

# RRZZ2VV-6533B-R8



16-port sector/multibeam antenna 4x 694–960 MHz, 4x 1427–2690 MHz 65° HPBW and 8x 1710–2690 MHz 2x 2-Beam 33°HPBW, 8x RET

- GREEN and High Capacity Antenna Solution
- Enhances network capacity through six sectors on high band while maintaining low band coverage layer through three sectors with only three antenna faces
- Innovative aerodynamic shape optimized for reduced wind loading in every direction
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios
- "Green" packaging of reduced size and gross weight that uses less material and reduces shipping pollution

## General Specifications

|   |  |
|---|--|
| <b>Antenna Type</b>                     | DualPol® multibeam   |
| <b>Band</b>                             | Multiband  |
| <b>Color</b>                            | Light Gray (RAL 7035)  |
| <b>Grounding Type</b>                   | RF connector inner conductor and body grounded to reflector and mounting bracket |
| <b>Performance Note</b>                 | Outdoor usage  |
| <b>Radome Material</b>                  | Fiberglass, UV resistant   |
| <b>Radiator Material</b>                | Low loss circuit board   |
| <b>Reflector Material</b>               | Aluminum   |
| <b>RF Connector Interface</b>           | 4.3-10 Female  |
| <b>RF Connector Location</b>            | Bottom   |
| <b>RF Connector Quantity, high band</b> | 12   |
| <b>RF Connector Quantity, low band</b>  | 4  |
| <b>RF Connector Quantity, total</b>     | 16   |

## Remote Electrical Tilt (RET) Information

|   |                                   |
|---|-----------------------------------|
| <b>RET Hardware</b>                             | CommRET v2                        |
| <b>RET Interface</b>                            | 8-pin DIN Female   8-pin DIN Male |
| <b>RET Interface, quantity</b>                  | 2 female   2 male                 |
| <b>Input Voltage</b>                            | 10–30 Vdc                         |
| <b>Internal RET</b>                             | High band (6)   Low band (2)      |
| <b>Power Consumption, active state, maximum</b> | 8 W                               |

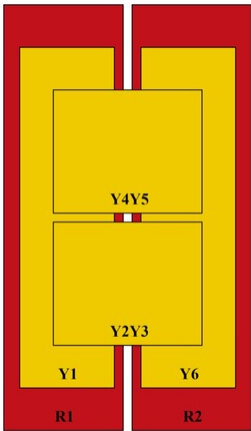
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**Power Consumption, idle state, maximum** 1 W  
**Protocol** 3GPP/AISG 2.0 (Single RET)

## Dimensions

**Width** 498 mm | 19.606 in  
**Depth** 197 mm | 7.756 in  
**Length** 2100 mm | 82.677 in  
**Net Weight, antenna only** 46 kg | 101.413 lb

## Array Layout



| Array ID | Frequency (MHz) | RF Connector | RET (SRET) | AISG RET UID     |
|----------|-----------------|--------------|------------|------------------|
| R1       | 694-960         | 1 - 2        | 1          | CPxxxxxxxxxxxxR1 |
| R2       | 694-960         | 3 - 4        | 2          | CPxxxxxxxxxxxxR2 |
| Y1       | 1427-2690       | 5 - 6        | 3          | CPxxxxxxxxxxxxY1 |
| Y2       | 1710-2690       | 7 - 8        | 4          | CPxxxxxxxxxxxxY2 |
| Y3       | 1710-2690       | 9 - 10       | 5          | CPxxxxxxxxxxxxY3 |
| Y4       | 1710-2690       | 11 - 12      | 6          | CPxxxxxxxxxxxxY4 |
| Y5       | 1710-2690       | 13 - 14      | 7          | CPxxxxxxxxxxxxY5 |
| Y6       | 1427-2690       | 15 - 16      | 8          | CPxxxxxxxxxxxxY6 |

(Sizes of colored boxes are not true depictions of array sizes)

## Port Configuration

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## Electrical Specifications

|                                   |   |
|-----------------------------------|---|
| <b>Impedance</b>                  | 50 ohm  |
| <b>Operating Frequency Band</b>   | 1427 – 2690 MHz   1710 – 2690 MHz   694 – 960 MHz |
| <b>Polarization</b>               | ±45°  |
| <b>Total Input Power, maximum</b> | 1,700 W @ 50 °C                                   |

## Electrical Specifications

|  | R1,R2          | R1,R2          | R1,R2          | Y1,Y6            | Y1,Y6            | Y1,Y6            | Y1,Y6            | Y1,Y6            |
|--|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Frequency Band, MHz</b>               | <b>694–806</b> | <b>790–896</b> | <b>890–960</b> | <b>1427–1518</b> | <b>1695–1990</b> | <b>1920–2300</b> | <b>2300–2500</b> | <b>2490–2690</b> |
| <b>RF Port</b>                           | 1,2,3,4        | 1,2,3,4        | 1,2,3,4        | 5,6,15,16        | 5,6,15,16        | 5,6,15,16        | 5,6,15,16        | 5,6,15,16        |
| <b>Beam Centers, Horizontal, degrees</b> | ±0             | ±0             | ±0             | ±0               | ±0               | ±0               | ±0               | ±0               |
| <b>Beamwidth, Horizontal, degrees</b>    | 73             | 66             | 66             | 78               | 76               | 68               | 58               | 56               |
| <b>Beamwidth, Vertical, degrees</b>      | 10.9           | 9.7            | 9.1            | 7.9              | 6.6              | 5.9              | 5.2              | 4.9              |

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|   |          |          |          |          |          |          |          |          |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>Beam Tilt, degrees</b>                           | 2-12     | 2-12     | 2-12     | 2-12     | 2-12     | 2-12     | 2-12     | 2-12     |
| <b>USLS (First Lobe), dB</b>                        | 17       | 17       | 17       | 19       | 18       | 19       | 21       | 21       |
| <b>Front-to-Back Ratio at 180°, dB</b>              | 27       | 30       | 29       | 33       | 33       | 31       | 34       | 34       |
| <b>Front-to-Back Total Power at 180° ± 30°, dB</b>  | 22       | 22       | 20       | 22       | 24       | 24       | 26       | 24       |
| <b>CPR at Boresight, dB</b>                         | 20       | 19       | 18       | 21       | 18       | 19       | 22       | 22       |
| <b>CPR at Sector, dB</b>                            | 12       | 9        | 9        | 6        | 9        | 4        | 10       | 9        |
| <b>Isolation, Cross Polarization, dB</b>            | 25       | 25       | 25       | 25       | 25       | 25       | 25       | 25       |
| <b>Isolation, Inter-band, dB</b>                    | 25       | 25       | 25       | 25       | 25       | 25       | 25       | 25       |
| <b>VSWR   Return loss, dB</b>                       | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| <b>PIM, 3rd Order, 2 x 20 W, dBc</b>                | -153     | -153     | -153     | -153     | -153     | -153     | -153     | -153     |
| <b>Input Power per Port at 50°C, maximum, watts</b> | 300      | 300      | 300      | 200      | 200      | 200      | 200      | 200      |

## Electrical Specifications, BASTA

| <b>Frequency Band, MHz</b>                  | <b>694-806</b> | <b>790-896</b> | <b>890-960</b> | <b>1427-1518</b> | <b>1695-1990</b> | <b>1920-2300</b> | <b>2300-2500</b> | <b>2490-2690</b> |
|---|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Gain by all Beam Tilts, average, dBi</b> | 14.2           | 14.5           | 14.6           | 14.3             | 15.8             | 16.8             | 17.8             | 17.8             |
| <b>Gain by all Beam Tilts</b>               | ±0.5           | ±0.6           | ±0.6           | ±0.3             | ±0.6             | ±0.9             | ±0.5             | ±0.6             |

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Tolerance,  
dB

|   |      |      |      |      |      |      |      |      |
|---|------|------|------|------|------|------|------|------|
| <b>Beamwidth, Horizontal Tolerance, degrees</b> | ±8   | ±6   | ±6   | ±9   | ±6   | ±8   | ±4   | ±4   |
| <b>Beamwidth, Vertical Tolerance, degrees</b>   | ±0.9 | ±0.6 | ±0.7 | ±0.4 | ±0.6 | ±0.5 | ±0.4 | ±0.4 |
| <b>USLS, beampeak to 20° above beampeak, dB</b> | 17   | 16   | 16   | 14   | 16   | 17   | 18   | 17   |

## Electrical Specifications

|  | Y2-Y5                | Y2-Y5                | Y2-Y5                | Y2-Y5                |
|--|----------------------|----------------------|----------------------|----------------------|
| Frequency Band, MHz                                | 1710–1990            | 1920–2300            | 2300–2500            | 2490–2690            |
| <b>RF Port</b>                                     | 7,8,9,10,11,12,13,14 | 7,8,9,10,11,12,13,14 | 7,8,9,10,11,12,13,14 | 7,8,9,10,11,12,13,14 |
| <b>Beam Centers, Horizontal, degrees</b>           | ±27                  | ±27                  | ±27                  | ±27                  |
| <b>Beamwidth, Horizontal, degrees</b>              | 34                   | 32                   | 28                   | 26                   |
| <b>Beamwidth, Vertical, degrees</b>                | 8.3                  | 7.5                  | 6.7                  | 6.2                  |
| <b>Beam Tilt, degrees</b>                          | 2–12                 | 2–12                 | 2–12                 | 2–12                 |
| <b>USLS (First Lobe), dB</b>                       | 16                   | 17                   | 19                   | 18                   |
| <b>Front-to-Back Ratio at 180°, dB</b>             | 36                   | 36                   | 34                   | 33                   |
| <b>Front-to-Back Total Power at 180° ± 30°, dB</b> | 30                   | 29                   | 28                   | 27                   |
| <b>CPR at</b>                                      | 17                   | 21                   | 18                   | 19                   |

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|   |          |          |          |          |
|---|----------|----------|----------|----------|
| <b>Boresight,<br/>dB</b>  |          |          |          |          |
| <b>Isolation,<br/>Cross<br/>Polarization,<br/>dB</b>                | 25       | 25       | 25       | 25       |
| <b>Isolation,<br/>Inter-band,<br/>dB</b>                            | 25       | 25       | 25       | 25       |
| <b>Isolation,<br/>Beam to<br/>Beam, dB</b>                          | 17       | 17       | 17       | 17       |
| <b>VSWR  <br/>Return loss,<br/>dB</b>                               | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| <b>PIM, 3rd<br/>Order, 2 x<br/>20 W, dBc</b>                        | -153     | -153     | -153     | -153     |
| <b>Input Power<br/>per Port at<br/>50°C,<br/>maximum,<br/>watts</b> | 200      | 200      | 200      | 200      |

## Electrical Specifications, BASTA

| <b>Frequency<br/>Band, MHz</b>                              | <b>1710–1990</b> | <b>1920–2300</b> | <b>2300–2500</b> | <b>2490–2690</b> |
|---|------------------|------------------|------------------|------------------|
| <b>Gain by all<br/>Beam Tilts,<br/>average, dBi</b>         | 16.7             | 17.9             | 18.2             | 18.4             |
| <b>Gain by all<br/>Beam Tilts<br/>Tolerance,<br/>dB</b>     | ±1.1             | ±1               | ±1.1             | ±0.6             |
| <b>Beamwidth,<br/>Horizontal<br/>Tolerance,<br/>degrees</b> | ±3               | ±3               | ±3               | ±2               |
| <b>Beamwidth,<br/>Vertical<br/>Tolerance,<br/>degrees</b>   | ±0.6             | ±0.6             | ±0.4             | ±0.5             |
| <b>USLS,<br/>beampeak<br/>to 20° above</b>                  | 15               | 17               | 15               | 14               |

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beampeak,  
dB

CPR at 10 dB      7                      10                      10                      11

Horizontal  
Beamwidth,  
dB

## Mechanical Specifications

|   |   |
|---|---|
| <b>Effective Projective Area (EPA), frontal</b> | 0.68 m <sup>2</sup>   7.319 ft <sup>2</sup> |
| <b>Effective Projective Area (EPA), lateral</b> | 0.21 m <sup>2</sup>   2.26 ft <sup>2</sup>  |
| <b>Wind Loading @ Velocity, frontal</b>         | 714.0 N @ 150 km/h (160.5 lbf @ 150 km/h)   |
| <b>Wind Loading @ Velocity, lateral</b>         | 187.0 N @ 150 km/h (42.0 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, maximum</b>         | 949.0 N @ 150 km/h (213.3 lbf @ 150 km/h)   |
| <b>Wind Loading @ Velocity, rear</b>            | 491.0 N @ 150 km/h (110.4 lbf @ 150 km/h)   |
| <b>Wind Speed, maximum</b>                      | 241 km/h (150 mph)                          |

## Packaging and Weights

|                       |                      |
|-----------------------|----------------------|
| <b>Width, packed</b>  | 565 mm   22.244 in   |
| <b>Depth, packed</b>  | 309 mm   12.165 in   |
| <b>Length, packed</b> | 2287 mm   90.039 in  |
| <b>Weight, gross</b>  | 60.4 kg   133.159 lb |

## Regulatory Compliance/Certifications

| Agency        | Classification   |
|---------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |



## Included Products

|          |   |  |
|----------|---|--|
| BSAMNT-4 | – | Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set. |
|----------|---|--|

## \* Footnotes

|                         |   |
|-------------------------|---|
| <b>Performance Note</b> | Severe environmental conditions may degrade optimum performance |
|-------------------------|---|