

TDD : XXXXPoi 2490~2690MHz/3300~3800MHz BCH 65°/65°/17/17dBi 2~12°/2~12° Beamforming
FDD : XXXXPoi 698~960MHz×2/1427~2690MHzx2 65°/65° 14/18 dBi 2~12°/2~12° Integrated and replaceable RCU (Remote Control Unit) Antenna

| Electrical specifications-TDD | | | | | |
|---------------------------------------|--|--|---------------------------------|-----------|----------|
| General parameters | Frequency range(MHz) | | 2490~2690 | 3300~3800 | |
| | Polarization | | ±45° | | |
| | Electrical downtilt(°) | | 2~12 | | |
| | Electrical downtilt tolerance(°) | | ±1 | | |
| Calibration and electrical parameters | Coupling factor between calibration port and each antenna port(dB) | | -26±2 | | |
| | Max.amplitude tolerance from calibration port to input ports(dB) | | <0.9 | | |
| | Max.phase tolerance from calibration port to input ports(°) | | ≤8 | | |
| | Ports VSWR | | ≤1.5 | | |
| | Co-polarization isolation between ports(dB) | | ≥20@2~5°;≥25@6~12° | | |
| | Cross-polarization isolation between ports(dB) | | ≥22 | | |
| | Inter array spacing(mm) | | 55(0.47λ@2590MHz,0.65λ@3550MHz) | | |
| Radiation parameters | Single column beam | Horizontal 3dB beam width(°) | | 80±15 | 65±15 |
| | | Gain(dBi) | | 14.3±0.4 | 14.8±0.4 |
| | | Vertical 3dB beam width(°) | | ≥6.5 | ≥4.5 |
| | | Cross polar ratio(0°)(dB) | | ≥15 | |
| | | Cross polar ratio(±60°)(dB) | | ≥10 | |
| | | Front to back ratio(dB) | | ≥22 | |
| | | Vertical sidelobe suppression for first sidelobe above main beam(dB) | | ≥15 | |
| | Broadcast beam | Gain(dBi) | | 16.5±0.7 | 16.5±0.8 |
| | | SPR(±60°)(%) | | ≥90 | |
| | | Vertical 3dB beam width(°) | | ≥6.5 | ≥4.5 |
| | | Cross polar ratio(0°)(dB) | | ≥18 | |
| | | Front to back ratio(dB) | | ≥25 | |
| | Service beam | 0° direct beam gain(dBi) | | 20±0.8 | 21±0.8 |
| | | 0° direct beam horizontal 3dB beam width(°) | | ≤28 | |
| | | 0° direct beam sidelobe suppression(dB) | | ≥10 | |
| | | 0° direct beam cross polar ratio(axial)(dB) | | ≥18 | |
| | | 0° direct beam front to back ratio(dB) | | ≥25 | |
| | | ±30° direct beam gain(dBi) | | 18±0.8 | 19±0.8 |

Electrical specifications

| Frequency Range (MHz) | R1/R2 -698~960 | | | |
|---|--|----------------|----------------|----------------|
| | 698~803 | 790~862 | 824~894 | 880~960 |
| Polarization | $\pm 45^\circ$ | | | |
| Gain at mid tilt (dBi) | 13.1 | 13.3 | 13.4 | 13.9 |
| Gain over all tilts (dBi) | 13.0 \pm 0.7 | 13.2 \pm 0.6 | 13.3 \pm 0.6 | 13.8 \pm 0.4 |
| Horizontal 3dB beamwidth ($^\circ$) | 68 \pm 6 | 70 \pm 5 | 69 \pm 6 | 70 \pm 5 |
| Vertical 3dB beamwidth ($^\circ$) | 15.4 \pm 1.2 | 14.1 \pm 0.7 | 13.7 \pm 0.6 | 12.9 \pm 0.7 |
| Front to back ratio(dB) Total power, 180 $^\circ$ | >20 | >22 | >23 | >24 |
| Cross polar ratio (dB) (at Boresight) | >17 | >18 | >18 | >18 |
| Electrical downtilt ($^\circ$) | 2~12 | | | |
| Sidelobe suppression (dB) (First sidelobe above main beam) | >15 | >15 | >16 | >16 |
| VSWR | <1.5 | | | |
| Isolation: intra-system (dB) | ≥ 25 | | | |
| Isolation: inter-system (dB) | R1//R2 ≥ 25 R1,R2//other ≥ 28 | | | |
| Intermodulation IM3 (2 \times 43dBm carrier) | ≤ -150 dBc | | | |
| Impedance (Ω) | 50 | | | |
| Max. power per input (W) @50 $^\circ$ C | 400 | | | |
| Lightning protection | Dc Ground | | | |

Electrical specifications

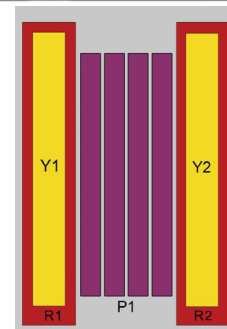
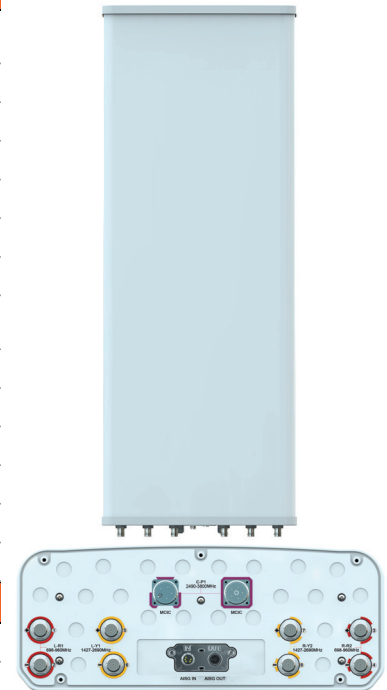
| Frequency Range (MHz) | Y1/Y2 -1427~2690 | | | | |
|---|------------------|----------------|---------------|----------------|----------------|
| | 1427~1518 | 1710~1990 | 1920~2200 | 2200~2490 | 2490~2690 |
| Polarization | $\pm 45^\circ$ | | | | |
| Gain at mid tilt (dBi) | 16 | 16.7 | 17.2 | 17.7 | 17.5 |
| Gain over all tilts (dBi) | 15.9 \pm 0.4 | 16.6 \pm 0.4 | 17 \pm 0.6 | 17.5 \pm 0.8 | 17.2 \pm 0.5 |
| Horizontal 3dB beamwidth ($^\circ$) | 63 \pm 5 | 65 \pm 6 | 63 \pm 5 | 60 \pm 5 | 59 \pm 6 |
| Vertical 3dB beamwidth ($^\circ$) | 8.3 \pm 0.5 | 6.6 \pm 0.6 | 5.9 \pm 0.5 | 5.4 \pm 0.4 | 4.8 \pm 0.4 |
| Front to back ratio (dB) Total power, $\pm 30^\circ$ | >26 | >26 | >25 | >24 | >24 |
| Cross polar ratio (dB) (at Boresight) | >20 | >20 | >20 | >19 | >18 |
| Electrical downtilt ($^\circ$) | 2~12 | | | | |
| Sidelobe suppression (dB) (First sidelobe above main beam) | >16 | >15 | >14 | >16 | >15 |
| VSWR | <1.5 | | | | |
| Isolation: intra-system (dB) | ≥ 25 | | | | |
| Isolation: inter-system (dB) | ≥ 28 | | | | |
| Intermodulation IM3 (2 \times 43dBm carrier) | ≤ -150 dBc | | | | |
| Impedance (Ω) | 50 | | | | |
| Max. power per input (W) @50 $^\circ$ C | 200 | | | | |
| Lightning protection | Dc Ground | | | | |

Mechanical specifications

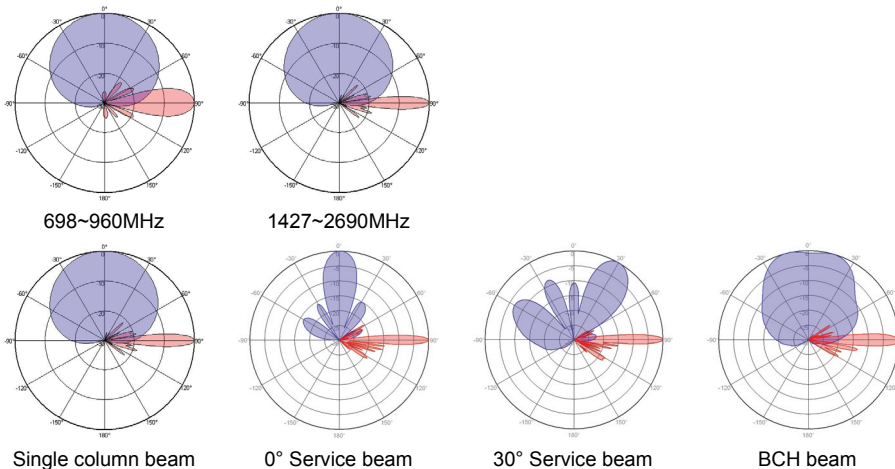
| | |
|--|---|
| Connector | TDD:1×(MQ4+MQ5) Connector-Male FDD:8×4.3-10-Female |
| Connector position | Bottom |
| Height × width × depth (mm) | 1499×499×198 |
| Packing size (mm) | 1885×620×330 |
| Antenna weight (kg) | 31.5 |
| Installation kit weight (kg) | 5.5 |
| Packing weight (kg) | 43.5 |
| Wind load (N,at 150km/h) Frontal/Lateral/Rearside | 780*225*880 |
| Max. wind velocity (km/h) | 216 |
| Radome material | Fiberglass |
| Radome color | Gray |
| Mechanical tilt (°) | 0~15 |
| Operating temperature (°C) | -50~65 |
| Mounting hardware (mm) | Φ50~Φ115 |

Integrated RET properties

| | |
|------------------------------|---|
| RET model | TRCU-TQ10P2V01 |
| RET type | Integrated (Replaceable) |
| RET protocol | AISG 2.0 / 3GPP |
| Power supply(V) | 10-30 DC |
| Power consumption(W) | ≤0.6 (Idle, 12V), ≤6 (in Motion, 12V) |
| Adjustment time (Full Range) | < 4Mins |
| Adjustment cycles | > 50,000 |
| Temperature range (°C) | -40~65 |
| Lightning protection | 3KA(8/20μs) @ Pin5& Pin3; 5KA(8/20μs) @ Pin1/ Pin6& Pin7 |
| Connectors | 2 x 8 Pin circle connector according To IEC 60130-9 And AISG. Daisy chain in:Male,Daisychain out :Female Pin1:12V;Pin3:RS485B;Pin5:RS485A;Pin6:10-30V;Pin7:GND; Pin2 &Pin4 & Pin8:N/C |



| Ant Array | RET Unique ID |
|-----------|----------------|
| R1 | TY00000.....R1 |
| R2 | TY00000.....R2 |
| Y1 | TY00000.....Y1 |
| Y2 | TY00000.....Y2 |
| P1 | TY00000.....P1 |

Antenna pattern sample for reference


Beamforming Weights

| Broadcast beamwith 65° | | Frequency Range(MHz) | port | port1 | port2 | port3 | port4 | port5 | port6 | port7 | port8 |
|------------------------|------------------------------|----------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| P0 | Fullpower broadcast tilt2-12 | 2490~2690 | Amplitude | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | Phase(°) | -80 | 0 | 0 | -80 | 0 | 0 | 0 | 0 |
| P1 | Fullpower broadcast tilt2-12 | 2490~2690 | Amplitude | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | | Phase(°) | 0 | 0 | 0 | 0 | -80 | 0 | 0 | -80 |
| P0 | Fullpower broadcast tilt2-12 | 3300~3800 | Amplitude | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | Phase(°) | -20 | 0 | 0 | 0 | 0 | 0 | 0 | -180 |
| P1 | Fullpower broadcast tilt2-12 | 3300~3800 | Amplitude | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| | | | Phase(°) | 0 | 0 | 0 | -180 | -20 | 0 | 0 | 0 |
| Service beam | | Frequency Range(MHz) | port | port1 | port2 | port3 | port4 | port5 | port6 | port7 | port8 |
| + 45° | 0°for tilt2-12 | 2490~3800 | Amplitude | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | Phase(°) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - 45° | 0°for tilt2-12 | 2490~3800 | Amplitude | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | | Phase(°) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| + 45° | 30°for tilt2-12 | 2490~2690 | Amplitude | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | Phase(°) | 0 | 100 | 200 | 300 | 0 | 0 | 0 | 0 |
| - 45° | 30°for tilt2-12 | 2490~2690 | Amplitude | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | | Phase(°) | 0 | 0 | 0 | 0 | 0 | 100 | 200 | 300 |
| + 45° | 30°for tilt2-12 | 3300~3800 | Amplitude | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | Phase(°) | 0 | 130 | 260 | 390 | 0 | 0 | 0 | 0 |
| - 45° | 30°for tilt2-12 | 3300~3800 | Amplitude | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | | Phase(°) | 0 | 0 | 0 | 0 | 0 | 130 | 260 | 390 |

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