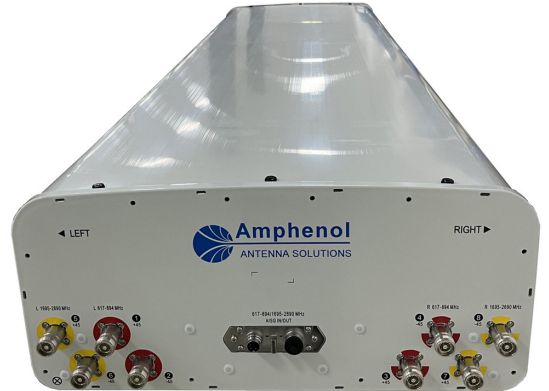


APXVAALL24M-U-J20

Features

- Narrow 499 mm radome for reduced windloading and easier zoning
- MIMO 4x4 in low-band and mid-band
- Integrated and field replaceable RET
- ACU model number: ACU-X20-N2
- Ships in VSRET mode
- Compliant with AISG v2.0 and 3GPP
- Mechanical downtilt kit included



| | | | | | |
|-------------------------|-------------------------|--|------|----------------|------|
| PRODUCT OVERVIEW | Frequency Range (MHz) | (2x) 617-894 | | (2x) 1695-2690 | |
| | Array | ■ R1 | ■ R2 | ■ Y1 | ■ Y2 |
| | Connector | 1-2 | 3-4 | 5-6 | 7-8 |
| | | 4 PORTS | | 4 PORTS | |
| | Polarization | XPOL | | XPOL | |
| | Azimuth Beamwidth (avg) | 65° | | 65° | |
| | Electrical Downtilt | 2-12° | | 2-12° | |
| | Dimensions | 2432 x 499 x 215 mm (95.7 x 19.7 x 8.5 in) | | | |

ORDERING OPTIONS Select from the following ordering options

| ANTENNA MODEL NUMBER | CONFIGURATION | MOUNTING HARDWARE | MOUNTING PIPE DIAMETER | SHIPPING WEIGHT |
|----------------------|---|--|------------------------|-----------------|
| APXVAALL24M-U-J20 | ACU-X20-N2 Field Replaceable RET Included | APM40-5E Beam Tilt Kit and APM40-E10T Included | 60-120 mm (2.4-4.7 in) | 48 kg (106 lbs) |



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APXVAALL24M-U-J20

ELECTRICAL SPECIFICATIONS

■ R1 ■ R2

| Frequency Range | | MHz | (2x) 617-894 | | |
|---|----------------|---------|--------------------------------------|-------------|-------------|
| | | MHz | 617-698 | 698-806 | 806-894 |
| Polarization | | --- | ±45° | | |
| Gain | Over all Tilts | dBi | 15.2 ± 0.6 | 16.0 ± 0.4 | 16.2 ± 0.6 |
| | Max Gain | dBi | 15.8 | 16.4 | 16.8 |
| Azimuth Beamwidth (3 dB) | | degrees | 70° ± 7° | 60° ± 8° | 57° ± 5° |
| Elevation Beamwidth (3 dB) | | degrees | 9.8° ± 0.6° | 9.1° ± 0.5° | 8.1° ± 0.5° |
| Electrical Downtilt | | degrees | 2-12° | | |
| Impedance | | Ohms | 50Ω | | |
| VSWR (Return Loss) | | --- | 1.5:1 (-14 dB) | | |
| Passive Intermodulation | | dBc | -153 (3rd Order for 2x40 W Carriers) | | |
| Front-to-Back Ratio, Total Power, ± 30° | | dB | 19 | 20 | 22 |
| Front-to-Back at 180° Copolar | | dB | 28 | 25 | 30 |
| Upper Side Lobe Suppression, Peak to +20° | | dB | 15 | 17 | 19 |
| First Upper Side Lobe | | dB | 15 | 17 | 19 |
| Cross-Pol Over Sector | | dB | 10 | 7 | 5 |
| Cross Polar Discrimination (XPD) at Mechanical Boresight (0°) | | dB | 18 | 22 | 20 |
| Maximum Effective Power Per Port | | Watts | 300 W | | |
| Cross Polar Isolation | | dB | 25 | 25 | 25 |
| Interband Isolation | | dB | 25 | 25 | 25 |

ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2

| Frequency Range | | MHz | (2x) 1695-2690 | | | |
|---|----------------|---------|--------------------------------------|-------------|-------------|-------------|
| | | MHz | 1695-1880 | 1850-1990 | 1995-2200 | 2200-2690 |
| Polarization | | --- | ±45° | | | |
| Gain | Over all Tilts | dBi | 17.5 ± 0.6 | 18.1 ± 0.6 | 18.4 ± 0.6 | 18.8 ± 0.8 |
| | Max Gain | dBi | 18.1 | 18.7 | 19.0 | 19.6 |
| Azimuth Beamwidth (3 dB) | | degrees | 62° ± 6° | 61° ± 5° | 61° ± 4° | 53° ± 7° |
| Elevation Beamwidth (3 dB) | | degrees | 5.5° ± 0.4° | 5.1° ± 0.3° | 4.8° ± 0.3° | 4.0° ± 0.3° |
| Electrical Downtilt | | degrees | 2-12° | | | |
| Impedance | | Ohms | 50Ω | | | |
| VSWR (Return Loss) | | --- | 1.5:1 (-14 dB) | | | |
| Passive Intermodulation | | dBc | -153 (3rd Order for 2x40 W Carriers) | | | |
| Front-to-Back Ratio, Total Power, ± 30° | | dB | 23 | 24 | 24 | 24 |
| Front-to-Back at 180° Copolar | | dB | 30 | 31 | 31 | 29 |
| Upper Side Lobe Suppression, Peak to +20° | | dB | 15 | 16 | 15 | 14 |
| First Upper Side Lobe | | dB | 15 | 17 | 16 | 15 |
| Cross-Pol Over Sector | | dB | 8 | 8 | 6 | 2 |
| Cross Polar Discrimination (XPD) at Mechanical Boresight (0°) | | dB | 20 | 22 | 15 | 18 |
| Maximum Effective Power Per Port | | Watts | 250 W | | | |
| Cross Polar Isolation | | dB | 25 | 25 | 25 | 25 |
| Interband Isolation | | dB | 25 | 25 | 25 | 25 |

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APXVAALL24M-U-J20

RET ACTUATOR

| | | | |
|-------------------------|----------------------------|---|-----------|
| Frequency | MHz | 617-894 | 1695-2690 |
| Model Number | --- | ACU-X20-N2 | |
| Number of RET Actuators | --- | 1 | |
| RET ID | --- | R1 | Y1 |
| Input Voltage | Vdc | 10-30V | |
| Power Consumption | Idle State, maximum | Watts | |
| | Normal Conditions, maximum | Watts | |
| Protocol | --- | 3GPP / AISG v2.0 | |
| Tilt Change Duration | --- | Less than 15 seconds, typical (may vary depending on antenna type and outdoor temperature) | |
| Precision | degrees | ± 0.1° | |
| Tilt Change Capability | --- | 18,000 minimum | |
| RET Interface | --- | One AISG Male and One AISG Female | |
| Field Replaceable Unit | --- | Yes | |
| Location | --- | Semi-internal | |

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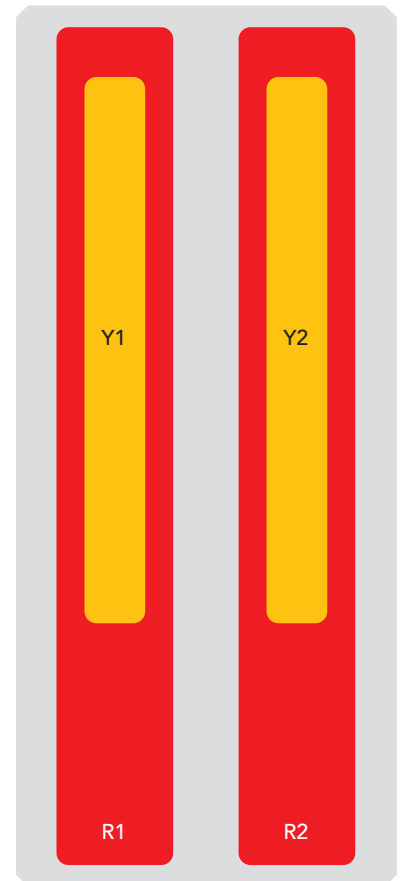
APXVAALL24M-U-J20

BOTTOM VIEW - LABELING



ARRAY LAYOUT

| ARRAY | FREQUENCY | CONNECTOR | CONNECTOR TYPE | RET | AISG RET UID |
|-------|---------------|-----------|--------------------|-----|------------------|
| R1 | 617-894 MHz | 1-2 | (2x) 4.3-10 Female | R1 | RFxxxxxxxxxx-2R1 |
| R2 | 617-894 MHz | 3-4 | (2x) 4.3-10 Female | | |
| Y1 | 1695-2690 MHz | 5-6 | (2x) 4.3-10 Female | Y1 | RFxxxxxxxxxx-2Y1 |
| Y2 | 1695-2700 MHz | 7-8 | (2x) 4.3-10 Female | | |



The illustration is not shown to scale.

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APXVAALL24M-U-J20

MECHANICAL SPECIFICATIONS

| | | | |
|--|---------------------------------------|------------|--|
| Length | | mm (in) | 2432 (95.7) |
| Width | | mm (in) | 499 (19.7) |
| Depth | | mm (in) | 215 (8.5) |
| Net Weight - Antenna Only | | kg (lbs) | 33 (73) |
| Net Weight - Mounting Hardware Only | | kg (lbs) | 8.8 (19.4) |
| Wind Load Rated at 150 km/h (93 mph) | Front | N (lbf) | 816 (183) |
| | Side | N (lbf) | 701 (158) |
| | Rear | N (lbf) | 969 (218) |
| | Maximum | N (lbf) | 1580 (355) |
| Survival Wind Speed | | km/h (mph) | 240 (150) |
| Connector Type | | -- | (8x) 4.3-10 Female at Bottom |
| Radome Color | | --- | Light Grey RAL7035 |
| Radome Material | | --- | ASA |
| Lightning Protection | | --- | Direct Ground |
| Shipping | Packing Size (Length x Width x Depth) | mm (in) | 2642 x 560 x 285 (104.0 x 22.0 x 11.2) |
| | Shipping Weight | kg (lbs) | 48 (106) |

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 |

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APXVAALL24M-U-J20

ACCESSORIES

Accessories may be ordered separately unless otherwise indicated.

| ITEM | MODEL NUMBER | WEIGHT |
|--|-------------------------|-------------------|
| Beam Tilt Mounting Bracket Kit and Interface Bracket for Pole Diameter 60-120 mm (2.4-4.7 in) <i>Shipped with antenna</i> | APM40-5E and APM40-E10T | 8.8 kg (19.4 lbs) |

INSTALLATION

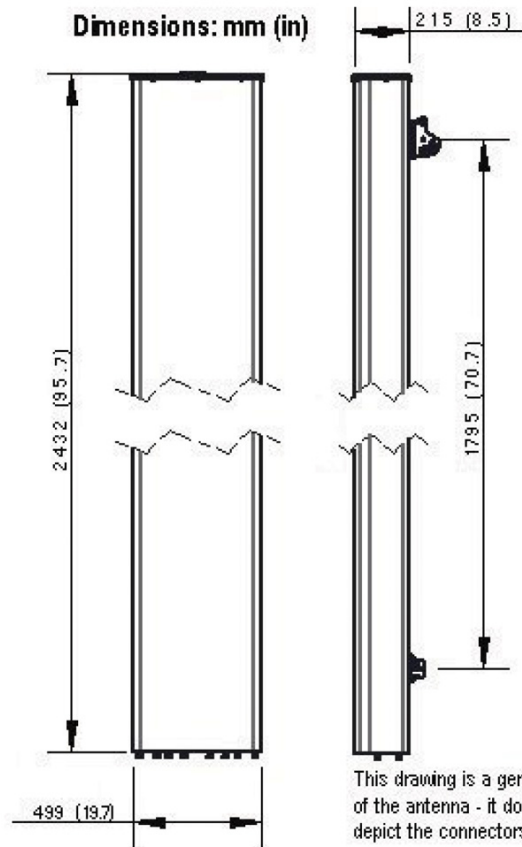
Please read all installation notes before installing product.



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

EXTERNAL DOCUMENT LINKS

[APM40 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](#)