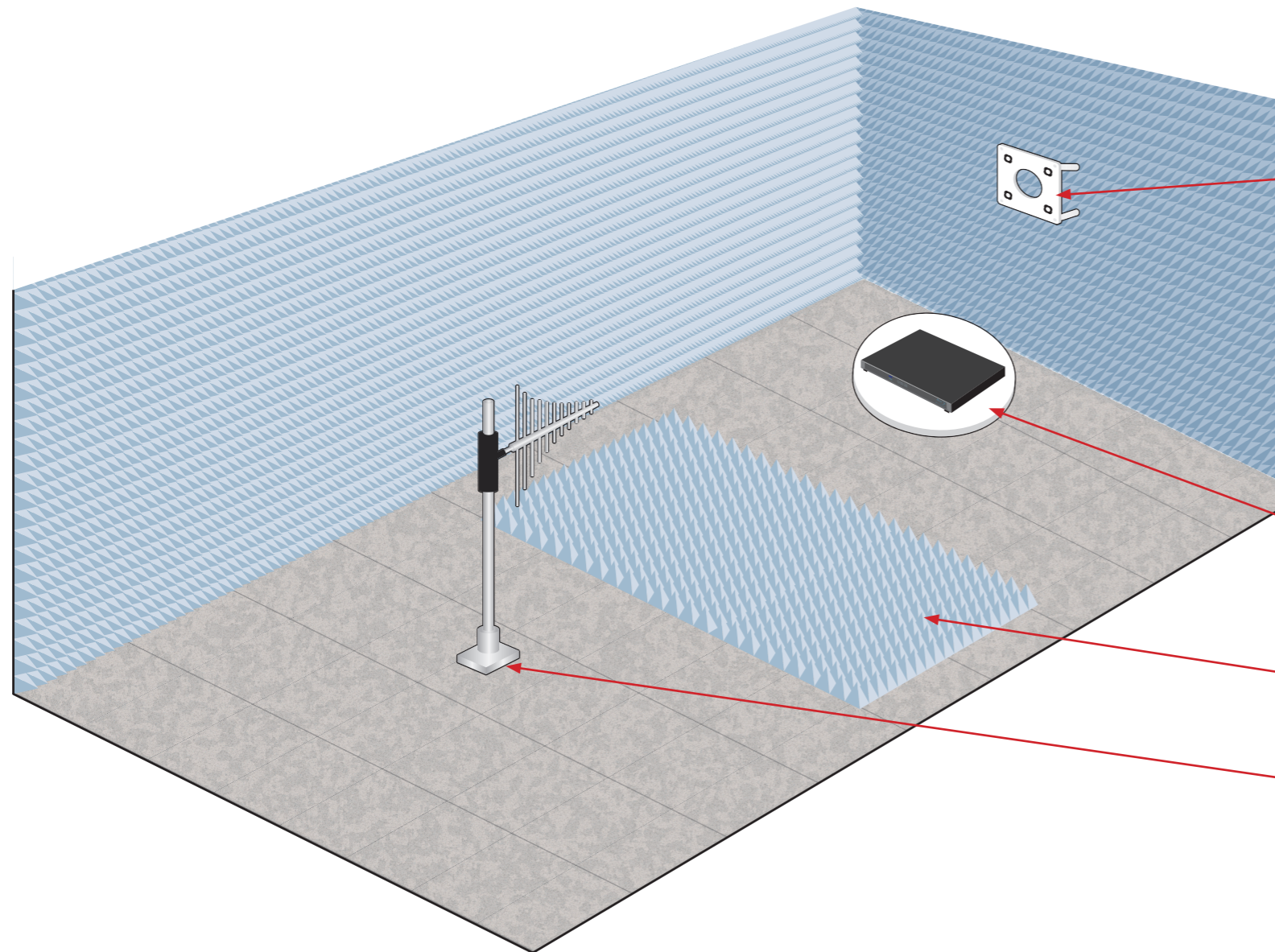


# Radio wave absorption equipment

## 1 System integration

With the spread of IoT (Internet of Things), the development of low-priced and low-cost devices compatible with LPWA such as LoRa and Wi-SUN is progressing, while simulation during wide area communication is becoming an issue. In addition, in measurement methods for high-speed, large-capacity communication such as millimeter waves and 5G standards, adjustment of the positions of the transmitter side (TX) and communication device (RX) is more severely required than in conventional measurements. When verifying each standard, as components other than the shielding effect required at the time of measurement, selection of a radio wave absorber that suppresses radio wave reflection, including the case material of the test piece, and operation of the jig device are major issues. Based on the characteristics of the radio wave absorber selected according to each test standard, our radio wave absorption equipment will consider together with the customer how to use the measurement space efficiently from zero design under limited conditions.



## 3 Jig devices

When considering the measurement space, a device that assists the measurement is required to ensure the reproducibility of the test. In addition to physical differences in size, weight, etc. of the object to be measured, it is necessary to consider how to follow the directivity of the antenna to be measured, the arrangement or movement of cables.

In our radio wave absorption equipment, to meet various needs, we will utilize the know-how of measurement technology cultivated over many years to propose jig devices unique to RF measuring instrument manufacturers.

### Antenna Fixing Base

Attach the attachment type folder shape to the pedestal of transparent material on the wall panel. It enables flexible measurement according to the target scene, such as changing the plane of polarization and measuring with multiple antennas.

### Turntable

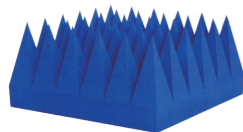
In simple emission tests, communication tests, etc., the directivity of the object to be measured placed on the table is confirmed from different angles. Especially in a shielded environment, it is effective for cost consideration when darkening a conventional shielded room, such as measuring various antenna patterns.

### Electric field strength measuring device

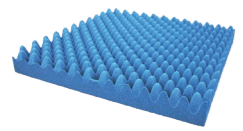
Automatic measurement of radiated electric field strength is performed using an antenna or electric field probe. It is effective for interference wave measurement, proximity immunity test, etc.

## 2 Absorbent for radio wave absorption equipment (Reflection loss $\geq -20$ dB, 600mm $\times$ 600mm /sheet)

After investigating the existing equipment in advance, we will proceed with the equipment based on the concrete introduction effect such as the outline design of the radio wave absorption equipment and the arrangement of the radio wave absorption partition after processing. In order to consider the equipment according to your budget, we are preparing the following radio wave absorbers that are different for each frequency.



MYA-10 to 60



MYB-30 to 75

[200MHz to ]Urethan pyramid type/ Flame-resistant urethane pyramid type (Compatible with test standard UL94 V-0)

Model	Height	Weight	Applicable Frequency <sup>※</sup>	Typical application note
MYA-10 (MYA-V010)	10cm	0.7kg	1.4GHz to	Various radars, satellites, mobile phones (5G), wireless LAN, TV (BS4K)
MYA-20 (MYA-V020)	20cm	1.2kg	600MHz to	TV (25-52CH), mobile phone, RFID, specified low power (920MHz), smart meter
MYA-30 (MYA-V030)	30cm	1.7kg	500MHz to	TV (18-52CH), mobile phone
MYA-45 (MYA-V045)	45cm	2.1kg	400MHz to	Specified low power (420MHz), amateur radio (430MHz), TV (13-52CH)
MYA-60 (MYA-V060)	60cm	2.5kg	200MHz to	Digital firefighting, railroads, ships, mili-tary air band (222-399MHz)

[3.5GHz to ]Urethan wave type

Model	Height	Weight	Applicable Frequency <sup>※</sup>	Typical application note
MYB-30	3cm	0.3kg	10GHz to	Ultra-wideband radio system, earth exploration satellite, ITS, aeronautical radionavigation
MYB-50	5cm	0.4kg	4GHz to	Weather radar, robot radio, ISM, DSRC
MYB-75	7.5cm	0.6kg	3.5GHz to	Mobile phone (5G), wireless LAN (5GHz band), TV (BS4K)

※ Radio wave absorption performance  $\geq -20$ dB, each application depends on or includes the lower limit of the applicable frequency.

## 4 Flow until delivery

After confirming the necessary equipment, etc., we will check the work process and create equipment approval drawings, etc. after a preliminary inspection of the site. After the installation is completed, the required tests will be performed, and the product will be delivered. The following documents will be attached when the absorber of the radio wave absorption equipment is delivered.

① Design drawings	Approval diagram (including content such as cutting), test report
② Radio wave absorber report	Dimensional tolerance sampling inspection (width direction, 10% of the total number), radio wave absorber model number, and specifications such as the presence or absence of a specific solvent at the time of manufacture

## 6 Service and support

### ① Reliable support service

- Free warranty period 1 year
- ※ A fee will be charged for malfunctions and consumables caused by handling errors, negligence, or force majeure such as natural disasters and fires.
- Radio wave absorber replacement service (charged)

### ② Product update service

- When the target measurement content such as measurement frequency band and conformity test changes, we propose to review the radio wave absorption equipment that has already been introduced.

## 5 Product examples

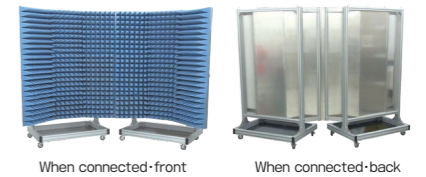
### ① Radio wave absorption partition (stand itself) MY5505

#### ■ Single unit



Image

#### ■ 2units



When connected-front

When connected-back

#### ■ Specifications

Outside dimensions	1370(W) $\times$ 1850(H) $\times$ 700(D)mm
Weight	55kg (excluding weight plate)
Material	Aluminum board
Casters	Flexible casters (with stopper) $\times$ 4
Other	Eyebolt, protective cap (edge measures)

### ② Simple anechoic chamber (Shield tent type) series



#### ■ Specifications

Electromagnetic shield tent	double-woven fabric
Exit and entrance	Door dimensions: 0.9m(W) $\times$ 1.6m(H) One front location, Double-layered curtain type structure
Cable feed port	$\phi$ 50mm $\times$ 4 (optional)
Shielding effectiveness	1-6GHz @60dB, 28GHz @70dB
Radio wave absorber	· Urethane pyramid type: 10cm MYA-V010 used · Flame resistance: Aluminum plate treatment on the reverse side (except for floor surface)
Reflection loss	1.4GHz @20dB, 1.9GHz @30dB, >3.5GHz @40dB
Air intake and exhaust	Available (with blower)
Interior floor treatment	Punch carpet
Lighting	LED clip lamps $\times$ 4

Model	External Dimensions	Internal dimensions	Weight
MY5722	2m $\times$ 2m $\times$ 2m	1.67m $\times$ 1.73m $\times$ 1.67m	170kg
MY5723	2m $\times$ 2m $\times$ 3m	1.67m $\times$ 1.73m $\times$ 2.67m	280kg
MY5724	2m $\times$ 2m $\times$ 4m	1.67m $\times$ 1.73m $\times$ 3.67m	335kg
MY5725	2m $\times$ 2m $\times$ 5m	1.67m $\times$ 1.73m $\times$ 4.67m	420kg
MY5732	3m $\times$ 2m $\times$ 2m	2.67m $\times$ 1.73m $\times$ 1.67m	255kg
MY5733	3m $\times$ 2m $\times$ 3m	2.67m $\times$ 1.73m $\times$ 2.67m	355kg
MY5734	3m $\times$ 2m $\times$ 4m	2.67m $\times$ 1.73m $\times$ 3.67m	425kg
MY5735	3m $\times$ 2m $\times$ 5m	2.67m $\times$ 1.73m $\times$ 4.67m	525kg

※ Dimensions (W  $\times$  H  $\times$  D)