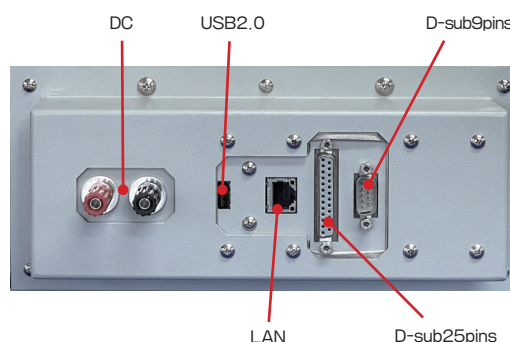
IFM2



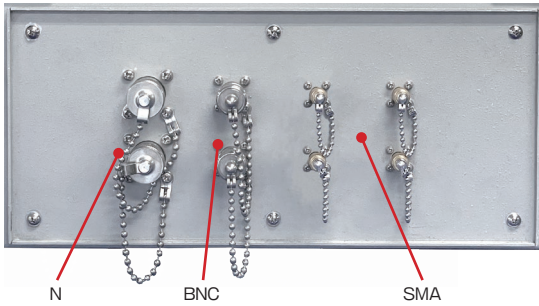
IFM3



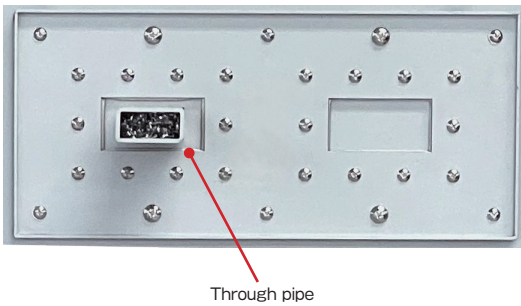
IFM4



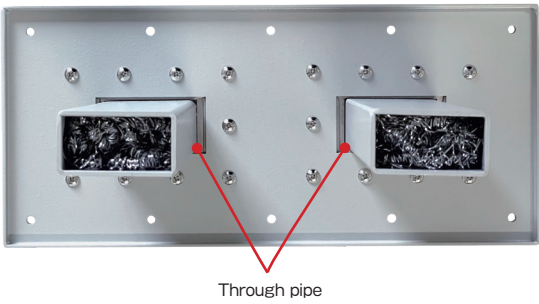
IFM5B



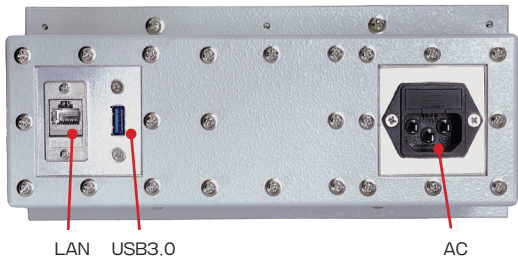
IFM6-1



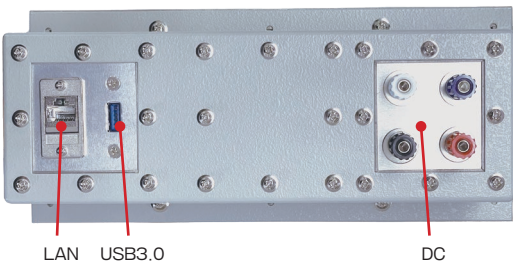
IFM6-2



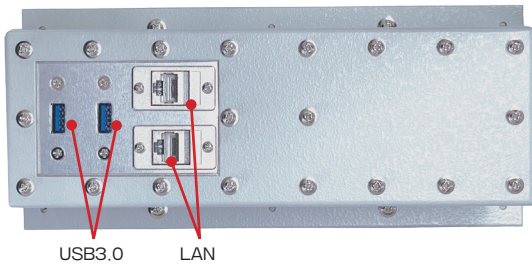
IFM7



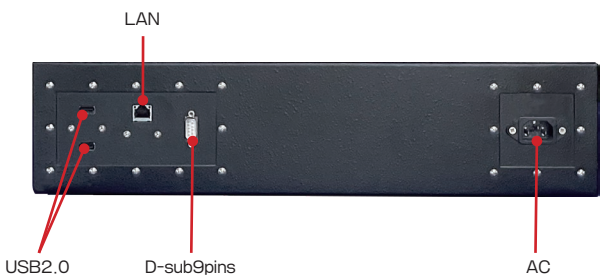
IFM8



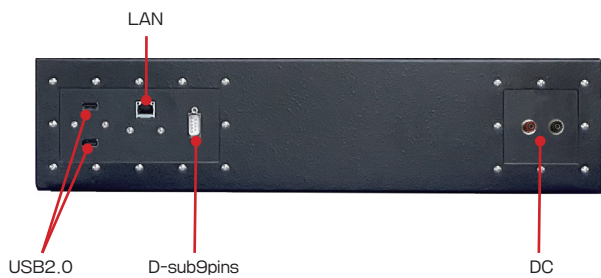
IFM9



IFM10

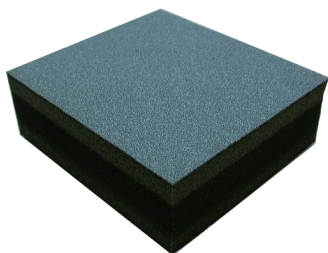


IFM11



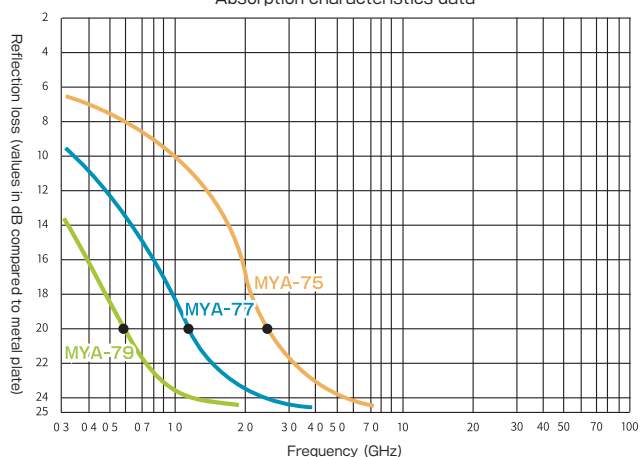
Radio wave absorber

The Taurus series is equipped with a urethane radio absorber that exhibits similar characteristics regardless of linear, elliptical, and circular polarization. The standard is MYA-75 for MY1510/1515/1520/1520SW and MYA-77 for MY1525/1527/1530. However, it can be changed to MYA-77 for MY1520 and MYA-75 or MYA-79 for MY1530 by Option.



Model	MYA-75	MYA-77	MYA-79
Thickness	30mm	60mm	120mm
Frequency range	$\geq 2.4\text{GHz}$	$\geq 1.2\text{GHz}$	$\geq 0.6\text{GHz}$
Reflection Loss	10dB	1GHz	350MHz
	15dB	1.9GHz	700MHz
	20dB	2.4GHz	1.2GHz
	24dB	$\geq 5.6\text{GHz}$	$\geq 2.5\text{GHz}$

Absorption characteristics data



Portable antenna M301~M310

Antenna for measuring field strength.



■ Connectors : SMA(P)

Model	Frequency range
M301	0.8 to 1GHz
M302	1.25 to 1.65GHz
M303	1.7 to 2.2GHz
M304	2.25 to 2.65GHz
M305	300 to 500MHz
M306	4.8 to 6.2GHz
M307	470 to 770MHz
M308	3.6 to 4.2GHz
M309	4.4 to 4.9GHz
M310	5.9 to 7.2GHz

Coaxial cable



In various frequency bands, connectors, and lengths, a variety of coaxial cables are available.

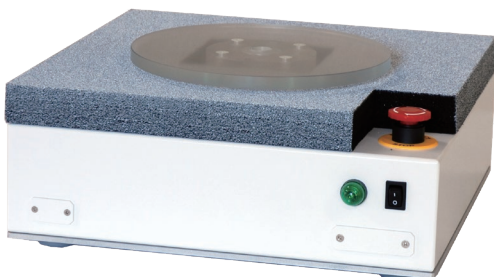
Electric turntable MT107

It can be used for evaluation of antenna radiation pattern, beam forming, beam tracking, etc.

Compact and low profile, it can be built into our electromagnetic anechoic box.

Suitable for evaluation of small antennas and wireless devices.

An acrylic stand and an electromagnetic wave absorber are sandwiched between the acrylic stand and the enclosure.



Model	Radio wave absorber
MT107-MYA75	MYA-75
MT107-MYA77	MYA-77

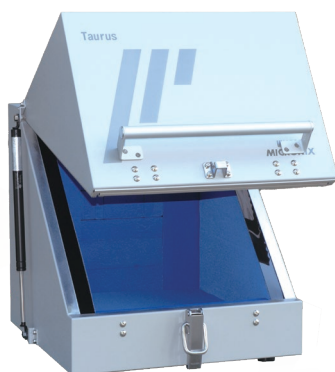
Model	Connectors	Length	Frequency range
MC102	SMA(P)/BNC(P)	1.5m	DC to 2GHz
MC201	SMA(P)/SMA(P)	0.5m	DC to 18.5GHz
MC202	SMA(P)/SMA(P)	3m	DC to 18.5GHz
MC203	SMA(P)/SMA(P)	4m	DC to 18.5GHz
MC204	SMA(P)/SMA(P)	1.5m	DC ~18.5GHz
MC301	SMA(P)/SMA(P)	0.5m	DC to 10GHz
MC302	SMA(P)/SMA(P)	1m	DC to 10GHz
MC303	SMA(P)/SMA(P)	1.5m	DC to 10GHz
MC304	SMA(P)/N(J)	0.2m	DC to 4GHz
MC305	SMA(P)/N(P)	0.2m	DC to 4GHz
MC306	SMA(P)/BNC(J)	0.2m	DC to 2GHz
MC307	SMA(P)/BNC(P)	0.2m	DC to 2GHz
MC308	N(P)/N(P)	0.5m	DC to 10GHz
MC309	N(P)/N(P)	1m	DC to 10GHz
MC310	N(P)/N(P)	1.5m	DC to 10GHz
MC311	N(P)/SMA(J)	0.2m	DC to 10GHz
MC312	N(P)/BNC(J)	0.2m	DC to 2GHz
MC313	N(P)/BNC(P)	0.2m	DC to 2GHz
MC314	BNC(P)/BNC(P)	1.5m	DC to 2GHz

Special order/Customization examples

We manufacture electromagnetic anechoic boxes (shield boxes) at our own factories in Japan with high reliability and reliable technology, which are compatible with various applications and applications that are becoming more diverse and sophisticated.

In addition to selling the products listed in the catalog (standard lineup), we also manufacture custom-made products and modify standard products to meet the needs of our customers. Please feel free to contact us.

e.g.1: Customization based on standard products



Main purpose	Shipment inspection of wireless communication module (wireless system)
Features	<ul style="list-style-type: none"> Customized and optimized the standard product MY1520 for the production line of Wi-SUN equipment. A large catch clip is used to improve opening and closing workability. Abrasion prevention processing is applied to the absorber.
Outside dimensions	590(W) × 560(H) × 658(D)mm
Inside dimensions	400(W) × 400(H) × 400(D)mm
Weight	20kg
Shielding effectiveness	80dB typ @ 900MHz to 6GHz
Reflection loss	≥ 20dB @ 1.2GHz
Connectors	SMA × 2
I/F	Taurus I/F modules × 2

e.g.2: New design of IF module

The standard electromagnetic anechoic box is used, and only the optional interface module is newly designed. Corresponds to the configuration according to the test application.

Part 1



Maximize the number of USB ports for multi-hop testing with a USB dongle. USB x 12 ports.

Part 2



AC and DC are mounted in one module, and both powers can be supplied even in a small electromagnetic anechoic box. AC, DC, USB, LAN, 1 each.

Part 3



Equipped with an air terminal block, it enables air supply inside the electromagnetic anechoic box. Φ4 fitting, 2 systems, solenoid valve bracket.

Related products

High-Speed Programmable Attenuator MAT800 Series



By reading the attenuation data stored in the 128k word internal memory, arbitrary attenuation patterns can be generated. The amplitude curve of the microwave signal can be freely created. The maximum readout speed is 2μs/word, and no spike occurs when switching. Attenuation patterns are created on a PC using the standard accessory "Attenuation Program Generation Software MAS800" and transferred to the instrument's memory.

Ideal for air simulation of wireless communication such as handover test of mobile communication equipment and dynamic operation test of ETC/DSRC.

Five models are available for each frequency band.

Item	ModelA	ModelB	ModelC	ModelD	ModelE
Frequency range	1.5 to 4.5GHz	3 to 9GHz	4.5 to 12.5GHz	1.95 to 5.85GHz	0.75 to 2.25GHz
Maximum attenuation	80dB				
Resolution attenuation	0.05dB				

High-Speed Programmable Attenuator MAT810

Multifunctional programmable attenuator capable of switching the attenuation of microwave band electric signals at ultra high speed (2μs). Attenuation patterns are created on a PC and transferred to the unit's memory using the standard software for creating attenuation patterns.

Ideal for evaluating the communication quality of cellular phones, WiMAX, ETC, wireless LAN, and wireless communication devices.



Frequency range	300MHz to 6.6GHz
Maximum attenuation	60dB
Resolution attenuation	0.05dB

Step Attenuator MAT850

Compact and lightweight step attenuator that can be switched while checking the attenuation of microwave band electrical signals on the LED display. No chattering or spikes occur during knob switching.

Ideal for evaluating the communication quality of cellular phones, WiMAX, ETC, wireless LAN, and wireless communication devices.



Frequency range	300MHz to 6.1GHz
Maximum attenuation	60dB
Resolution attenuation	0.1dB

The antenna gain measurement method by the standard antenna method

Introducing the antenna gain measurement method by the standard antenna method using an electromagnetic anechoic box and a spectrum analyzer.

Application

An electromagnetic anechoic chamber or a calibrated standard antenna is usually required to evaluate the antenna gain, but it can be evaluated simply by using a spectrum analyzer with a tracking generator and an electromagnetic anechoic box.

- Obtain the EUT gain by comparing it with the reference antenna (antenna with a known gain).
- As for the measurement environment, the measurement is performed in the electromagnetic anechoic chamber (anechoic box) as in the case of radiation pattern measurement.
- Mainly use dipoles and log periodic antennas in the MHz band, and horn antennas in the GHz band.

Solution

Measurement procedure

- ① Set the center frequency and span of the spectrum analyzer according to the band you want to measure.
- ② Measure the tracking generator output at the reference antenna end. [Fig.1]
Let the result be "A (dBm)".
- ③ Prepare a receiving antenna and a reference antenna (Tx) and install them in the electromagnetic anechoic box at a certain distance.
- ④ Close the door of the electromagnetic anechoic box and execute the measurement. [Fig.2]
Let the result be "X (dBm)".
- ⑤ Take out the reference antenna (Tx) and install the EUT at the same position.
- ⑥ Close the door of the anechoic box and execute the measurement. [Fig.3]
- ⑦ If the maximum radiation direction of the EUT is unknown, rotate the turntable and look for the peak gain. Let the result be "Y (dBm)".
- ⑧ Calculate $EIRP_{EUT}$ (dBm) from the following formula.

$$EIRP_{Tx} \text{ (dBm)} = A \text{ (dBm)} + \text{Gain}_{Tx} \text{ (dBi)}$$

$$EIRP_{EUT} \text{ (dBm)} = Y \text{ (dBm)} - X \text{ (dBm)} + EIRP_{Tx} \text{ (dBm)}$$
- ⑨ Calculate EUT gain from the following formula.

$$\text{Gain}_{EUT} \text{ (dBi)} = EIRP_{EUT} \text{ (dBm)} - EUT \text{ transmission power (dBm)}$$

※ EIRP: Equivalent isotropic radiant power

※ If the EUT transmission power and gain cannot be separated, such as when the EUT antenna is integrated, EIRP will be the final result.

Fig.1

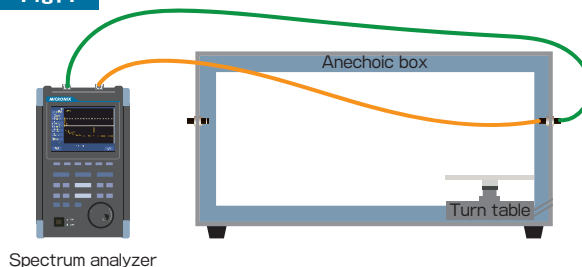


Fig.2

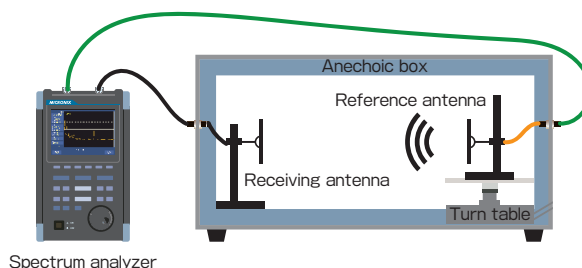
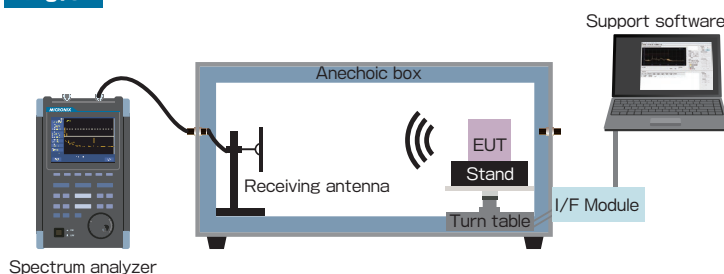
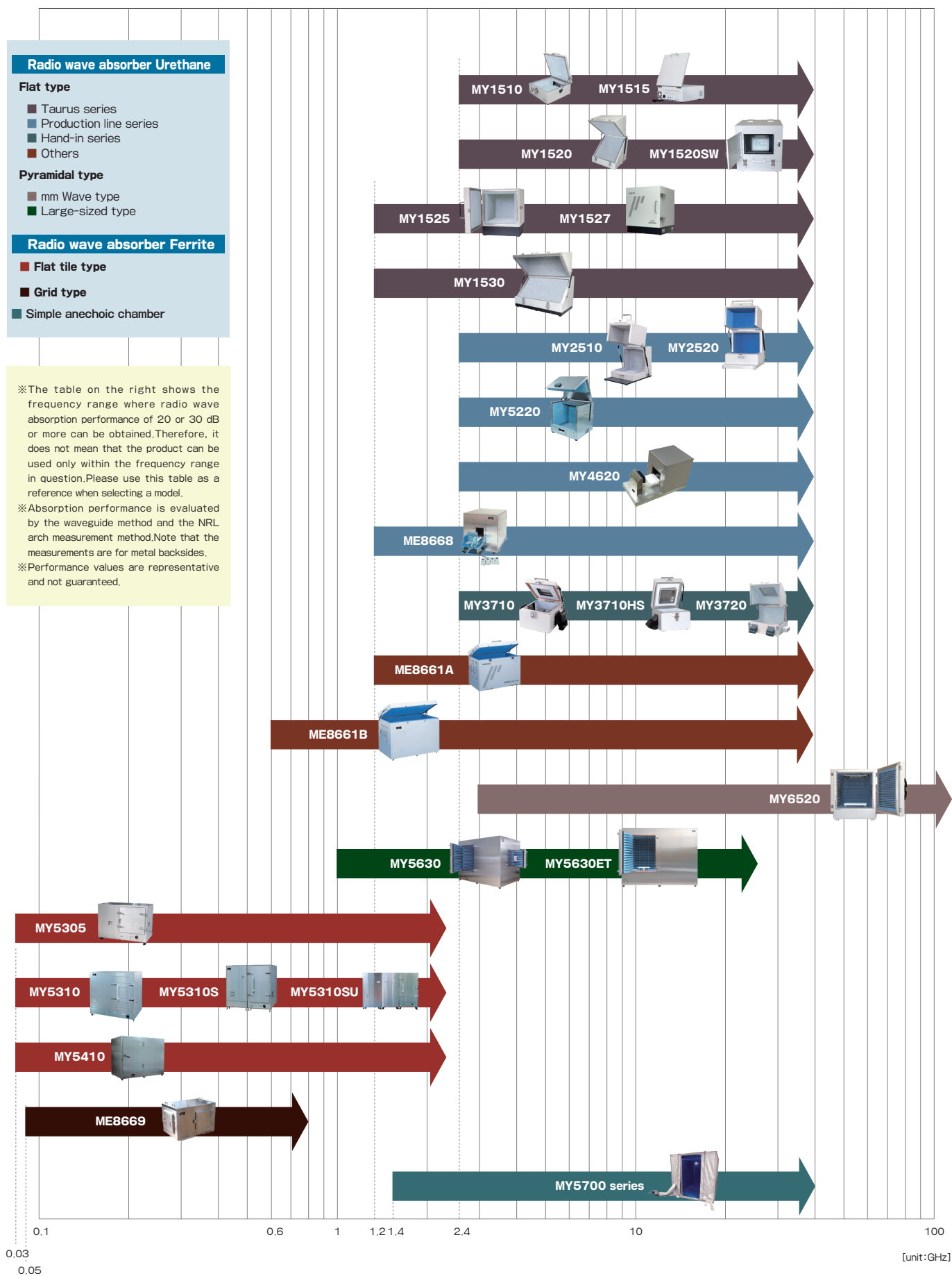


Fig.3



System structure

Product	Notes
Anechoic box (With manual or electric turntable)	
Antenna (reference and reception)	※ Dipole, horn, log periodic antenna and etc.
Spectrum analyzer (With tracking generator)	
Others, cable stands and various options	



※MICRONIX Corporation reserves the right to make changes in design, specifications and other information without prior notice.

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