

RR2VVT4-6533D-R7



20-port sector/multibeam antenna, 4x 694–960 MHz 65° HPBW and 8x 1710-2690MHz 4x33° HPBW, 8x 2300-2690MHz, 90° HPBW 7x RET

- Enhances network capacity through six sectors on high band while maintaining low band coverage layer through three sectors with only three antenna faces
- Also includes 1x 4-Column Array for 2300-2690 MHz with calibration port. Column spacing optimized to support Soft Split Beamforming
- A calibration port is provided for the 4-Column Array. Seven Internal RET's provide independent electrical tilt control for each array

General Specifications

| | |
|---|--|
| Antenna Type | Sector- and beamforming |
| 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 |
| Reflector Material | Aluminum |
| RF Connector Interface | 4.3-10 Female M-LOC |
| RF Connector Location | Bottom |
| RF Connector Quantity, high band | 16 |
| RF Connector Quantity, low band | 4 |
| RF Connector Quantity, total | 20 |

Remote Electrical Tilt (RET) Information

| | |
|--------------------------------|-----------------------------------|
| RET Hardware | CommRET v2 |
| RET Interface | 8-pin DIN Female 8-pin DIN Male |
| RET Interface, quantity | 2 female 2 male |
| Input Voltage | 10–30 Vdc |
| Internal RET | High band (5) Low band (2) |

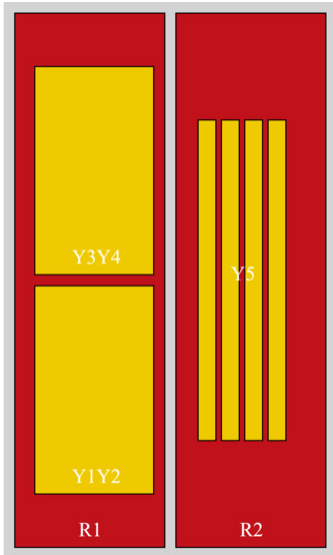
RR2VVT4-6533D-R7

| | |
|---|---------------|
| Power Consumption, active state, maximum | 8 W |
| Power Consumption, idle state, maximum | 1 W |
| Protocol | 3GPP/AISG 2.0 |

Dimensions

| | |
|---|----------------------|
| Width | 579 mm 22.795 in |
| Depth | 212 mm 8.346 in |
| Length | 2688 mm 105.827 in |
| Net Weight, without mounting kit | 63.5 kg 139.993 lb |

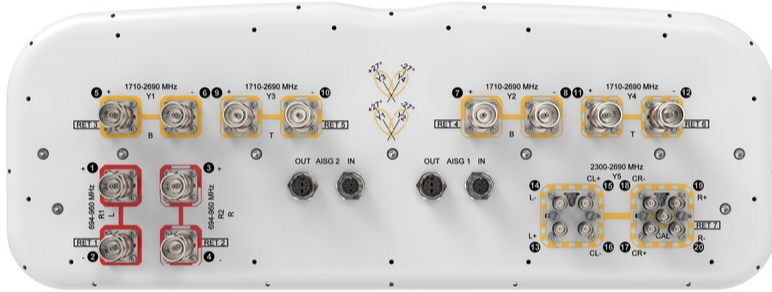
Array Layout



| RF Connector | Array ID | Frequency (MHz) | RET | AISG RET UID |
|--------------|----------|-----------------|-----|------------------|
| 1 - 2 | R1 | 694-960 | 1 | CPxxxxxxxxxxxxR1 |
| 3 - 4 | R2 | 694-960 | 2 | CPxxxxxxxxxxxxR2 |
| 5 - 6 | Y1 | 1710-2690 | 3 | CPxxxxxxxxxxxxY1 |
| 7 - 8 | Y2 | 1710-2690 | 4 | CPxxxxxxxxxxxxY2 |
| 9 - 10 | Y3 | 1710-2690 | 5 | CPxxxxxxxxxxxxY3 |
| 11 - 12 | Y4 | 1710-2690 | 6 | CPxxxxxxxxxxxxY4 |
| 13 - 20 | Y5 | 2300-2690 | 7 | CPxxxxxxxxxxxxY5 |

Port Configuration

RR2VVT4-6533D-R7



Electrical Specifications

| | |
|-----------------------------------|---|
| Impedance | 50 ohm |
| Operating Frequency Band | 1710 – 2690 MHz 2300 – 2690 MHz 694 – 960 MHz |
| Polarization | ±45° |
| Total Input Power, maximum | 1,800 W @ 50 °C |

Electrical Specifications

| Frequency Band, MHz | 694–790 | 790–890 | 890–960 | 1710–1880 | 1850–1990 | 1920–2180 | 2300–2690 | 2300–2690 |
|--|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| Gain, dBi | 16 | 16.4 | 16.7 | 18.5 | 19.3 | 19.8 | 20.5 | 16.2 |
| Beam Centers, Horizontal, degrees | | | | ±27 | ±27 | ±27 | ±27 | |
| Beamwidth, Horizontal, | 69 | 62 | 60 | 33 | 32 | 31 | 27 | 99 |

RR2VVT4-6533D-R7

degrees

| | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|
| Beamwidth, Vertical, degrees | 8.7 | 8 | 7.2 | 7.4 | 7 | 6.6 | 5.4 | 5.2 |
| Beam Tilt, degrees | 2-12 | 2-12 | 2-12 | 2-12 | 2-12 | 2-12 | 2-12 | 2-12 |
| USLS (First Lobe), dB | 17 | 20 | 18 | 18 | 18 | 18 | 19 | 18 |
| Front-to-Back Ratio at 180°, dB | 32 | 32 | 33 | 36 | 35 | 36 | 33 | 29 |
| Coupling level, Amp, Antenna port to Cal port, dB | | | | | | | | 26 |
| Coupling level, max Amp Δ, Antenna port to Cal port, dB | | | | | | | | ±2 |
| Coupler, max Amp Δ, Antenna port to Cal port, dB | | | | | | | | 0.9 |
| Coupler, max Phase Δ, Antenna port to Cal port, degrees | | | | | | | | 7 |
| Isolation, Cross Polarization, dB | 28 | 28 | 28 | 25 | 25 | 25 | 25 | 25 |
| Isolation, Inter-band, dB | 28 | 28 | 28 | 25 | 25 | 25 | 25 | 25 |
| Isolation, Co-polarization, dB | | | | | | | | 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 | 1.5 14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc | -150 | -150 | -150 | -150 | -150 | -150 | -150 | -150 |
| Input Power per Port at 50°C, maximum, watts | 300 | 300 | 300 | 250 | 250 | 250 | 200 | 150 |

Electrical Specifications, BASTA

| Frequency Band, MHz | 694-790 | 790-890 | 890-960 | 1710-1880 | 1850-1990 | 1920-2180 | 2300-2690 | 2300-2690 |
|--|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|
| Gain by all Beam Tilts, average, dBi | 15.7 | 16.2 | 16.4 | 17.7 | 18.7 | 19.3 | 19.9 | 15.7 |
| Gain by all Beam Tilts Tolerance, dB | ±0.6 | ±0.3 | ±0.3 | ±1.3 | ±0.5 | ±0.7 | ±0.8 | ±0.5 |
| Beamwidth, Horizontal Tolerance, degrees | ±7 | ±4 | ±5 | ±4 | ±3 | ±3 | ±3 | ±9 |
| Beamwidth, Vertical Tolerance, degrees | ±0.6 | ±0.4 | ±0.3 | ±0.5 | ±0.4 | ±0.5 | ±0.4 | ±0.4 |
| USLS, beampeak to 20° above beampeak, dB | 15 | 16 | 14 | 14 | 16 | 17 | 16 | 16 |
| Front-to-Back Total Power at 180° ± 30°, dB | 26 | 25 | 25 | 30 | 30 | 31 | 28 | 23 |
| CPR at Boresight, dB | 17 | 19 | 19 | 14 | 16 | 19 | 20 | 16 |
| CPR at Sector, dB | 9 | 6 | 7 | | | | | 9 |

RR2VVT4-6533D-R7

CPR at 10 dB Horizontal
Beamwidth, dB

6

9

11

13

Electrical Specifications, Broadcast 65°

Frequency Band, MHz

2300–2690

Gain, dBi

17.6

Beamwidth, Horizontal,
degrees

64

Beamwidth, Vertical, degrees

5.1

Front-to-Back Total Power at
180° ± 30°, dB

25

USLS (First Lobe), dB

18

Electrical Specifications, Service Beam

Frequency Band, MHz

2300–2690

Steered 0° Gain, dBi

21.5

Steered 0° Beamwidth,
Horizontal, degrees

26

Steered 0° Front-to-Back
Total Power at 180° ± 30°, dB

31

Steered 0° USLS (First Lobe),
dB

21

Steered 30° Gain, dBi

20.8

Steered 30° Beamwidth,
Horizontal, degrees

28

Steered 30° Front-to-Back
Total Power at 180° ± 30°, dB

28

Electrical Specifications, Soft Split

Frequency Band, MHz

2300–2690

Gain, dBi

20.5

Beamwidth, Horizontal,
degrees

33

Front-to-Back Total Power at
180° ± 30°, dB

30

Horizontal Sidelobe, dB

20

USLS (First Lobe), dB

20

Mechanical Specifications

Wind Loading @ Velocity, frontal

764.0 N @ 150 km/h (171.8 lbf @ 150 km/h)

RR2VVT4-6533D-R7

| | |
|---|---|
| Wind Loading @ Velocity, lateral | 328.0 N @ 150 km/h (73.7 lbf @ 150 km/h) |
| Wind Loading @ Velocity, maximum | 1,220.0 N @ 150 km/h (274.3 lbf @ 150 km/h) |
| Wind Loading @ Velocity, rear | 774.0 N @ 150 km/h (174.0 lbf @ 150 km/h) |
| Wind Speed, maximum | 241 km/h (150 mph) |

Packaging and Weights

| | |
|-----------------------|----------------------|
| Width, packed | 681 mm 26.811 in |
| Depth, packed | 368 mm 14.488 in |
| Length, packed | 2827 mm 111.299 in |
| Weight, gross | 82 kg 180.779 lb |

Regulatory Compliance/Certifications

| Agency | Classification |
|---------------|--|
| CHINA-ROHS | Above maximum concentration value |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| ROHS | Compliant/Exempted |
| UK-ROHS | Compliant/Exempted |



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. |
| BSAMNT-M4 | - Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor bracket set. |

* Footnotes

| | |
|-------------------------|---|
| Performance Note | Severe environmental conditions may degrade optimum performance |
|-------------------------|---|