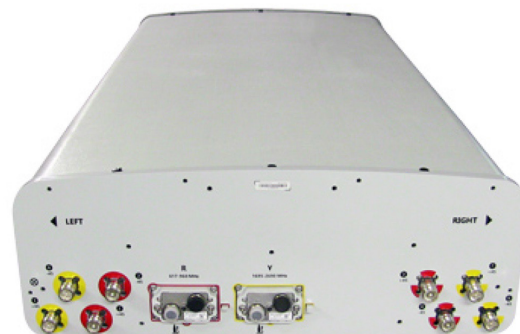


APXVAALL24_43-U-NA20

Features

- MIMO 4x4 in low-band and mid-band
- Integrated and field replaceable RET
- ACU model number: x2 ACU-A20-SR, ACU HW 05
- Compliant with AISG v2.0 and 3GPP
- AISG jumper cable included
- Mechanical downtilt kit included



| PRODUCT OVERVIEW | Frequency Range (MHz) | (2x) 617-894 | | (2x) 1695-2690 | |
|------------------|-------------------------|--|---------------------------|---------------------------|---------------------------|
| | Array | <div><div></div> R1</div> | <div><div></div> R2</div> | <div><div></div> Y1</div> | <div><div></div> Y2</div> |
| | 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 | 2435 x 610 x 225 mm (95.9 x 24.0 x 8.9 in) | | | |

ORDERING OPTIONS Select from the following ordering options

| ANTENNA MODEL NUMBER | CONFIGURATION | MOUNTING HARDWARE | MOUNTING PIPE DIAMETER | SHIPPING WEIGHT |
|----------------------|---|---|------------------------|-----------------|
| APXVAALL24_43-U-NA20 | ACU-A20-SR Field Replacable RET, included (2) | APM40-5E Beam tilt kit and APM40-E10T, included | 60-120 mm (2.4-4.7 in) | 70 kg (154 lbs) |

APXVAALL24_43-U-NA20

ELECTRICAL SPECIFICATIONS

■ R1 ■ R2

| | | | | | |
|---|----------------|---------|--------------------------------------|-------------|-------------|
| Frequency Range | | MHz | (2x) 617-894 | | |
| | | MHz | 617-698 | 698-806 | 806-894 |
| Polarization | | --- | ±45° | | |
| Gain | Over all Tilts | dBi | 15.6 ± 0.7 | 16.5 ± 0.6 | 16.3 ± 0.7 |
| | Max Gain | dBi | 16.3 | 17.1 | 17.0 |
| Azimuth Beamwidth (3 dB) | | degrees | 65° ± 2° | 64° ± 2° | 62° ± 5° |
| Elevation Beamwidth (3 dB) | | degrees | 9.9° ± 1.0° | 8.6° ± 0.8° | 7.5° ± 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 | 17 | 19 | 23 |
| Front-to-Back at 180° Copolar | | dB | 29 | 30 | 32 |
| Upper Side Lobe Suppression, Peak to +20° | | dB | 16 | 14 | 13 |
| First Upper Side Lobe | | dB | 14 | 14 | 14 |
| Cross-Pol Over Sector | | dB | 4 | 4 | 6 |
| Cross Polar Discrimination (XPD) at Mechanical Boresight (0°) | | dB | 17 | 19 | 17 |
| Maximum Effective Power Per Port | | Watts | 400 W | | |
| Cross-Polar Isolation | | dB | 25 | | |

ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2

| | | | | | | |
|---|----------------|---------|--------------------------------------|-------------|-------------|-------------|
| Frequency Range | | MHz | (2x) 1695-2690 | | | |
| | | MHz | 1695-1780 | 1850-1990 | 1995-2200 | 2200-2690 |
| Polarization | | --- | ±45° | | | |
| Gain | Over all Tilts | dBi | 17.4 ± 0.5 | 17.8 ± 0.6 | 18.2 ± 1.0 | 18.0 ± 0.6 |
| | Max Gain | dBi | 17.9 | 18.4 | 19.2 | 18.6 |
| Azimuth Beamwidth (3 dB) | | degrees | 67° ± 5° | 65° ± 4° | 66° ± 8° | 59° ± 6° |
| Elevation Beamwidth (3 dB) | | degrees | 6.0° ± 0.2° | 5.0° ± 0.5° | 4.5° ± 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 | 25 | 23 | 22 | 19 |
| Front-to-Back at 180° Copolar | | dB | 31 | 30 | 29 | 27 |
| Upper Side Lobe Suppression, Peak to +20° | | dB | 14 | 14 | 14 | 13 |
| First Upper Side Lobe | | dB | 15 | 15 | 15 | 14 |
| Cross-Pol Over Sector | | dB | 8 | 8 | 8 | 2 |
| Cross Polar Discrimination (XPD) at Mechanical Boresight (0°) | | dB | 22 | 18 | 14 | 18 |
| Maximum Effective Power Per Port | | Watts | 300 W | | | |
| Cross-Polar Isolation | | dB | 25 | | | |

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.

APXVAALL24_43-U-NA20

RET ACTUATOR

| | | | |
|-------------------------|----------------------------|---|-------------------------------|
| Frequency | MHz | 617-894 | 1695-2690 |
| Model Number | --- | ACU-A20-SR | ACU-A20-SR |
| Number of RET Actuators | --- | 1 | 1 |
| RET ID | --- | R1 | Y1 |
| Input Voltage | Vdc | 10-30V | |
| Power Consumption | Idle State, maximum | Watts | 0.5W @ 10V, 1.5W @ 30V |
| | Normal Conditions, maximum | Watts | 4W @ 10V, 9W @ 30V |
| 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 pair AISG Male and Female | Two pair AISG Male and Female |
| Field Replaceable Unit | --- | Yes | |
| Location | --- | Semi-internal | |

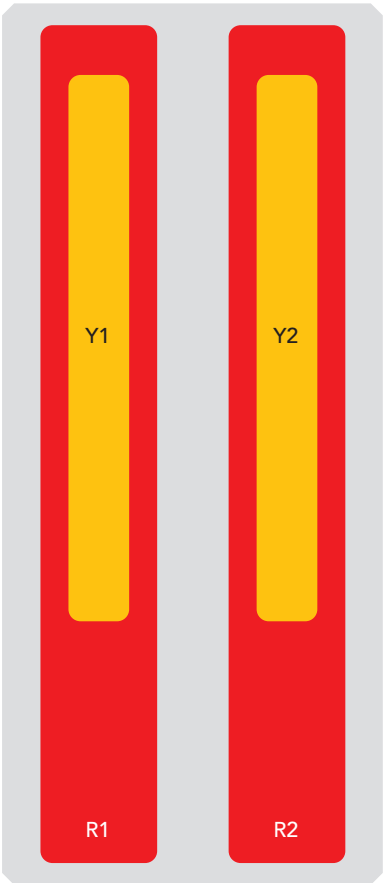
APXVAALL24_43-U-NA20

BOTTOM VIEW - LABELING



ARRAY LAYOUT

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



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.

APXVAALL24_43-U-NA20

MECHANICAL SPECIFICATIONS

| | | | |
|--|---------------------------------------|------------|--|
| Length | | mm (in) | 2435 (95.9) |
| Width | | mm (in) | 610 (24.0) |
| Depth | | mm (in) | 225 (8.9) |
| Net Weight - Antenna Only | | kg (lbs) | 54 (119) |
| Net Weight - Mounting Hardware Only | | kg (lbs) | 8.5 (19.0) |
| Wind Load Rated at 150 km/h (93 mph) | Front | N (lbf) | 1428 (321) |
| | Side | N (lbf) | 434 (98) |
| | Rear | N (lbf) | 1544 (347) |
| Survival Wind Speed | | km/h (mph) | 240 (150) |
| Connector Type | | --- | (8x) 4.3-10 Female at Bottom |
| Radome Color | | --- | Light Grey RAL7035 |
| Radome Material | | --- | Fiberglass |
| Lightning Protection | | --- | Direct Ground |
| Shipping | Packing Size (Length x Width x Depth) | mm (in) | 2610 x 735 x 285 (102.8 x 28.9 x 11.2) |
| | Shipping Weight | kg (lbs) | 70 (154) |

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 |

APXVAALL24_43-U-NA20

ACCESSORIES Accessories may be ordered separately unless otherwise indicated.

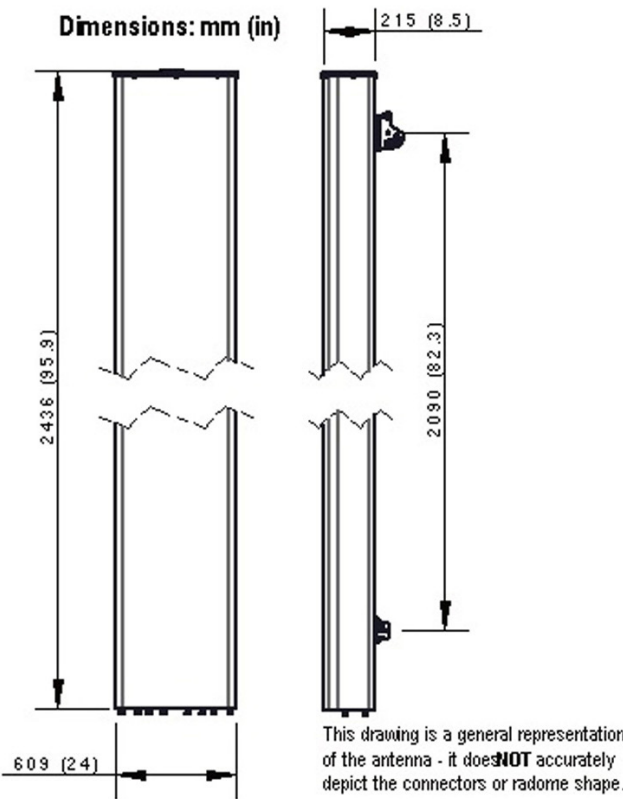
| ITEM | MODEL NUMBER | WEIGHT |
|--|-------------------------|-----------------|
| Beam Tilt Mounting Bracket Kit and Interface Bracket for Pole Diameter 60-120 mm (2.4-4.7 in) <i>Shipped with antenna</i> | APM40-5E and APM40-E10T | 8.5 kg (19 lbs) |

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 |