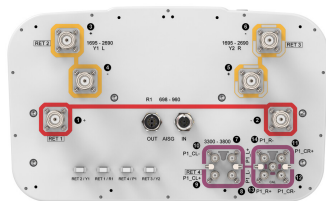


# RVVS4-65M-R4



14-port sector antenna, 2x 698-960(R1), 4x 1695-2690(Y1&Y2) MHz, 65° HPBW and 8x 3300-3800(P1) MHz, 90° HPBW, 4x RET.

- All Internal RET actuators are connected in “Cascaded SRET” configuration
- M-LOC cluster connector for 3.3-3.8GHz, equipped with calibration port
- Combination of FDD MIMO antenna and 3.5GHz 8T8R TDD beam forming antenna, all in one for 5G ready

## General Specifications

|                                  |                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------|
| Antenna Type                     | Sector                                                                           |
| Band                             | Multiband                                                                        |
| Calibration Connector Interface  | M-LOC                                                                            |
| Calibration Connector Quantity   | 1                                                                                |
| Color                            | Light Gray (RAL 7035)                                                            |
| Grounding Type                   | RF connector inner conductor and body grounded to reflector and mounting bracket |
| Performance Note                 | Outdoor usage                                                                    |
| Radome Material                  | Fiberglass, UV resistant                                                         |
| Radiator Material                | Low loss circuit board                                                           |
| Reflector Material               | Aluminum                                                                         |
| RF Connector Interface           | 4.3-10 Female   M-LOC                                                            |
| RF Connector Location            | Bottom                                                                           |
| RF Connector Quantity, high band | 8                                                                                |
| RF Connector Quantity, mid band  | 4                                                                                |
| RF Connector Quantity, low band  | 2                                                                                |
| RF Connector Quantity, total     | 14                                                                               |

## Remote Electrical Tilt (RET) Information

|                         |                                             |
|-------------------------|---------------------------------------------|
| RET Hardware            | CommRET v2                                  |
| RET Interface           | 8-pin DIN Female   8-pin DIN Male           |
| RET Interface, quantity | 1 female   1 male                           |
| Input Voltage           | 10–30 Vdc                                   |
| Internal RET            | High band (1)   Low band (1)   Mid band (2) |

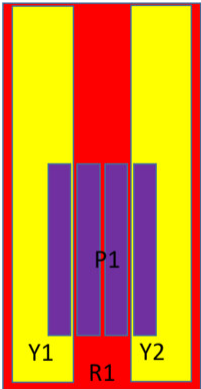
# RVVS4-65M-R4

|                                          |               |
|------------------------------------------|---------------|
| Power Consumption, active state, maximum | 10 W          |
| Power Consumption, idle state, maximum   | 2 W           |
| Protocol                                 | 3GPP/AISG 2.0 |

## Dimensions

|                                  |                    |
|----------------------------------|--------------------|
| Width                            | 350 mm   13.78 in  |
| Depth                            | 208 mm   8.189 in  |
| Length                           | 999 mm   39.331 in |
| Net Weight, without mounting kit | 17.4 kg   38.36 lb |
| TDD Column Spacing               | 41 mm   1.614 in   |

## Array Layout

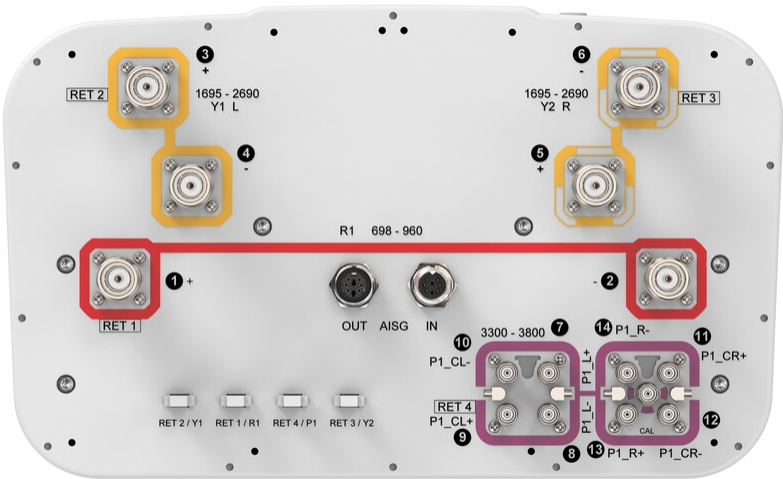


| Array | Freq (MHz) | Conns | RET (SRET) | AISG RET UID       |
|-------|------------|-------|------------|--------------------|
| R1    | 698-960    | 1-2   | 1          | CPxxxxxxxxxxxxxxR1 |
| Y1    | 1695-2690  | 3-4   | 2          | CPxxxxxxxxxxxxxxY1 |
| Y2    | 1695-2690  | 5-6   | 3          | CPxxxxxxxxxxxxxxY2 |
| P1    | 3300-3800  | 7-14  | 4          | CPxxxxxxxxxxxxxxP1 |

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

## Port Configuration

# RVVS4-65M-R4



## Electrical Specifications

|                            |                                                   |
|----------------------------|---------------------------------------------------|
| Impedance                  | 50 ohm                                            |
| Operating Frequency Band   | 1695 – 2690 MHz   3300 – 3800 MHz   698 – 960 MHz |
| Polarization               | ±45°                                              |
| Total Input Power, maximum | 800 W @ 50 °C                                     |

## Electrical Specifications

| Frequency Band, MHz                                     | 698–862 | 880–960 | 1695–1920 | 1920–2200 | 2300–2690 | 3300–3600 | 3600–3800 |
|---------------------------------------------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| Gain, dBi                                               | 13      | 13.4    | 15.6      | 15.8      | 15.9      | 15.5      | 15.8      |
| Beamwidth, Horizontal, degrees                          | 70      | 65      | 66        | 68        | 66        | 85        | 84        |
| Beamwidth, Vertical, degrees                            | 21.2    | 18.7    | 9.3       | 8.2       | 6.9       | 6.6       | 6.2       |
| Beam Tilt, degrees                                      | 4–18    | 4–18    | 2–12      | 2–12      | 2–12      | 0–10      | 0–10      |
| USLS (First Lobe), dB                                   | 15      | 17      | 15        | 15        | 16        | 16        | 15        |
| Front-to-Back Ratio at 180°, dB                         | 31      | 32      | 31        | 29        | 28        | 29        | 29        |
| Coupling level, Amp, Antenna port to Cal port, dB       |         |         |           |           |           | 26        | 26        |
| Coupling level, max Amp Δ, Antenna port to Cal port, dB |         |         |           |           |           | ±2        | ±2        |
| Coupler, max Amp Δ, Antenna port to Cal port, dB        |         |         |           |           |           | 0.9       | 0.9       |

# RVVS4-65M-R4

|                                                               |            |            |            |            |            |            |            |
|---------------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| Coupler, max Phase Δ,<br>Antenna port to Cal port,<br>degrees |            |            |            |            |            | 7          | 7          |
| CPR at Boresight, dB                                          | 20         | 20         | 21         | 22         | 18         | 16         | 17         |
| Isolation, Cross Polarization,<br>dB                          | 25         | 25         | 25         | 25         | 25         | 25         | 25         |
| Isolation, Inter-band, dB                                     | 25         | 25         | 25         | 25         | 25         | 25         | 25         |
| Isolation, Co-polarization, dB                                |            |            |            |            |            | 20         | 20         |
| VSWR   Return loss, dB                                        | 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 |
| PIM, 3rd Order, 2 x 20 W, dBc                                 | -150       | -150       | -150       | -150       | -150       | -140       | -140       |
| Input Power per Port at 50°C,<br>maximum, watts               | 200        | 200        | 200        | 200        | 150        | 75         | 75         |

## Electrical Specifications, Broadcast 65°

|                                                |  |                  |                  |
|------------------------------------------------|--|------------------|------------------|
| Frequency Band, MHz                            |  | <b>3300–3600</b> | <b>3600–3800</b> |
| Gain, dBi                                      |  | 16.6             | 17.1             |
| Beamwidth, Horizontal,<br>degrees              |  | 65               | 63               |
| Beamwidth, Vertical, degrees                   |  | 6.6              | 6.2              |
| Front-to-Back Total Power at<br>180° ± 30°, dB |  | 25               | 26               |
| USLS (First Lobe), dB                          |  | 20               | 20               |

## Electrical Specifications, Envelope Pattern

|                     |  |                  |                  |
|---------------------|--|------------------|------------------|
| Frequency Band, MHz |  | <b>3300–3600</b> | <b>3600–3800</b> |
| Gain, dBi           |  | 19.6             | 20               |

## Electrical Specifications, Service Beam

|                                                           |  |                  |                  |
|-----------------------------------------------------------|--|------------------|------------------|
| Frequency Band, MHz                                       |  | <b>3300–3600</b> | <b>3600–3800</b> |
| Steered 0° Gain, dBi                                      |  | 19.6             | 20               |
| Steered 0° Beamwidth,<br>Horizontal, degrees              |  | 27               | 24               |
| Steered 0° Front-to-Back<br>Total Power at 180° ± 30°, dB |  | 29               | 29               |
| Steered 0° Horizontal<br>Sidelobe, dB                     |  | 13               | 13               |
| Steered 30° Gain, dBi                                     |  | 18.7             | 19.3             |
| Steered 30° Beamwidth,<br>Horizontal, degrees             |  | 31               | 27               |

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|                                                            |    |    |
|------------------------------------------------------------|----|----|
| Steered 30° Front-to-Back<br>Total Power at 180° ± 30°, dB | 26 | 29 |
| Steered 30° Horizontal<br>Sidelobe, dB                     | 8  | 8  |

## Electrical Specifications, Soft Split

|                                                |           |           |
|------------------------------------------------|-----------|-----------|
| Frequency Band, MHz                            | 3300–3600 | 3600–3800 |
| Gain, dBi                                      | 18.6      | 19.1      |
| Beamwidth, Horizontal,<br>degrees              | 34        | 30        |
| Front-to-Back Total Power at<br>180° ± 30°, dB | 27        | 28        |

## Mechanical Specifications

|                                  |                                          |
|----------------------------------|------------------------------------------|
| Wind Loading @ Velocity, frontal | 152.0 N @ 150 km/h (34.2 lbf @ 150 km/h) |
| Wind Loading @ Velocity, lateral | 124.0 N @ 150 km/h (27.9 lbf @ 150 km/h) |
| Wind Loading @ Velocity, maximum | 322.0 N @ 150 km/h (72.4 lbf @ 150 km/h) |
| Wind Loading @ Velocity, rear    | 161.0 N @ 150 km/h (36.2 lbf @ 150 km/h) |
| Wind Speed, maximum              | 241 km/h (150 mph)                       |

## Packaging and Weights

|                |                     |
|----------------|---------------------|
| Width, packed  | 451 mm   17.756 in  |
| Depth, packed  | 368 mm   14.488 in  |
| Length, packed | 1142 mm   44.961 in |
| Weight, gross  | 27.9 kg   61.509 lb |

## Regulatory Compliance/Certifications

| Agency     | Classification                    |
|------------|-----------------------------------|
| CHINA-ROHS | Above maximum concentration value |
| ROHS       | Compliant/Exempted                |
| UK-ROHS    | Compliant/Exempted                |



## Included Products

|          |   |                                                                                                                                                                  |
|----------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BSAMNT-3 | – | 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. |
|----------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# RVVS4-65M-R4

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\* Footnotes

**Performance Note**      Severe environmental conditions may degrade optimum performance

