

65°

1498 mm

INTEGRATED RET

SITE SHARING OPTIONAL

## APXVBLL15H2\_43-C-I20

APXVBLL15H2\_43-A-I20, APXVBLL15H2\_43-C-I20S, APXVBLL15H2\_43-A-I20S

### Features

- 4 ports / 2 cross pol systems in low band (690-960 MHz)
- 4 ports / 2 cross pol systems in high band (1695-2690 MHz)
- Supports 4x4 MIMO in low band and high band
- Integrated and field replaceable SRET
- Optional with Site Sharing feature (Model name suffix -C-I20S, -A-I20S)
- Optional with Direct Pipe No Tilt mounting hardware (Model name suffix -A-I20, -A-I20S)
- Compliant with AISG v2.0 and 3GPP
- Optimized radome for low windload



|                  |  |              |      |                |      |
|------------------|--|--------------|------|----------------|------|
| PRODUCT OVERVIEW | Frequency Range (MHz)                    | (2x) 690-960 |      | (2x) 1695-2690 |      |
|                  | Array                                    | ■ R1         | ■ R2 | ■ Y1           | ■ Y2 |
|                  | Connector                                | 1-2          | 3-4  | 5-6            | 7-8  |
|                  |  | 8 PORTS      |      |                |      |
|                  | Polarization                             | XPOL         |      |                |      |
|                  | Azimuth Beamwidth (avg)                  | 65°          |      | 65°            |      |
|                  | Electrical Downtilt                      | 2-12°        |      | 2-12°          |      |
| Dimensions       | 1498 x 469 x 205 mm (59 x 18.5 x 8.1 in) |              |      |                |      |

### ORDERING OPTIONS Select from the following ordering options

| ANTENNA MODEL NUMBER  | CONFIGURATION   | MOUNTING HARDWARE   | MOUNTING PIPE DIAMETER    | SHIPPING WEIGHT       | MOUNTING HARDWARE WEIGHT |
|-----------------------|---|---|---------------------------|-----------------------|--------------------------|
| APXVBLL15H2_43-C-I20  | ACU-I20-H12J<br>Internal RET Included                 | APM50-H2<br>Beam Tilt Kit Included                        | 50-125 mm<br>(2.0-4.9 in) | 35.8 kg<br>(78.9 lbs) | 5.5 kg (12.1 lbs)        |
| APXVBLL15H2_43-A-I20  | ACU-I20-H12J<br>Internal RET Included                 | APM50-H2N<br>Direct Pipe No Tilt<br>Mounting Kit Included | 50-125 mm<br>(2.0-4.9 in) | 34.3 kg<br>(75.6 lbs) | 4 kg (8.8 lbs)           |
| APXVBLL15H2_43-C-I20S | ACU-X20H<br>Internal RET for Site<br>Sharing Included | APM50-H2<br>Beam Tilt Kit Included                        | 50-125 mm<br>(2.0-4.9 in) | 35.9 kg<br>(79.1 lbs) | 5.5 kg (12.1 lbs)        |
| APXVBLL15H2_43-A-I20S | ACU-X20H<br>Internal RET for Site<br>Sharing Included | APM50-H2N<br>Direct Pipe No Tilt<br>Mounting Kit Included | 50-125 mm<br>(2.0-4.9 in) | 34.4 kg<br>(75.8 lbs) | 4 kg (8.8 lbs)           |



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.

## APXVBBLL15H2\_43-C-I20

APXVBBLL15H2\_43-A-I20, APXVBBLL15H2\_43-C-I20S, APXVBBLL15H2\_43-A-I20S

### ELECTRICAL SPECIFICATIONS

■ R1

|  |                |         |                |              |              |
|--|----------------|---------|----------------|--------------|--------------|
| Frequency Range  |                | MHz     | 690-960        |              |              |
|  |                | MHz     | 690-806        | 790-894      | 880-960      |
| Polarization   |                | ---     | ±45°           |              |              |
| Gain   | Over all Tilts | dBi     | 14.3 ± 0.7     | 14.8 ± 0.5   | 14.8 ± 0.4   |
|  | Max Gain       | dBi     | 15.0           | 15.3         | 15.2         |
| Azimuth Beamwidth (3 dB)   |                | degrees | 61° ± 4.9°     | 58.1° ± 5.2° | 57.8° ± 7°   |
| Elevation Beamwidth (3 dB)                                       |                | degrees | 14.6° ± 1.1°   | 13.6° ± 1.0° | 12.9° ± 0.9° |
| Electrical Downtilt  |                | degrees | 2-12°          |              |              |
| Impedance  |                | Ohms    | 50Ω            |              |              |
| VSWR (Return Loss)   |                | ---     | 1.5:1 (-14 dB) |              |              |
| Passive Intermodulation<br>3rd Order for 2x20 W Carriers         |                | dBc     | -153           |              |              |
| Front-to-Back Ratio, Total Power, ± 30°                          |                | dB      | 18.1           | 20.9         | 21.1         |
| First Upper Side Lobe Suppression                                |                | dB      | 13.9           | 14.8         | 13.7         |
| Cross Polar Discrimination Over Sector                           |                | dB      | 10.1           | 9            | 6            |
| Cross Polar Discrimination (XPD)<br>at Mechanical Boresight (0°) |                | dB      | 22.7           | 23           | 22.8         |
| Maximum Effective Power Per Port                                 |                | Watts   | 250 W          |              |              |
| Cross Polar Isolation  |                | dB      | 26             |              |              |
| Interband Isolation  |                | dB      | 26             |              |              |

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

■ R2

|  |                |         |                |              |              |
|--|----------------|---------|----------------|--------------|--------------|
| Frequency Range  |                | MHz     | 690-960        |              |              |
|  |                | MHz     | 690-806        | 790-894      | 880-960      |
| Polarization   |                | ---     | ±45°           |              |              |
| Gain   | Over all Tilts | dBi     | 14.4 ± 0.6     | 14.8 ± 0.5   | 14.8 ± 0.4   |
|  | Max Gain       | dBi     | 15.0           | 15.3         | 15.2         |
| Azimuth Beamwidth (3 dB)   |                | degrees | 63.3° ± 6.6°   | 59.5° ± 5.9° | 60.6° ± 7.7° |
| Elevation Beamwidth (3 dB)                                       |                | degrees | 14.6° ± 1.0°   | 13.5° ± 0.9° | 12.9° ± 0.8° |
| Electrical Downtilt  |                | degrees | 2-12°          |              |              |
| Impedance  |                | Ohms    | 50Ω            |              |              |
| VSWR (Return Loss)   |                | ---     | 1.5:1 (-14 dB) |              |              |
| Passive Intermodulation<br>3rd Order for 2x20 W Carriers         |                | dBc     | -153           |              |              |
| Front-to-Back Ratio, Total Power, ± 30°                          |                | dB      | 19.5           | 21.2         | 20.7         |
| First Upper Side Lobe Suppression                                |                | dB      | 14.3           | 15.4         | 14.3         |
| Cross Polar Discrimination Over Sector                           |                | dB      | 10.6           | 9.9          | 5.8          |
| Cross Polar Discrimination (XPD)<br>at Mechanical Boresight (0°) |                | dB      | 22.7           | 24.6         | 25.7         |
| Maximum Effective Power Per Port                                 |                | Watts   | 250 W          |              |              |
| Cross Polar Isolation  |                | dB      | 26             |              |              |
| Interband Isolation  |                | dB      | 26             |              |              |

Specifications follow BASTA guidelines.

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.

65°

1498 mm

INTEGRATED RET

SITE SHARING OPTIONAL

## APXVBBLL15H2\_43-C-I20

APXVBBLL15H2\_43-A-I20, APXVBBLL15H2\_43-C-I20S, APXVBBLL15H2\_43-A-I20S

### ELECTRICAL SPECIFICATIONS

■ Y1

| Frequency Range  |                | MHz     | 1695-2690      |             |              |              |              |
|--|----------------|---------|----------------|-------------|--------------|--------------|--------------|
|  |                | MHz     | 1695-1880      | 1850-1990   | 1920-2170    | 2300-2400    | 2490-2690    |
| Polarization   |                | ---     | ±45°           |             |              |              |              |
| Gain   | Over all Tilts | dBi     | 16.5 ± 0.6     | 17.2 ± 0.4  | 17.5 ± 0.5   | 17.3 ± 0.5   | 17.5 ± 0.5   |
|  | Max Gain       | dBi     | 17.1           | 17.6        | 18.0         | 17.8         | 18.0         |
| Azimuth Beamwidth (3 dB)   |                | degrees | 68.7° ± 4.9°   | 64° ± 5.5°  | 61.6° ± 4.1° | 62.2° ± 6.4° | 60.9° ± 6.3° |
| Elevation Beamwidth (3 dB)                                       |                | degrees | 6.5° ± 0.4°    | 6.2° ± 0.3° | 5.8° ± 0.5°  | 5.3° ± 0.2°  | 4.9° ± 0.3°  |
| Electrical Downtilt  |                | degrees | 2-12°          |             |              |              |              |
| Impedance  |                | Ohms    | 50Ω            |             |              |              |              |
| VSWR (Return Loss)   |                | ---     | 1.5:1 (-14 dB) |             |              |              |              |
| Passive Intermodulation<br>3rd Order for 2x20 W Carriers         |                | dBc     | -153           |             |              |              |              |
| Front-to-Back Ratio, Total Power, ± 30°                          |                | dB      | 24.9           | 26.4        | 25.5         | 25           | 25.4         |
| First Upper Side Lobe Suppression                                |                | dB      | 15.1           | 16.3        | 16.2         | 19.4         | 18.2         |
| Cross Polar Discrimination Over Sector                           |                | dB      | 4.4            | 7.6         | 4.9          | 3.5          | 0.3          |
| Cross Polar Discrimination (XPD)<br>at Mechanical Boresight (0°) |                | dB      | 18.8           | 25.8        | 21.7         | 17.8         | 20.9         |
| Maximum Effective Power Per Port                                 |                | Watts   | 250 W          |             |              |              |              |
| Cross Polar Isolation  |                | dB      | 26             |             |              |              |              |
| Interband Isolation  |                | dB      | 28             |             |              |              |              |

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

■ Y2

| Frequency Range  |                | MHz     | 1695-2690      |             |              |              |              |
|--|----------------|---------|----------------|-------------|--------------|--------------|--------------|
|  |                | MHz     | 1695-1880      | 1850-1990   | 1920-2170    | 2300-2400    | 2490-2690    |
| Polarization   |                | ---     | ±45°           |             |              |              |              |
| Gain   | Over all Tilts | dBi     | 16.6 ± 0.6     | 17.3 ± 0.5  | 17.4 ± 0.4   | 17.2 ± 0.5   | 17.6 ± 0.5   |
|  | Max Gain       | dBi     | 17.2           | 17.8        | 17.8         | 17.7         | 18.1         |
| Azimuth Beamwidth (3 dB)   |                | degrees | 67.5° ± 3.1°   | 64° ± 4.1°  | 61.9° ± 3.5° | 61.2° ± 6.6° | 61.3° ± 6.1° |
| Elevation Beamwidth (3 dB)                                       |                | degrees | 6.6° ± 0.4°    | 6.1° ± 0.3° | 5.8° ± 0.5°  | 5.2° ± 0.3°  | 4.8° ± 0.3°  |
| Electrical Downtilt  |                | degrees | 2-12°          |             |              |              |              |
| Impedance  |                | Ohms    | 50Ω            |             |              |              |              |
| VSWR (Return Loss)   |                | ---     | 1.5:1 (-14 dB) |             |              |              |              |
| Passive Intermodulation<br>3rd Order for 2x20 W Carriers         |                | dBc     | -153           |             |              |              |              |
| Front-to-Back Ratio, Total Power, ± 30°                          |                | dB      | 25.5           | 27.3        | 26           | 26           | 25.2         |
| First Upper Side Lobe Suppression                                |                | dB      | 16.4           | 16.7        | 16.6         | 22           | 20.4         |
| Cross Polar Discrimination Over Sector                           |                | dB      | 5.7            | 8.2         | 5.2          | 2.3          | 0.5          |
| Cross Polar Discrimination (XPD)<br>at Mechanical Boresight (0°) |                | dB      | 17.5           | 24          | 22.7         | 17.9         | 20           |
| Maximum Effective Power Per Port                                 |                | Watts   | 250 W          |             |              |              |              |
| Cross Polar Isolation  |                | dB      | 26             |             |              |              |              |
| Interband Isolation  |                | dB      | 28             |             |              |              |              |

Specifications follow BASTA guidelines.

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.

## APXVBBLL15H2\_43-C-I20

APXVBBLL15H2\_43-A-I20, APXVBBLL15H2\_43-C-I20S, APXVBBLL15H2\_43-A-I20S

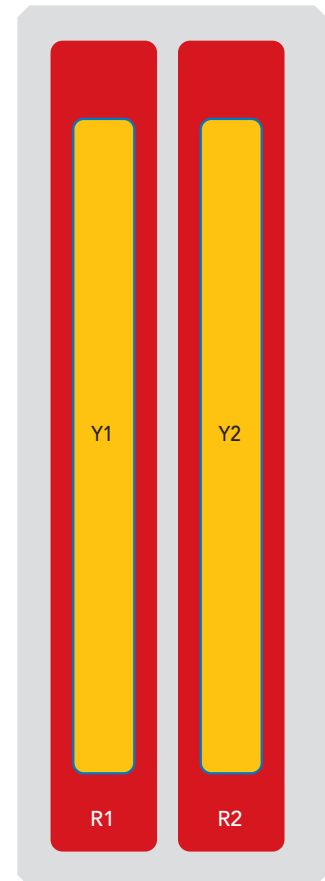
### BOTTOM VIEW - LABELING



### ARRAY LAYOUT

| ARRAY                                    | FREQUENCY     | CONNECTOR | CONNECTOR TYPE     | RET | AISG RET UID    |
|--|---------------|-----------|--------------------|-----|-----------------|
| <span style="color: red;">■</span> R1    | 690-960 MHz   | 1-2       | (2x) 4.3-10 Female | R1  | RFxxxxxxxxxx-R1 |
| <span style="color: red;">■</span> R2    | 690-960 MHz   | 3-4       | (2x) 4.3-10 Female | R2  | RFxxxxxxxxxx-R2 |
| <span style="color: yellow;">■</span> Y1 | 1695-2690 MHz | 5-6       | (2x) 4.3-10 Female | Y1  | RFxxxxxxxxxx-Y1 |
| <span style="color: yellow;">■</span> Y2 | 1695-2690 MHz | 7-8       | (2x) 4.3-10 Female | Y2  | RFxxxxxxxxxx-Y2 |

**NOTE: RET motors will tilt one at a time, not simultaneously**



The illustration is not shown to scale.

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.

65°

1498 mm

INTEGRATED RET

SITE SHARING OPTIONAL

## APXVBBLL15H2\_43-C-I20

APXVBBLL15H2\_43-A-I20, APXVBBLL15H2\_43-C-I20S, APXVBBLL15H2\_43-A-I20S

### MECHANICAL SPECIFICATIONS

|  |                                       |  |
|--|---------------------------------------|--|
| Length                                     | mm (in)                               | 1498 (59.0)  |
| Width                                      | mm (in)                               | 469 (18.5)   |
| Depth                                      | mm (in)                               | 205 (8.1)  |
| Net Weight - Antenna Only                  | kg (lbs)                              | 25.5 (56.2)  |
| Wind Load<br>Rated at<br>150 km/h (93 mph) | Frontal, Resultant                    | N (lbf) 416 (94)   |
|  | Side, Resultant                       | N (lbf) 431 (97)   |
|  | Rear, Resultant                       | N (lbf) 433 (97)   |
|  | Maximum, Resultant                    | N (lbf) 691 (155)  |
|  | Maximum, Drag Force                   | N (lbf) 549 (123)  |
| Survival Wind Speed                        | km/h (mph)                            | 200 (124)  |
| Connector Type                             | --                                    | (8x) 4.3-10 Female, (2x) AISG Connectors (1 Male, 1 Female) at Bottom<br>Site Sharing: (4x) AISG Connectors (2 Male, 2 Female) at Bottom |
| Radome Color                               | ---                                   | Light Grey RAL7035   |
| Radome Material                            | ---                                   | Fiberglass   |
| Lightning Protection                       | ---                                   | Direct Ground  |
| <b>Shipping</b>                            | Packing Size (Length x Width x Depth) | mm (in) 1678 x 544 x 315 (66.1 x 21.4 x 12.4)  |

### 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.

65°

1498 mm

INTEGRATED RET

SITE SHARING OPTIONAL

## APXVBBLL15H2\_43-C-I20

APXVBBLL15H2\_43-A-I20, APXVBBLL15H2\_43-C-I20S, APXVBBLL15H2\_43-A-I20S

### ACCESSORIES

Accessories may be ordered separately unless otherwise indicated.

| ITEM   | MODEL NUMBER | WEIGHT            |
|--|--------------|-------------------|
| Beam Tilt Mounting Bracket Kit for Pole Diameter 50-125 mm (2.0-4.9 in)<br><i>Refer to ordering options</i>  | APM50-H2     | 5.5 kg (12.1 lbs) |
| Direct Pipe No Tilt Bracket Kit for Pole Diameter 50-125 mm (2.0-4.9 in)<br><i>Refer to ordering options</i> | APM50-H2N    | 4.0 kg (8.8 lbs)  |

### INSTALLATION

Please read all installation notes before installing product.

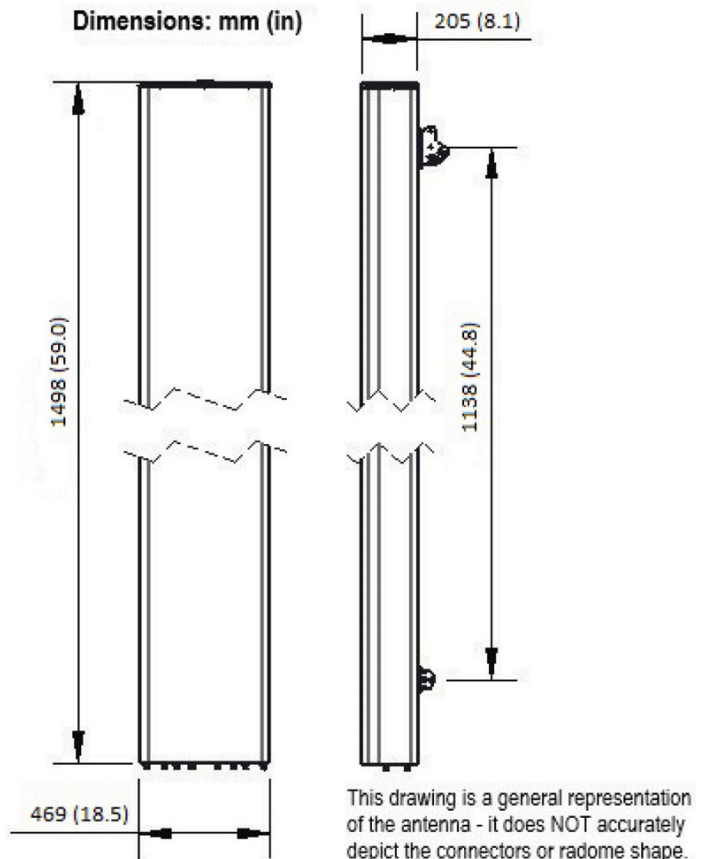


Always attach the antenna using all mounting points.

Do not install antenna with the connectors facing upwards.

### EXTERNAL DOCUMENT LINKS

[APM50 Mounting Kit Series Installation Instructions](#)



### NOTES

Specifications follow BASTA guidelines.

For additional mounting information, please check **External Document Links**.

For Radiating Patterns: [Request pattern files](#)