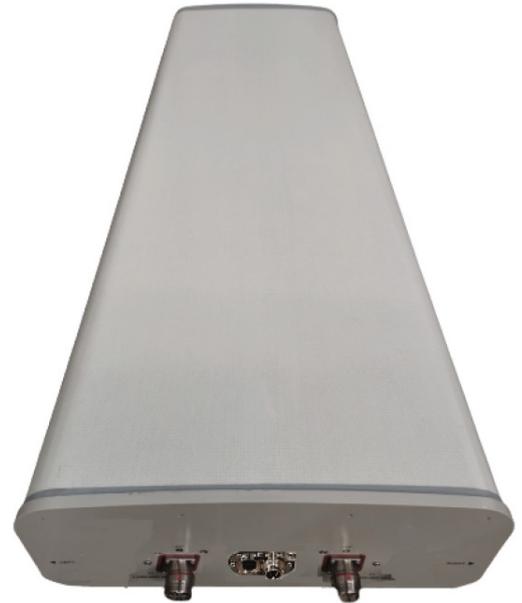


## APXVTY10AB\_MQ-C-I20

### Features

This antenna offers 4 columns (8 ports) for 3.5GHz beamforming. It is ideal for 5G introduction.

- Beamforming applications in the 3.5GHz band (3300-3800 MHz)
- Multiple individual beam control (Unit Beam)
- Single high powered beam option (Broadcast Beam)
- Beam steering flexibility (Service Beam)
- Calibration port functionality for precise steering performance
- Integrated and field replacable SRET
- ACU HW version: 2.02
- Compliant with AISG v2.0 and 3GPP



|                         |                         |  |
|-------------------------|-------------------------|--|
| <b>PRODUCT OVERVIEW</b> | Frequency Range (MHz)   | TDD 8T8R                                   |
|                         |                         | 3300-3800                                  |
|                         | Array                   | ■ P1                                       |
|                         | Connector               | (2x) Cluster Connector MQ4/MQ5             |
|                         | Polarization            | XPOL                                       |
|                         | Azimuth Beamwidth (avg) | 65° Unit Beam                              |
|                         | Electrical Downtilt     | 2-12°                                      |
|                         | Dimensions              | 1000 x 295 x 115 mm (39.4 x 11.6 x 4.5 in) |

### ORDERING OPTIONS

Select from the following ordering options

| ANTENNA MODEL NUMBER | CONFIGURATION                            | MOUNTING HARDWARE                  | MOUNTING PIPE DIAMETER | SHIPPING WEIGHT  |
|----------------------|--|------------------------------------|------------------------|------------------|
| APXVTY10AB_MQ-C-I20  | ACU-I20-B1<br>Integrated RET<br>Included | APM50-B1 Beam Tilt Kit<br>Included | 50-110 mm (2.0-4.3)    | 19 kg (41.9 lbs) |

## APXVTY10AB\_MQ-C-I20

### ELECTRICAL SPECIFICATIONS

### Cal. Board and S Parameter

|  |         |           |           |
|--|---------|-----------|-----------|
| Frequency Range                          | MHz     | 3300-3800 |           |
|  | MHz     | 3300-3600 | 3600-3800 |
| Coupling Between Cal. Port to Input Port | dB      | -26 ± 2   |           |
| Coupling Amplitude Accuracy              | dB      | ≤ 0.7     |           |
| Coupling Phase Accuracy                  | degrees | ≤ 5°      |           |
| VSWR                                     | ---     | ≤ 1.5     |           |
| Maximum Power                            | Watts   | 50 W      |           |
| ISO Co-Polar @ 2-6° tilt                 | dB      | ≥ 20      |           |
| ISO Co-Polar @ 7-12° tilt                | dB      | ≥ 25      |           |
| ISO Cross-Polar @ 2-6° tilt              | dB      | ≥ 25      |           |
| ISO Cross-Polar @ 7-12° tilt             | dB      | ≥ 27      |           |

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Unit Beam

|   |                |               |            |            |
|---|----------------|---------------|------------|------------|
| Frequency Range   | MHz            | 3300-3800     |            |            |
|   | MHz            | 3300-3600     | 3600-3800  |            |
| Polarization  | ---            | ±45°          |            |            |
| Gain  | Over all Tilts | dBi           | 15.6 ± 0.5 | 15.9 ± 1   |
|   | Max Gain       | dBi           | 16.1       | 16.9       |
| Azimuth Beamwidth (3 dB)                                      | degrees        | 70.6° ± 10.9° |            | 64° ± 7.5° |
| Elevation Beamwidth (3 dB)                                    | degrees        | 6.1° ± 0.5°   |            | 6° ± 0.4°  |
| Electrical Downtilt   | degrees        | 2-12°         |            |            |
| Impedance   | Ohms           | 50Ω           |            |            |
| VSWR  | ---            | 1.5:1         |            |            |
| Front-to-Back Ratio, Total Power, ± 30°                       | dB             | 18            |            | 19         |
| First Upper Side Lobe Suppression                             | dB             | 17            |            | 19         |
| Cross-Pol Over Sector   | dB             | 8             |            | 7          |
| Cross Polar Discrimination (XPD) at Mechanical Boresight (0°) | dB             | 21            |            | 20         |

Specifications follow BASTA guidelines.

## APXVTY10AB\_MQ-C-I20

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Broadcasting Beam

| Frequency Range                         |                | MHz     | 3300-3800   |              |
|---|----------------|---------|-------------|--------------|
|   |                | MHz     | 3300-3600   | 3600-3800    |
| Polarization                            |                | ---     | ±45°        |              |
| Gain                                    | Over all Tilts | dBi     | 15.9 ± 1    | 16.1 ± 0.5   |
|   | Max Gain       | dBi     | 16.9        | 16.6         |
| Azimuth Beamwidth (3 dB)                |                | degrees | 67° ± 5.9°  | 57.5° ± 6.3° |
| Elevation Beamwidth (3 dB)              |                | degrees | 6.1° ± 0.5° | 5.9° ± 0.5°  |
| Electrical Downtilt                     |                | degrees | 2-12°       |              |
| Impedance                               |                | Ohms    | 50Ω         |              |
| VSWR                                    |                | ---     | 1.5:1       |              |
| Front-to-Back Ratio, Total Power, ± 30° |                | dB      | 20          | 21           |
| First Upper Side Lobe Suppression       |                | dB      | 17.4        | 19           |

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Working Beam

| Frequency Range                         |                | MHz     | 3300-3800    |              |
|---|----------------|---------|--------------|--------------|
|   |                | MHz     | 3300-3600    | 3600-3800    |
| Polarization                            |                | ---     | ±45°         |              |
| Gain                                    | Over all Tilts | dBi     | 20.8 ± 0.5   | 20.4 ± 0.5   |
|   | Max Gain       | dBi     | 21.3         | 20.9         |
| Azimuth Beamwidth (3 dB)                |                | degrees | 19.8° ± 0.5° | 18.7° ± 0.5° |
| Elevation Beamwidth (3 dB)              |                | degrees | 6.1° ± 0.5°  | 5.9° ± 0.5°  |
| Electrical Downtilt                     |                | degrees | 2-12°        |              |
| Impedance                               |                | Ohms    | 50Ω          |              |
| VSWR                                    |                | ---     | 1.5:1        |              |
| Front-to-Back Ratio, Total Power, ± 30° |                | dB      | 23           | 24           |
| First Upper Side Lobe Suppression       |                | dB      | 18.6         | 20           |

Specifications follow BASTA guidelines.

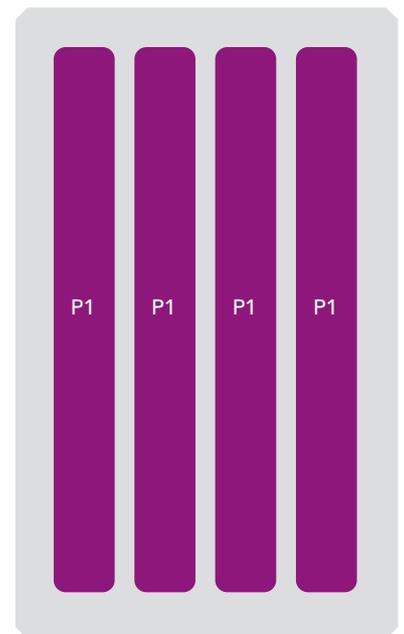
# APXVTY10AB\_MQ-C-I20

## BOTTOM VIEW - LABELING



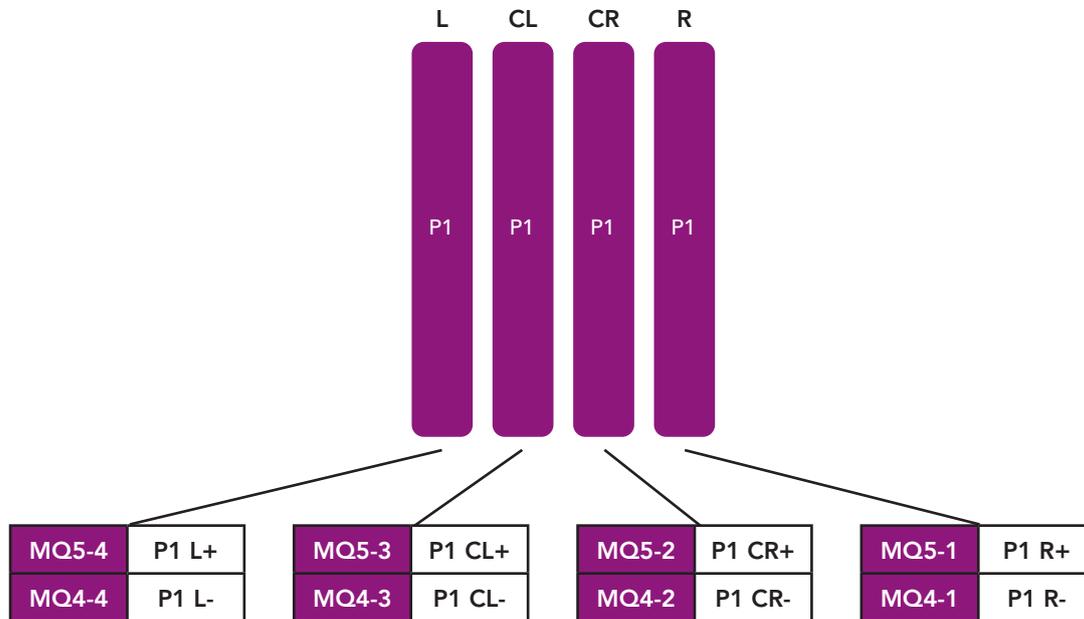
## ARRAY LAYOUT

| ARRAY | FREQUENCY     | CONNECTOR | CONNECTOR TYPE                 |
|-------|---------------|-----------|--------------------------------|
| ■ P1  | 3300-3800 MHz | 1         | (1x) Cluster Connector MQ4/MQ5 |
|       | 3300-3800 MHz |           |                                |
|       | 3300-3800 MHz | 2         | (1x) Cluster Connector MQ4/MQ5 |
|       | 3300-3800 MHz |           |                                |



The illustration is not shown to scale.

# APXVTY10AB\_MQ-C-I20



Physical array and port mapping according to AISG naming convention:  
Left - Center Left - Center Right - Right (seen from front of antenna)

TDD 8T8R

65° UNIT BEAM

1000 mm

INTEGRATED RET

MQ4/MQ5 CONNECTORS

## APXVTY10AB\_MQ-C-I20

### MECHANICAL SPECIFICATIONS

|  |                                       |   |
|--|---------------------------------------|---|
| Length                                     | mm (in)                               | 1000 (39.4)   |
| Width                                      | mm (in)                               | 295 (11.6)  |
| Depth                                      | mm (in)                               | 115 (4.5)   |
| Net Weight - Antenna Only                  | kg (lbs)                              | 10.5 (23.1)   |
| Net Weight - Mounting Hardware Only        | kg (lbs)                              | 4.5 (9.9)   |
| Wind Load<br>Rated at<br>150 km/h (93 mph) | Front                                 | N (lbf) 218 (49)  |
|  | Side                                  | N (lbf) 224 (50)  |
|  | Rear                                  | N (lbf) 253 (57)  |
| Survival Wind Speed / Rated Wind Speed     | km/h (mph)                            | 200 (150)   |
| Connector Type                             | --                                    | (2x) Cluster Connectors MQ4/MQ5,<br>(2x) AISG Connectors (1 Male, 1 Female) at Bottom |
| Radome Color                               | ---                                   | Light Grey RAL7035  |
| Radome Material                            | ---                                   | ASA or Fiberglass   |
| Lightning Protection                       | ---                                   | DC Ground   |
| <b>Shipping</b>                            | Packing Size (Length x Width x Depth) | mm (in) 1280 x 380 x 210 (50.4 x 15.0 x 8.3)  |
|  | Shipping Weight                       | kg (lbs) 19 (41.9)  |

### ENVIRONMENTAL SPECIFICATIONS

|                                  |         |                                  |
|----------------------------------|---------|----------------------------------|
| Environmental Standard           | ---     | ETS 300 019                      |
| Operating Temperature            | degrees | -40° to +60° C (-40° to +140° F) |
| Product Environmental Compliance | ---     | Product is RoHS Compliant        |

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

## APXVTY10AB\_MQ-C-I20

**ACCESSORIES** Accessories may be ordered separately unless otherwise indicated.

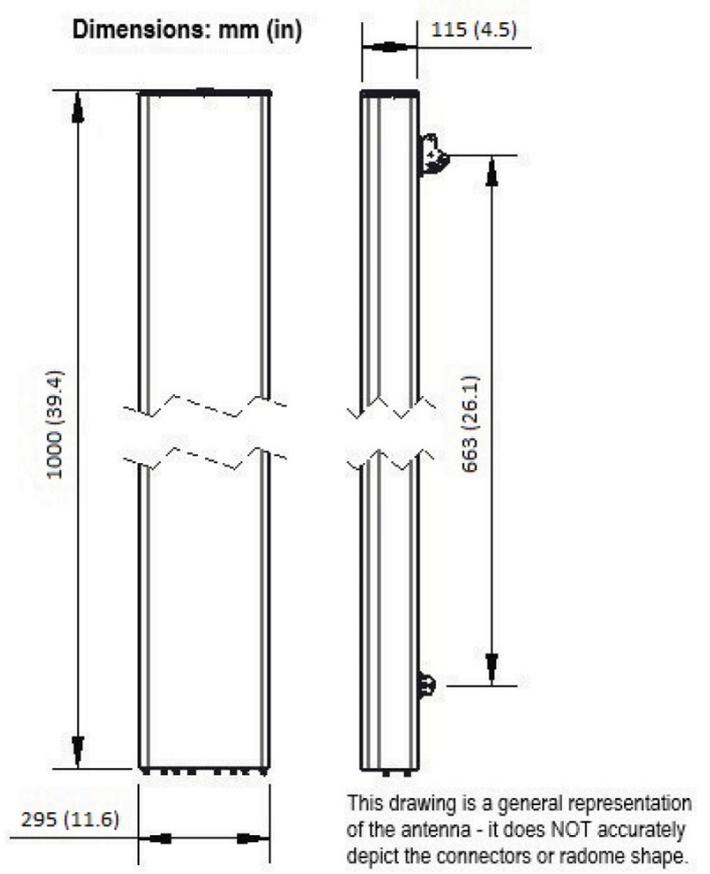
| ITEM  | MODEL NUMBER | WEIGHT           |
|---|--------------|------------------|
| Beam Tilt Mounting Bracket Kit<br>for Pole Diameter 50-110 mm (2.0-4.3 in)<br><i>Shipped with antenna</i> | APM50-B1     | 4.5 kg (9.9 lbs) |

**INSTALLATION** Please read all installation notes before installing product.

|  |  |
|--|--|
|  | Always attach the antenna using all mounting points.       |
|  | Do not install antenna with the connectors facing upwards. |

**EXTERNAL DOCUMENT LINKS**

[APM50 Mounting Kit Series Installation Instructions](#)



**NOTES**

- Specifications follow BASTA guidelines.
- Horizontal dipole column spacing: 55mm.
- MQ4/MQ5 cluster connectivity follow NGMN.
- For additional mounting information, please check **External Document Links**.
- For Radiating Patterns: [Request pattern files](#)

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