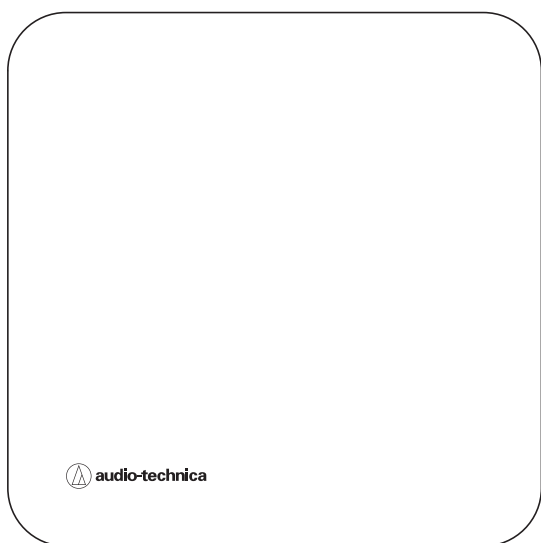# ATW-A410P

**User Manual**

UHF Powered Wideband Antenna

audio-technica

# Introduction

Thank you for purchasing this Audio-Technica product. Before using the product, please read through the Quick Start Guide, as well as this user manual when necessary, to ensure that you use the product correctly.

# Safety precautions

Although this product was designed to be used safely, failing to use it correctly may result in an accident. To ensure safety, observe all warnings and cautions while using the product.
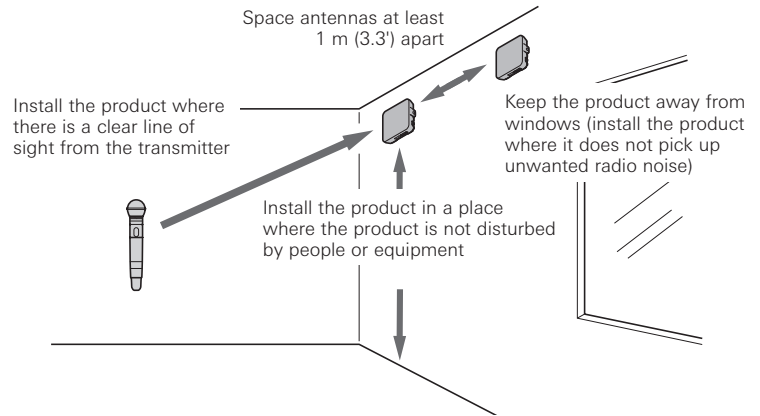
- Disconnect the product from a device if the product begins to malfunction, producing smoke, odor, heat, unwanted noise or showing other signs of damage. In such a case, contact your local Audio-Technica dealer.
- Do not disassemble, modify or attempt to repair the product to avoid electric shock, malfunction or fire.
- Do not subject the product to strong impact to avoid electric shock, malfunction or fire.
- Do not handle the product with wet hands to avoid electric shock or injury.
- Do not allow the product to get wet to avoid electric shock or malfunction.
- Do not put foreign matter such as combustible materials, metal, or liquid in the product.
- Do not cover the product with a cloth to avoid fire or injury by overheating.
- Keep the product out of the reach of small children or near fire to avoid an accident or a fire.
- Do not put the product in a location where it is exposed to direct sunlight, near heating devices, or in places with high temperatures, high humidity, or high concentrations of dust to avoid electric shock, fire, malfunction, etc.
- Keep away from a fire to avoid deformation or malfunction.
- Do not use chemicals such as benzine, thinner, electrical contact cleaner, etc. to avoid deformation or malfunction.

# Notes on use

- Be sure to read the connected device's user manual before use.
- Turn off the power of the connected device before connecting or disconnecting cables.
- If you use the product near a TV or radio antenna, you may hear unwanted noise in the television or radio. If this occurs, move the product away from the device.
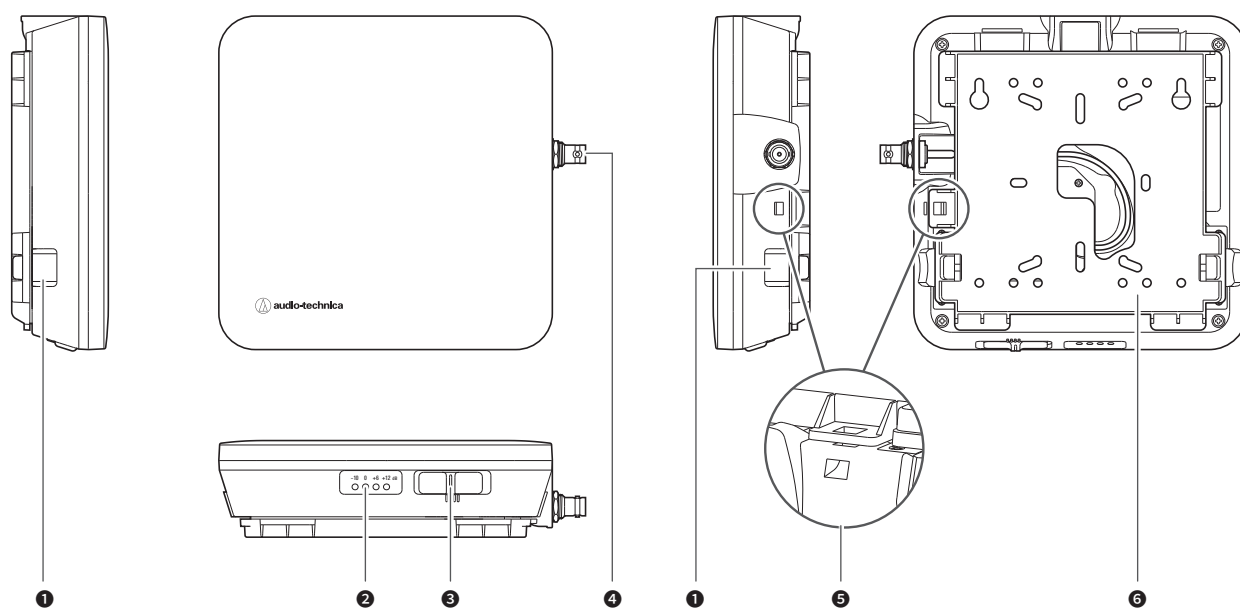
# Notes on installation

- Install the product where there is a clear line of sight from the transmitter. Do not install the product behind interior decoration elements.
- Audio-Technica accepts no responsibility for accidents such as falling that come as a result of improper installation.
- Install the product in a place where the antenna will not be damaged by moving people or equipment.
- Do not install the product where unwanted noise is received from devices such as light dimmers, fluorescent lighting, LED lighting, large motors, office automation equipment such as computers, or electronic musical instruments.
- Do not install the product close to devices such as wireless LAN routers. This may result in unwanted noise.
- For best RF performance of the connected diversity receiver, install the antennas at least 1 m (3.3') apart.

Space antennas at least 1 m (3.3') apart

Install the product where there is a clear line of sight from the transmitter

Keep the product away from windows (install the product where it does not pick up unwanted radio noise)

Install the product in a place where the product is not disturbed by people or equipment

# Maintenance

- If the product becomes dirty or covered with dust, be sure to turn off the connected device before wiping the product off with a dry and soft cloth.
- Do not use benzine, thinner or electrical contact cleaner, etc. They may deform or otherwise damage the product, or cause operational failure.

# Part names and functions



❶ Mounting bracket removal button

❷ Gain indicator

❸ Gain selector switch

❹ BNC output terminal

❺ Cable tie mounting hole
You can secure the main unit and bracket with a cable tie (sold separately).

❻ Mounting bracket

# Installation

## Positioning Antennas for Diversity Reception (when mounting to the wall)

In order to optimize diversity reception for different types of transmitters, it is necessary to position the product with appropriate orientation. Refer to the information below when positioning the product.

When mounting the product to the ceiling, refer to "Polar pattern" (p.10).

Handheld and body-pack transmitters
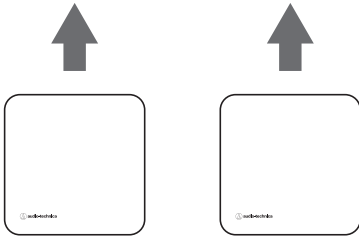
Boundary microphone and microphone stand transmitters
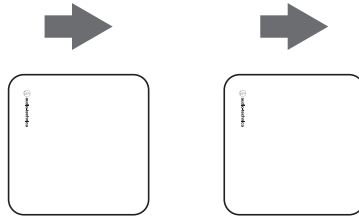
Mixed transmitter types



Vertical
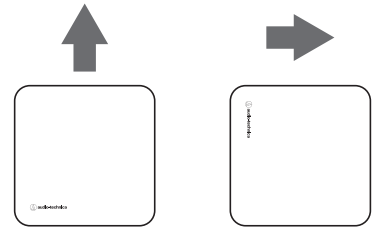
Horizontal

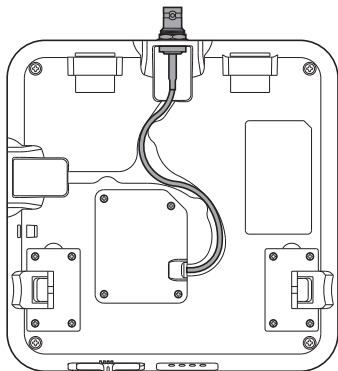Vertical and horizontal

# Installation

## BNC cable wiring pattern

There are 3 patterns of BNC cable wiring. Wire according to the installation environment.

- Use "HEX14" for BNC nut size.
- Tighten the BNC nut until it is snug. Failure to do so may damage the main unit.
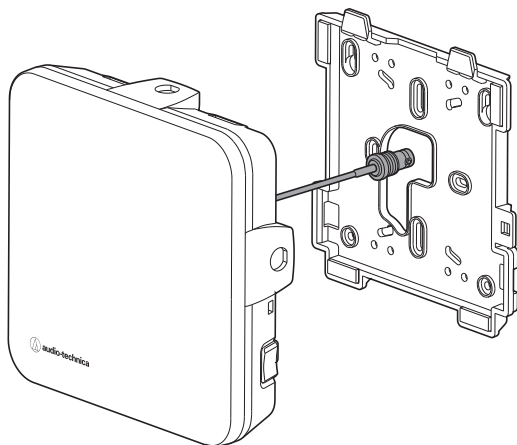
### Wiring from the side
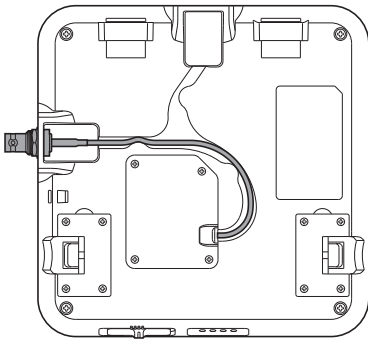
### Wiring from the top
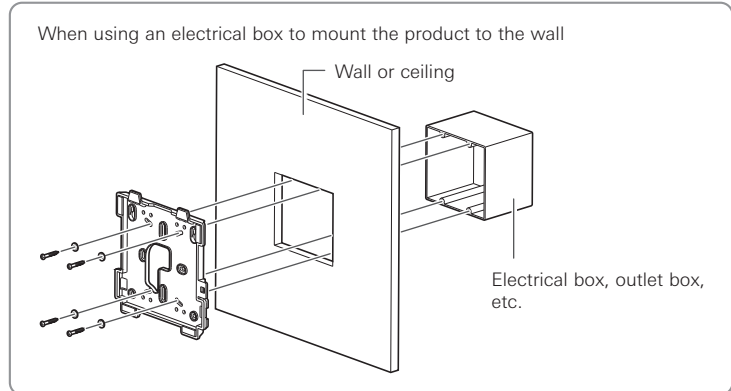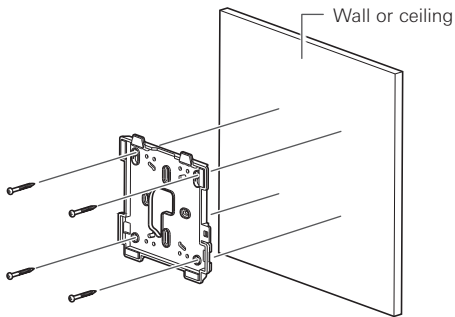
### Wiring from the back
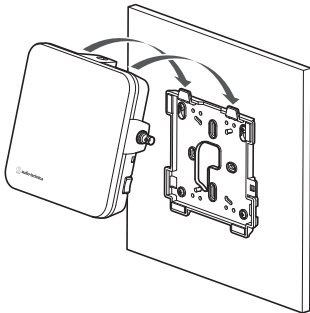
# Installation

## Mounting/removing the product

### Mounting

- When using an electric screwdriver, make sure to use one with a clutch.
- Set the torque to the minimum setting and tighten the screws carefully to avoid deformation. If you tighten the screws too much, the mounting bracket may be damaged.
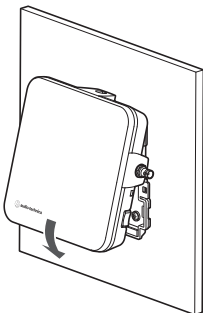- When using 3.5 mm diameter or #6 screws, use a washer.

1. Use the included wood screws to mount the bracket to the wall.



Wall or ceiling

When using an electrical box to mount the product to the wall

Wall or ceiling

Electrical box, outlet box, etc.
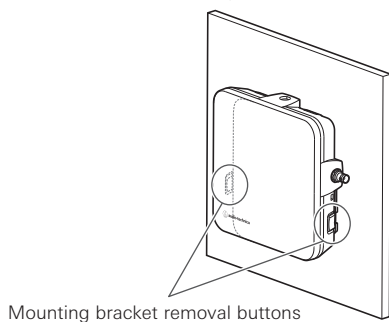
2. Install the main unit into the bracket.



3. Push the main unit until the mounting bracket removal button on each side clicks.



4. Make sure that the main unit is securely fixed in place.
- The main unit is not fixed firmly if either of the mounting bracket removal buttons is pushed in.



Mounting bracket removal buttons

5. After installation is complete, attach the BNC cable to a wireless receiver.

# Installation

## Removing
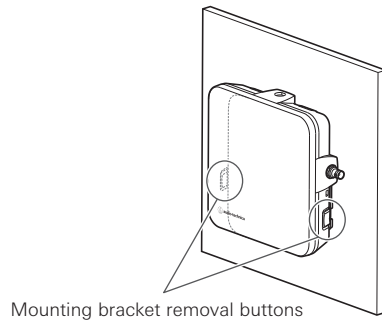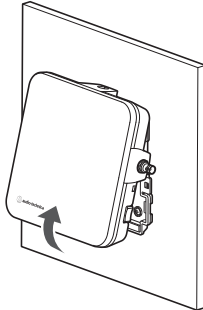
1. Push the mounting bracket removal button on each side of the bracket.

Mounting bracket removal buttons

2. Remove the main unit from the bracket.
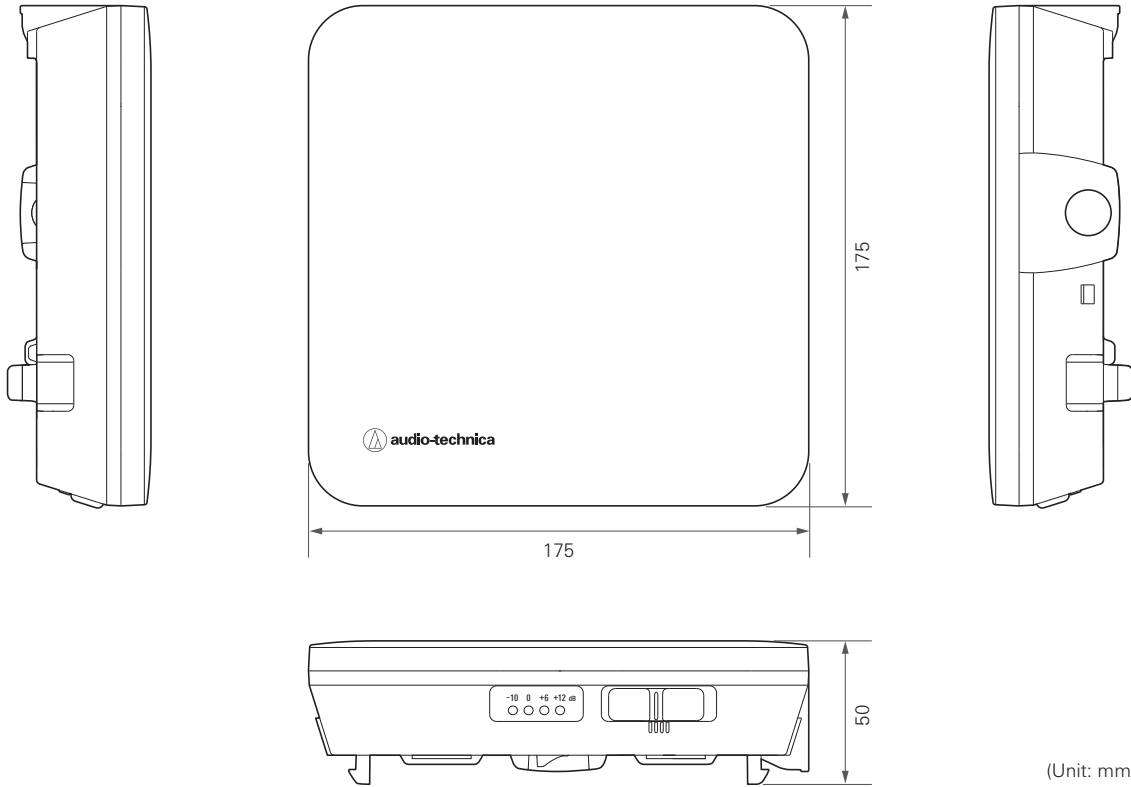
# Gain switch settings

Consider environmental factors such as cable loss and the receiver's reception level when selecting the gain settings.

| -10 dB | When the reception level is sufficiently high, it is possible to reduce potential interference and noise from adjacent channels. Please note that this reduces the reception level, therefore reducing the range in which the wireless microphone can function. |
| --- | --- |
| 0 dB (default) | The signal will receive no additional gain. Use this setting when the receiver's reception level is sufficiently high. |
| +6 dB, +12 dB | Use this to compensate for cable loss. Cable loss varies depending on the cable type, frequency and length; refer to the table below when choosing the appropriate settings. |

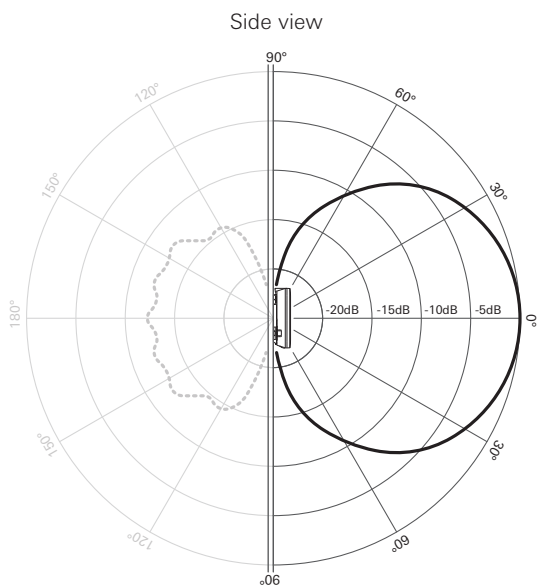| | | 470 to 530 MHz | 530 to 590 MHz | 590 to 650 MHz | 650 to 700 MHz | 727 to 787 MHz | 795 to 806 MHz | 806 to 810 MHz | 821 to 865 MHz | 925 to 938 MHz | 946 to 950 MHz |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| +6 dB | RG58 (3D-2 V) | 18.1 m | 17.1 m | 16.2 m | 15.5 m | 14.7 m | 14.3 m | 14.2 m | 13.9 m | 13.2 m | 13.1 m |
| | RG5 (5D-2 V) | 31.4 m | 29.7 m | 28.2 m | 26.9 m | 25.5 m | 24.8 m | 24.7 m | 24.2 m | 23.0 m | 22.8 m |
| | RG8 (8D-2 V) | 42.4 m | 40.1 m | 38.1 m | 36.4 m | 34.5 m | 33.5 m | 33.4 m | 32.7 m | 31.1 m | 30.8 m |
| +12 dB | RG58 (3D-2 V) | 36.2 m | 34.2 m | 32.4 m | 31.0 m | 29.4 m | 28.6 m | 28.4 m | 27.8 m | 26.4 m | 26.2 m |
| | RG5 (5D-2 V) | 62.8 m | 59.4 m | 56.4 m | 53.8 m | 51.0 m | 49.6 m | 49.4 m | 48.4 m | 46.0 m | 45.6 m |
| | RG8 (8D-2 V) | 84.9 m | 80.2 m | 76.2 m | 72.8 m | 69.0 m | 67.1 m | 66.8 m | 65.4 m | 62.2 m | 61.6 m |

# Dimensions

## Main unit



175

175

50

−10  0  +6  +12 dB

audio-technica

(Unit: mm)

## Mounting bracket



152.4
106
70
60
46
45.8
44.5

φ4.4
φ4.4
φ9.6

9.6
4.4

4.4
9.6

28

21

66.7
68.5
83
83.5
89
105
155.3

φ4.4
φ9.6

4.4
9.6

4.4

(Unit: mm)

9

# Polar pattern

### Side view



### Top view



### Rear view
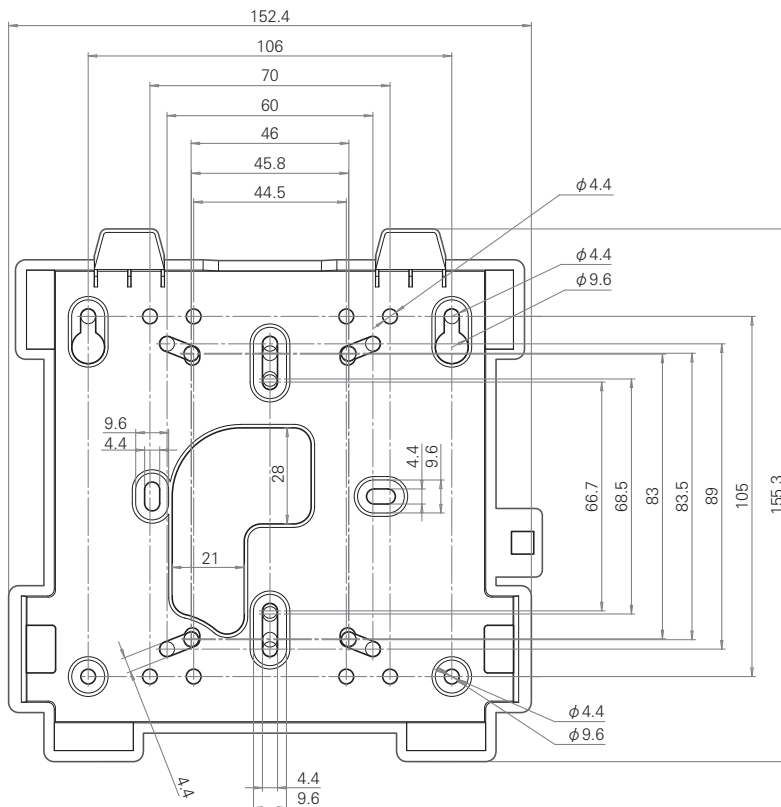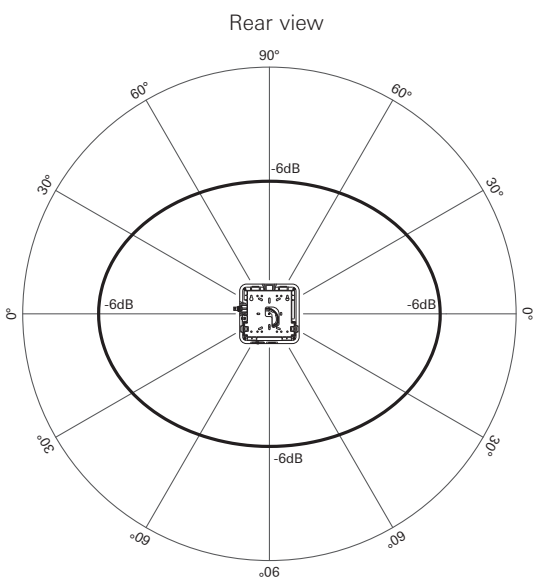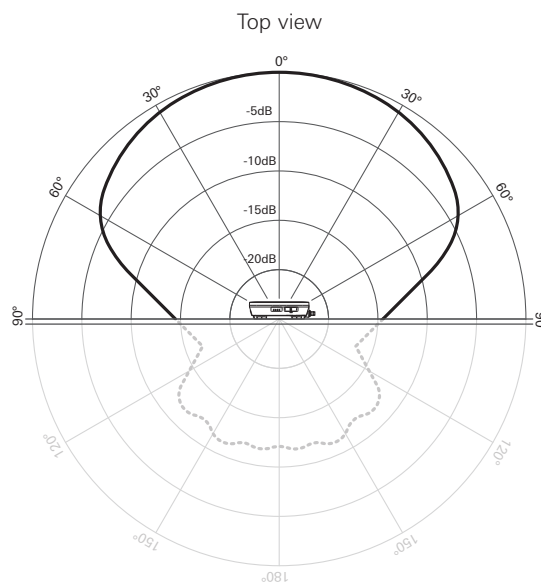
# Specifications

| | |
|---|---|
| Frequency range | 470 to 990 MHz |
| Connector | BNC-J |
| Impedance | 50 ohms |
| Power requirement | +12V DC, 60 mA or less |
| OIP3 | 30 dBm or higher |
| Signal gain | -10 dB/0 dB/+6 dB/+12 dB |
| Operating temperature range | -10° C to 50 ℃ |
| Dimensions | 175 (6.9") mm × 175 (6.9") mm × 50 (2.0") mm (without mounting bracket) |
| Weight | 390 g (13.8 oz) (without mounting bracket) |
| Accessories | Bracket, Wood screw×4 |

For product improvement, the product is subject to modification without notice.