

**Description:** 2.4GHz Dipole Swivel Antenna with coax feed + U.FL**PART NUMBER:** W1049BXXX**Features:**

- 2400-2500MHz
- Gain 2dBi
- VSWR 2:1
- Various cable lengths
- Connector U.FL compatible
- Ingress Protection IP20
- RoHS Complaint

**Applications:**

- Indoor omnidirectional antenna
- ISM 2.4GHz radios
- Bluetooth, BLE, Zigbee
- WiFi 2.4-2.5GHz
- Direct cable connection to radio connector
- Swivel feature for optimized performance on all use cases

All dimensions are in mm / inches

Issue: 2103

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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**ELECTRICAL SPECIFICATIONS**

|                    |                 |
|--------------------|-----------------|
| Antenna Type       | Dipole          |
| Frequency          | 2.4-2.5GHz      |
| Nominal Impedance  | 50 Ω            |
| VSWR               | 2:1(MAX)        |
| Radiation Pattern  | Omni            |
| Gain               | 2dBi (typical)  |
| Efficiency         | 75% (typical)   |
| Polarization       | Linear-Vertical |
| Power Withstanding | 2W              |

**MECHANICAL SPECIFICATIONS**

|            | Overall Length<br>(mm/in) | Weight<br>(g) | ANT Color | Connector<br>Type | Cable<br>Type | Cable Length<br>(mm/in) | Remark                            |
|------------|---------------------------|---------------|-----------|-------------------|---------------|-------------------------|-----------------------------------|
| W1049B030  | 158.5/6.25                | 4.86          | Black     | I-PEX             | MI-113        | 76/3                    |                                   |
| W1049B030D | 158.5/6.25                | 4.86          | Black     | I-PEX             | MI-113        | 76/3                    | Same as W1049B030, but no grommet |
| W1049B050  | 209.5/8.25                | 5.49          | Black     | I-PEX             | MI-113        | 127/5                   |                                   |
| W1049B070  | 260.5/10.25               | 6.12          | Black     | I-PEX             | MI-113        | 178/7                   |                                   |
| W1049B090  | 311.5/12.25               | 6.75          | Black     | I-PEX             | MI-113        | 229/9                   |                                   |
| W1049B120  | 387.5/15.25               | 7.70          | Black     | I-PEX             | MI-113        | 305/12                  |                                   |

**ENVIRONMENTAL SPECIFICATIONS**

|                       |                  |
|-----------------------|------------------|
| Operating Temperature | -40 ~ +85° C     |
| Storage Temperature   | -40 ~ +85° C     |
| Ingress Protection    | IP20, Indoor use |
| RoHS Compliant        | Yes              |

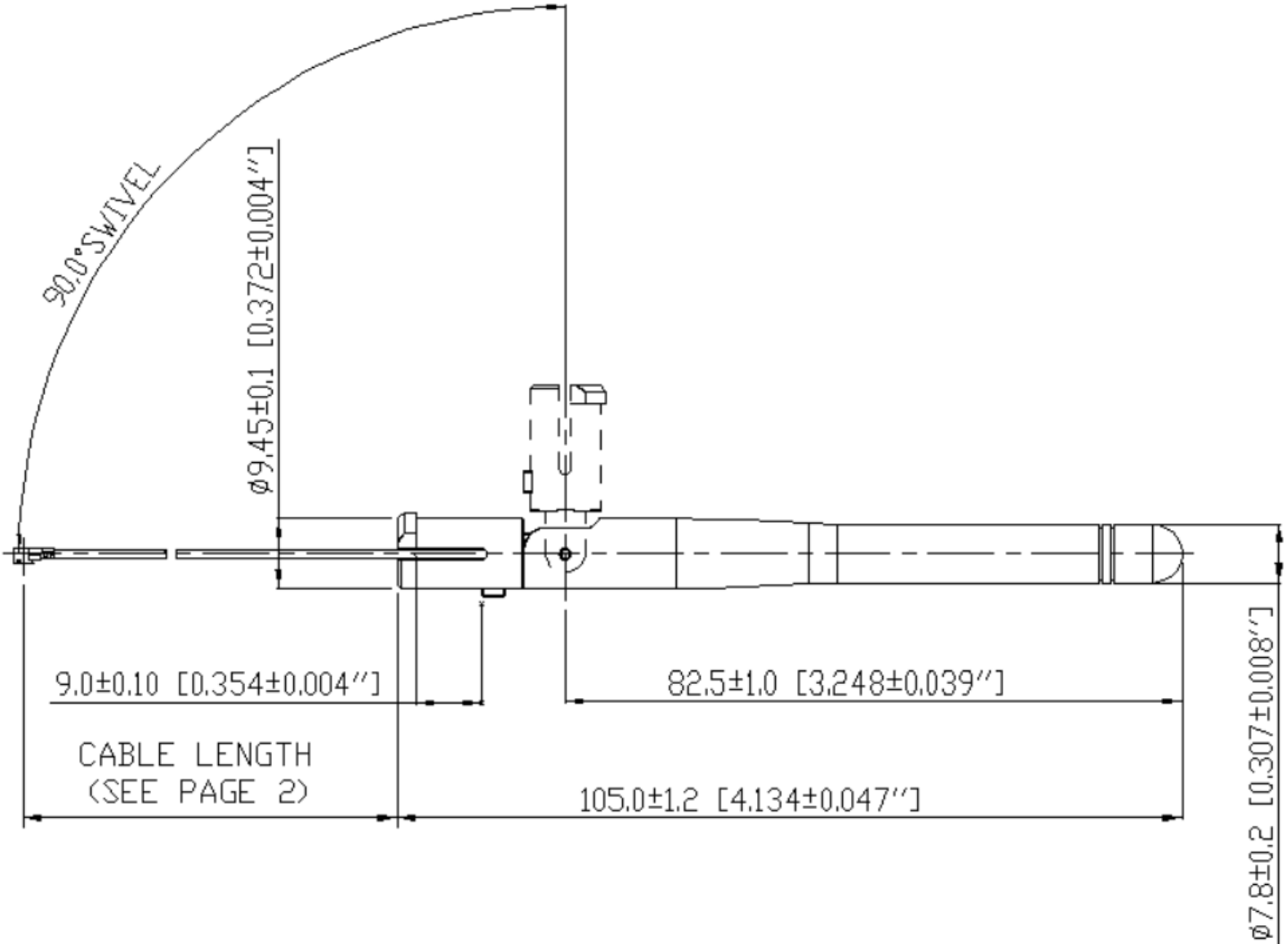
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## MECHANICAL DRAWING



**TEST SETUP**

SETUP1 - 0°



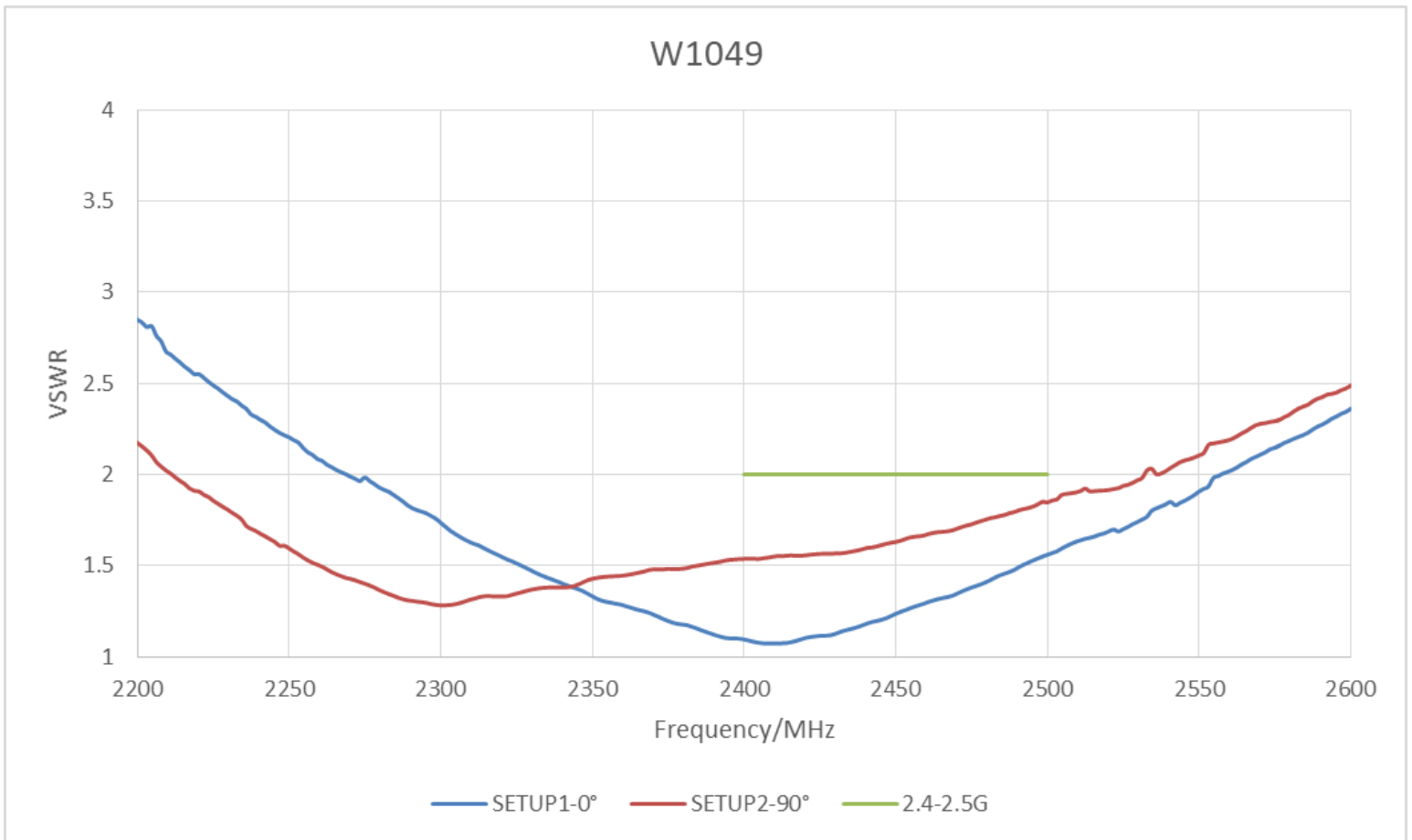
SETUP2 - 90°



Test in free space without ground plane.

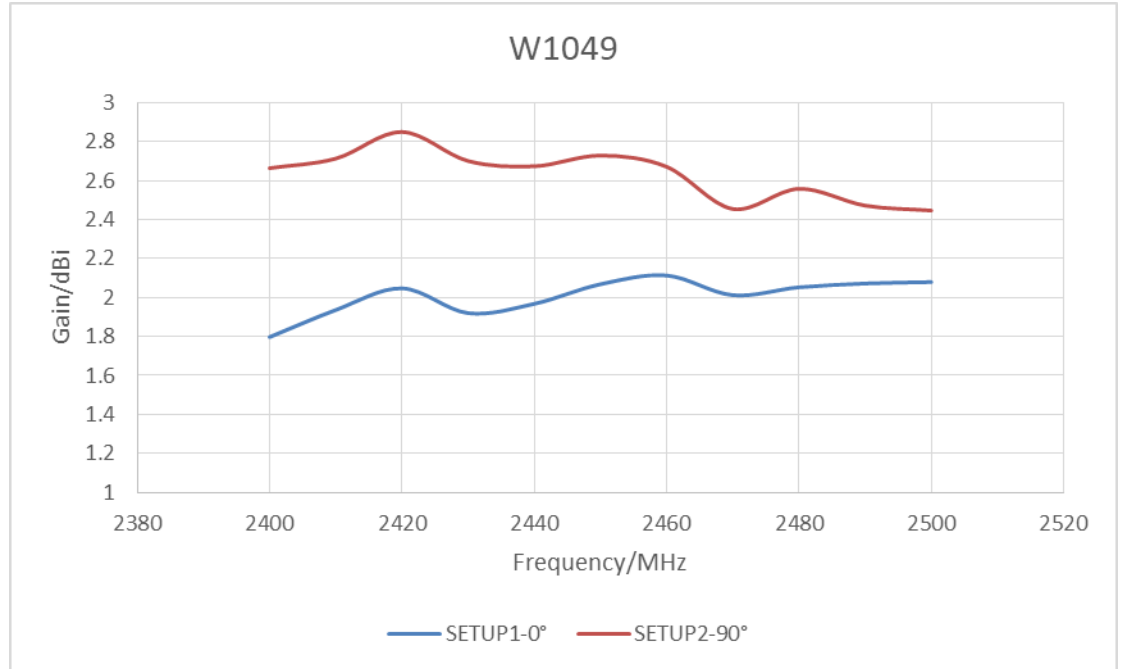
## CHARTS

### VSWR vs Frequency

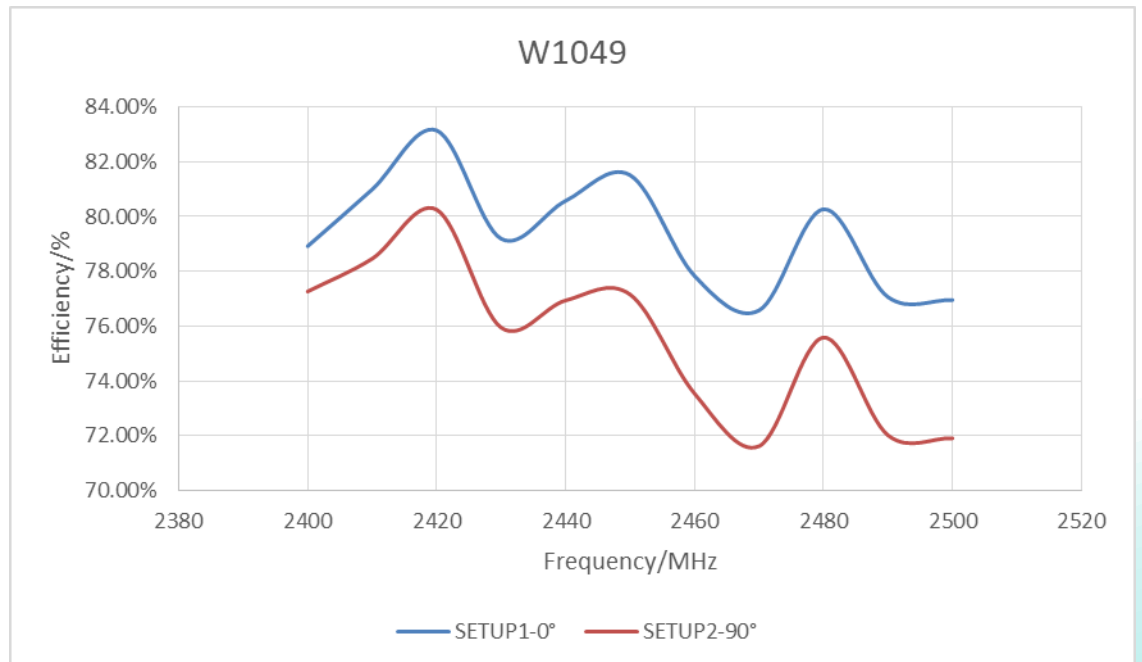


## CHARTS

### Peaking Gain



### Radiation Efficiency



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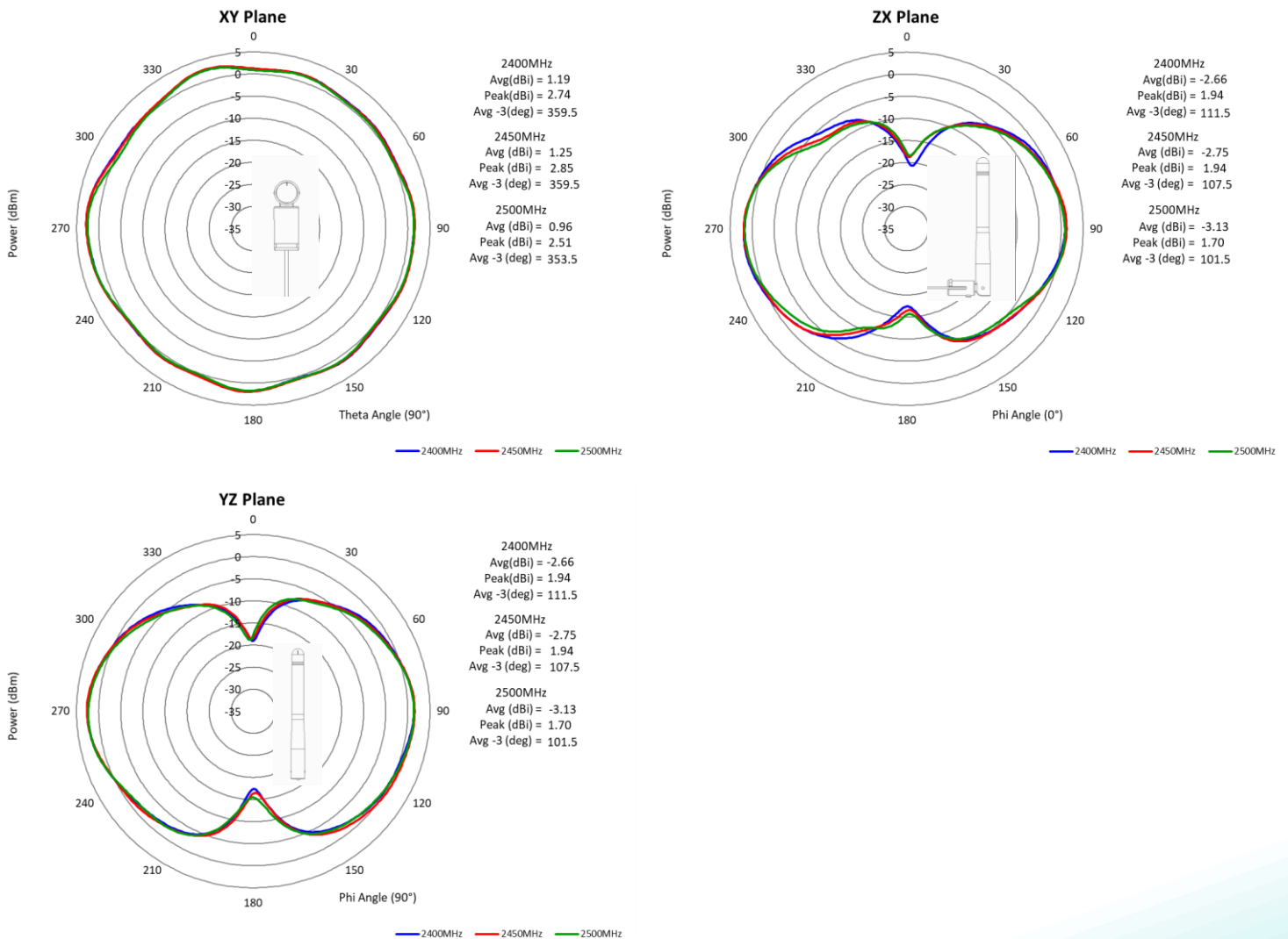
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## CHARTS

### SETUP2-90° Radiation pattern (2D) /2400-2500MHz



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## PACKAGING

**Quantity: 1200 PCS per Box****Packaging Steps:**

1. Place 20pcs products into PE bag
2. Apply HF & RoHS label onto PE bag and seal bag.



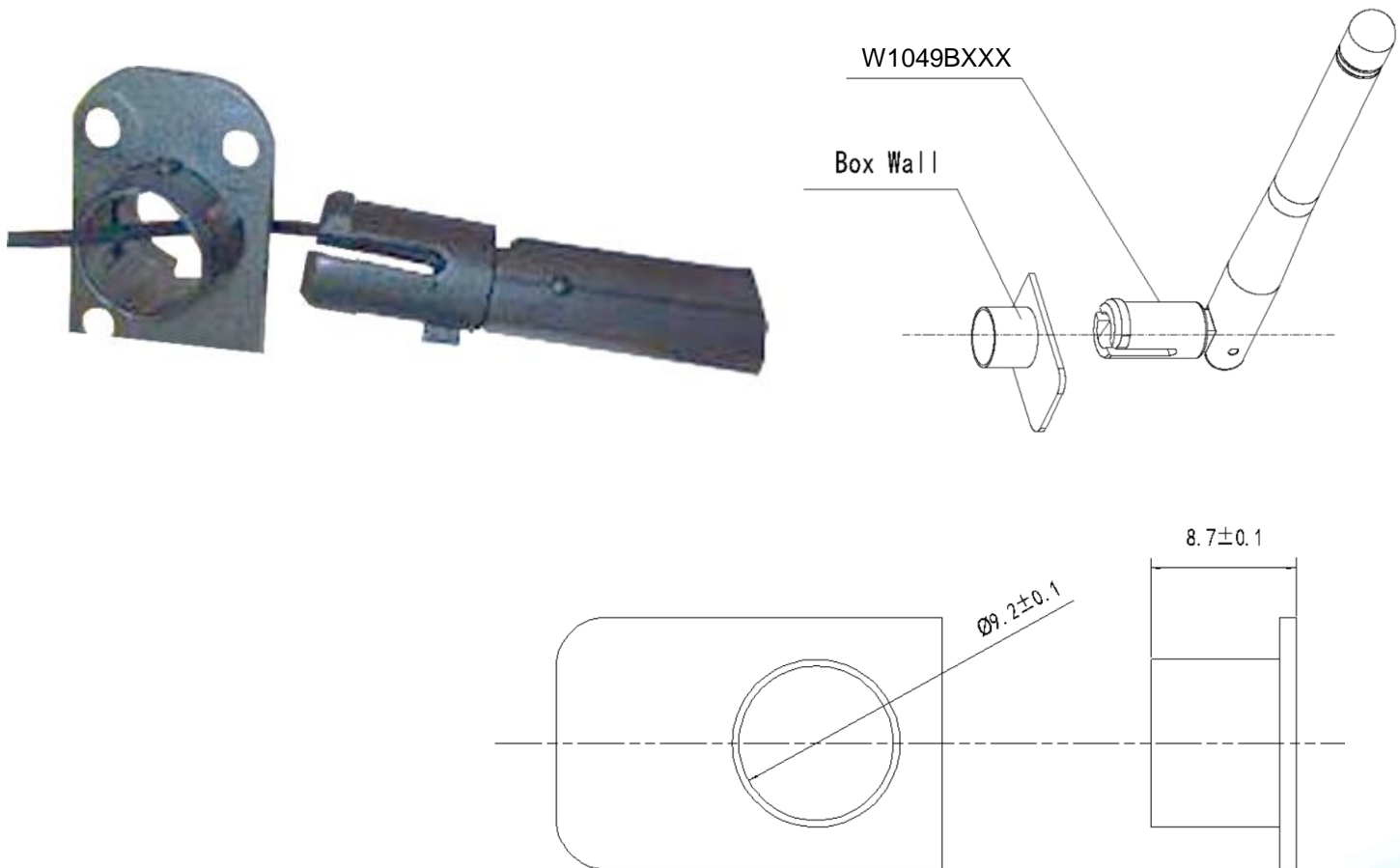
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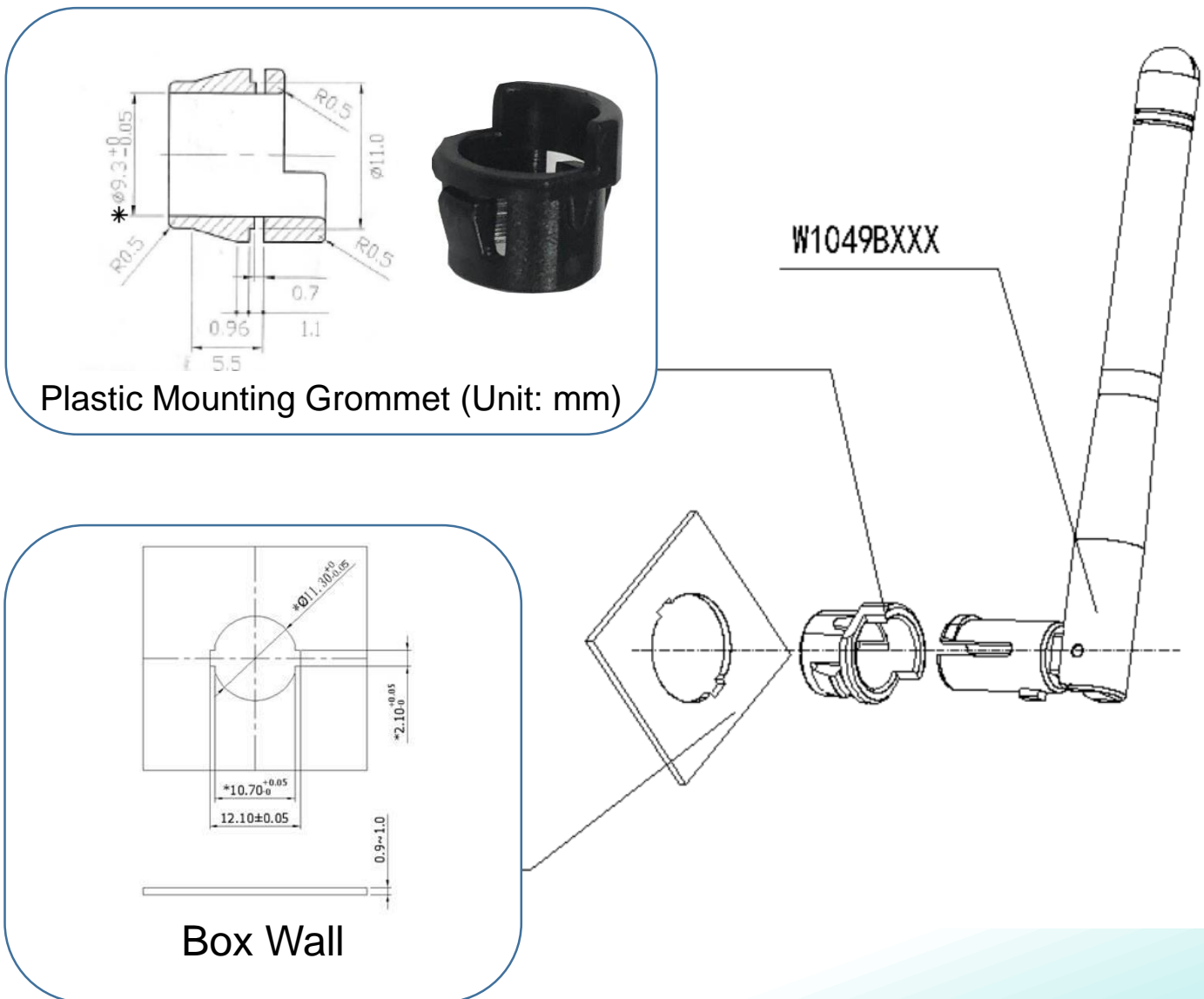
## ASSEMBLY

The antenna has two kinds of mounting method

**Option 1.** If the box wall has the support structure as below, the antenna just directly insert into the hole of the box wall. The suggestion hole size is shown in the drawing.



**Option 2.** If the box wall is flat wall. We should install the plastic mounting grommet we provide into the hole of the box wall firstly, then install the antenna. The suggestion hole size and wall thickness are below.



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