

# Hybrid antenna FDD+TDD

Model : EHST201B



## ELECTRICAL SPECIFICATIONS

|                                       |                                                                      |                                                             |                |
|---------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------|----------------|
| General Parameters                    | Frequency Range (MHz)                                                |                                                             | Y5(2490-2690)  |
|                                       |                                                                      |                                                             | 2490-2690      |
|                                       | Polarization                                                         |                                                             | $\pm 45^\circ$ |
|                                       | Electrical Downtilt ( $^\circ$ )                                     |                                                             | 2-12           |
|                                       | Electrical Downtilt accuracy ( $^\circ$ )                            |                                                             | $\pm 1$        |
| Calibration and Electrical Parameters | Coupling factor between calibration port and each antenna port(dB)   |                                                             | $-26 \pm 2$    |
|                                       | Max.amplitude tolerance from calibration port to input ports(dB)     |                                                             | $\leq 1.0$     |
|                                       | Max.phase tolerance from calibration port to input ports( $^\circ$ ) |                                                             | $\leq 8$       |
|                                       | Ports VSWR                                                           |                                                             | $\leq 1.5$     |
|                                       | Impedance ( $\Omega$ )                                               |                                                             | 50             |
|                                       | Max Input Power (W)                                                  |                                                             | 300            |
|                                       | Co-polarization isolation between ports(dB)                          |                                                             | $\geq 25$      |
|                                       | Cross-polarization isolation between ports(dB)                       |                                                             | $\geq 25$      |
| Radiation Parameters                  | Single Column Beam                                                   | Horizontal 3dB beam width( $^\circ$ )                       | 65             |
|                                       |                                                                      | Gain (dBi)                                                  | $\geq 16$      |
|                                       |                                                                      | Vertical 3dB beam width( $^\circ$ )                         | $5 \pm 1$      |
|                                       |                                                                      | Cross polar ratio( $0^\circ$ )(dB)                          | $\geq 15$      |
|                                       |                                                                      | Cross polar ratio( $\pm 60^\circ$ )(dB)                     | $\geq 8$       |
|                                       |                                                                      | Front to back ratio(dB)                                     | $\geq 25$      |
|                                       |                                                                      | Upper side lobe suppression (dB)                            | $\leq -15$     |
|                                       | Broadcast beam                                                       | Gain (dBi)                                                  | $\geq 16$      |
|                                       |                                                                      | SPR( $\pm 32.5^\circ$ )(%)                                  | $70 \pm 15$    |
|                                       |                                                                      | SPR( $\pm 60^\circ$ )(%)                                    | $\geq 85$      |
|                                       |                                                                      | Vertical 3dB beam width( $^\circ$ )                         | $5 \pm 1$      |
|                                       |                                                                      | Front to back ratio(dB)                                     | $\geq 25$      |
|                                       |                                                                      | Upper side lobe suppression (dB)                            | $\leq -15$     |
|                                       | Service beam                                                         | $0^\circ$ direct beam gain(dBi)                             | $\geq 21$      |
|                                       |                                                                      | $0^\circ$ direct beam horizontal 3dB beam width( $^\circ$ ) | $\leq 30$      |
|                                       |                                                                      | $0^\circ$ direct beam sidelobe suppression(dB)              | $\leq -15$     |
|                                       |                                                                      | $0^\circ$ direct beam cross polar ratio(axial)(dB)          | $\geq 17$      |
|                                       |                                                                      | $0^\circ$ direct beam front to back ratio(dB)               | $\geq 25$      |
|                                       |                                                                      | $\pm 30^\circ$ direct beam gain(dBi)                        | $\geq 18$      |

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| Frequency Range (MHz)            | R1/R2 (698-960)      |                |                | Y1/Y2/Y3/Y4 (1695-2690) |                |                |                |
|----------------------------------|----------------------|----------------|----------------|-------------------------|----------------|----------------|----------------|
|                                  | 698-824              | 791-894        | 880-960        | 1695-1990               | 1920-2180      | 2300-2400      | 2490-2690      |
| Polarization                     | $\pm 45^\circ$       |                |                |                         |                |                |                |
| Gain over all tilts (dBi)        | 14.0 $\pm$ 0.8       | 14.8 $\pm$ 0.8 | 15.3 $\pm$ 0.8 | 16.1 $\pm$ 0.9          | 16.7 $\pm$ 0.8 | 17.0 $\pm$ 0.8 | 17.2 $\pm$ 0.9 |
| Horizontal 3dB beam width (°)    | 67 $\pm$ 6           | 64 $\pm$ 7     | 59 $\pm$ 7     | 68 $\pm$ 6              | 66 $\pm$ 6     | 61 $\pm$ 6     | 58 $\pm$ 6     |
| Vertical 3dB beam width(°)       | 11.6 $\pm$ 1.0       | 10.6 $\pm$ 0.9 | 9.7 $\pm$ 1.0  | 8.6 $\pm$ 1.1           | 7.6 $\pm$ 1.0  | 6.8 $\pm$ 1.1  | 6 $\pm$ 1.1    |
| Front to back ratio(dB)          | $\geq 23$            | $\geq 24$      | $\geq 24$      | $\geq 24$               | $\geq 24$      | $\geq 25$      | $\geq 25$      |
| Cross polar ratio(0°)(dB)        | $\geq 15$            | $\geq 15$      | $\geq 15$      | $\geq 15$               | $\geq 15$      | $\geq 15$      | $\geq 15$      |
| Upper side lobe suppression (dB) | $\geq 15$            | $\geq 15$      | $\geq 15$      | $\geq 15$               | $\geq 15$      | $\geq 15$      | $\geq 15$      |
| Electrical Downtilt ( ° )        | 2-12                 |                |                |                         |                |                |                |
| Electrical Downtilt accuracy (°) | $\pm 1$              |                |                |                         |                |                |                |
| Ports VSWR                       | $\leq 1.5$           |                |                |                         |                |                |                |
| Isolation: intra-system (dB)     | $\geq 25$            |                |                |                         |                |                |                |
| Isolation: inter-system (dB)     | $\geq 25$            |                |                |                         |                |                |                |
| Intermodulation IM3 (2 × 43dBm)  | $\leq 153\text{dBc}$ |                |                |                         |                |                |                |
| Impedance (Ω)                    | 50Ω                  |                |                |                         |                |                |                |
| Max Input Power (W)              | 1500                 |                |                |                         |                |                |                |

## MECHANICAL SPECIFICATIONS

|                                                      |                           |
|------------------------------------------------------|---------------------------|
| Connector(s)                                         | 2×(MQ4+MQ5)Connector-Male |
| Connector position                                   | Bottom                    |
| Antenna Dimensions (mm)                              | 2190×500×158              |
| Packing Dimensions (mm)                              | 2435×595×250              |
| Mechanical Downtilt kits ( ° )                       | 0-12                      |
| Radome Color                                         | light gray                |
| Radome Material                                      | Fiberglass                |
| Antenna weight (kg)                                  | $\leq 19$                 |
| Packing weight (kg)                                  | $\leq 29$                 |
| Wind load (N,at 150km/h)<br>Frontal/Lateral/Rearside | 796/163/921N              |
| Operating temperature (°C)                           | -40 ~ +60                 |
| Maximum Wind Speed(km/h)                             | 200                       |
| Mounting Pipe Diameter (mm)                          | Φ50~Φ115                  |



# Hybrid antenna FDD+TDD

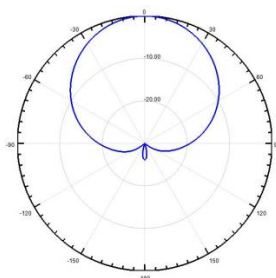
Model : EHST201B



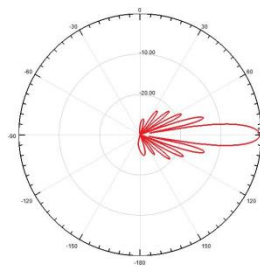
## Integrated RET Properties

|                              |                                                                                                                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RET type                     | Replaceable Integrated RET                                                                                                                                                             |
| RET protocol                 | AISG 2.0/3GPP                                                                                                                                                                          |
| Power supply(V)              | 10-30 DC                                                                                                                                                                               |
| Power consumption(W)         | $\leq 0.6$ (Idle,12V), $\leq 6$ (in Motion,12V)                                                                                                                                        |
| Adjustment time (Full Range) | $\leq 4$ Mins                                                                                                                                                                          |
| Adjustment cycles            | > 50,000                                                                                                                                                                               |
| Temperature range(°C)        | -40~65                                                                                                                                                                                 |
| Lightning protection         | 3KA(8/20 $\mu$ s) @ Pin5& Pin3;<br>5KA(8/20 $\mu$ s) @ Pin1/ Pin6& Pin7                                                                                                                |
| Connectors                   | 2 x 8 Pin circle connector according To IEC 60130- 9 And AISG.Daisy chain in: Male,Daisychainout :FemalePin1:12V;Pin3:RS485B;Pin5:RS485A;Pin6:10- 30V;Pin7:GN D; Pin2 &Pin4 & Pin8:N/C |

## Pattern



H Pattern



E Pattern

