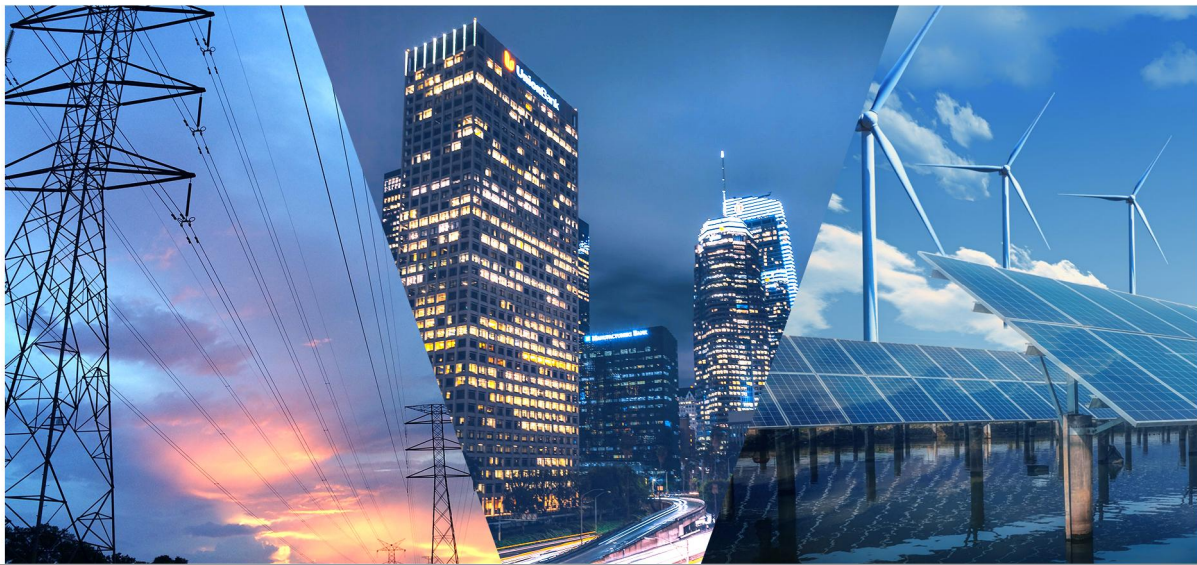


# TECHNICAL SPECIFICATION

8-port Beamforming Antenna,  
4×2500-2694 MHz, 65Deg, 16dBi, Integrated RET



|         |                |          |          |          |
|---------|----------------|----------|----------|----------|
| A.0     | Oct 10th, 2025 | Eric     | Michael  | Klaus    |
| Version | Date           | Prepared | Reviewed | Approved |

| Electrical Specifications                                      |                                                 |                                                                              |                                                                       |
|----------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Description                                                    |                                                 | 8-port Beamforming Antenna,<br>4×2500-2694 MHz, 65Deg, 16dBi, Integrated RET |                                                                       |
| ZTT Product Code                                               |                                                 | HBN8U6516                                                                    |                                                                       |
| Frequency Range                                                |                                                 | MHz                                                                          | TDD:4×2500-2694(Y1)                                                   |
| Frequency Band                                                 |                                                 | MHz                                                                          | 2500-2694                                                             |
| 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       |                                                 | Deg                                                                          | <8.0                                                                  |
| Co-polarization Isolation Between ports                        |                                                 | dB                                                                           | >20 (electrical downtilt:2-5deg)<br>>25 (electrical downtilt:6-12deg) |
| Cross-polarization Isolation Between ports                     |                                                 | dB                                                                           | >25                                                                   |
| VSWR                                                           |                                                 | /                                                                            | <1.5                                                                  |
| Electrical Downtilt                                            |                                                 | Deg                                                                          | 2-12,Continuously adjustable                                          |
| Max. Power Per Port                                            |                                                 | Watt                                                                         | 80(at 50℃ ambient temperature)                                        |
| Maximum Effective Power Whole Antenna                          |                                                 | Watt                                                                         | 400(at 50℃ ambient temperature)                                       |
| Single Column Beam                                             | Gain Over All Tilts                             | dBi                                                                          | 15.5±0.4                                                              |
|                                                                | Gain by Tilt Average Mid                        | dBi                                                                          | 15.6                                                                  |
|                                                                | Efficiency Average                              | %                                                                            | 65                                                                    |
|                                                                | Horizontal 3dB Beam Width                       | Deg                                                                          | 80±12                                                                 |
|                                                                | Vertical 3dB Beam Width                         | Deg                                                                          | 6.3±2.0                                                               |
|                                                                | 1st Upper Side Lobe Suppression Above Main Beam | dB                                                                           | >15                                                                   |
|                                                                | Front to Back Ratio at 180Deg ±30Deg            | dB                                                                           | >23                                                                   |
|                                                                | Cross-Polar Ratio 0Deg                          | dB                                                                           | >16                                                                   |
|                                                                |                                                 |                                                                              |                                                                       |
| Broadcast Beam                                                 | Gain Over All Tilts                             | Deg                                                                          | 16.5±0.5                                                              |
|                                                                | Gain by Tilt Average Mid                        | dBi                                                                          | 16.6                                                                  |
|                                                                | Horizontal 3dB Beam Width                       | Deg                                                                          | 65±5                                                                  |
|                                                                | Vertical 3dB Beam Width                         | Deg                                                                          | 6.1±2.0                                                               |
|                                                                | 1st Upper Side Lobe Suppression Above Main Beam | dB                                                                           | >15                                                                   |
|                                                                | Front to Back Ratio at 180Deg ±30Deg            | dB                                                                           | >27                                                                   |
|                                                                |                                                 |                                                                              |                                                                       |

|              |                                   |     |          |
|--------------|-----------------------------------|-----|----------|
|              | Cross-Polar Ratio 0Deg            | dB  | >15      |
| Service Beam | 0° Beam Gain Over All Tilts       | dBi | 21.5±0.5 |
|              | 0° Beam Gain by Tilt Average Mid  | dBi | 21.5     |
|              | 0° Beam Horizontal 3dB Beam Width | Deg | 26±4     |
|              | 0° Beam Front to Back Ratio       | dB  | >28      |
|              | 0° Beam Cross-Polar Ratio 0Deg    | dB  | >20      |

### Mechanical Specifications

|                             |      |                                 |
|-----------------------------|------|---------------------------------|
| Antenna Dimensions          | mm   | 1300×295×145                    |
| Antenna Net Weight          | kg   | 18.9                            |
| Packing Dimensions          | mm   | 1525×361×217                    |
| Antenna Gross Weight        | kg   | 29.2                            |
| Connector Type              | /    | 1×MQ4&MQ5                       |
| Connector Position          | /    | Bottom                          |
| Radiator Material           | /    | Aluminum                        |
| Radome Material / Color     | /    | Fiberglass / Light Grey RAL7035 |
| Reflector Material          | /    | Aluminum                        |
| Storage Temperature         | °C   | -40 to +60                      |
| Operating Temperature       | °C   | -40 to +60                      |
| Humidity                    | /    | 5% to 95%                       |
| Max. operational Wind Speed | km/h | 200                             |
| Wind Load @Rated Wind Front | N    | 858                             |
| Wind Load @Rated Wind Side  | N    | 175                             |
| Wind Load @Rated Wind Rear  | N    | 962                             |
| Lightning Protection        | /    | DC ground                       |

### Accessories

|                              |     |                       |
|------------------------------|-----|-----------------------|
| Downtilt Kit (mechanical)    | Deg | 0-10                  |
| Mounting Accessories (clamp) | /   | Included with antenna |
| Mounting Pipe Diameter       | mm  | 50-115                |

### Internal RET Specifications

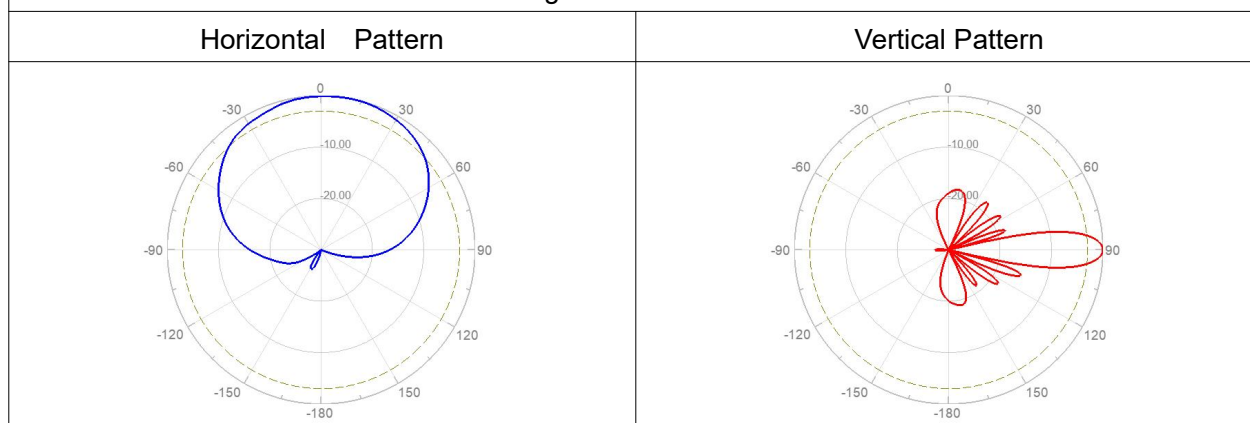
|                              |   |                                                                  |
|------------------------------|---|------------------------------------------------------------------|
| RCU (remote control unit)    | / | Changable RET<br>(can be exchangable without exchanging antenna) |
|                              |   | AISG2.0 /3GPP                                                    |
| Input Voltage Range          | V | 10-30 DC                                                         |
| Power Consumption            | W | < 10 (motor activated , single RET)                              |
|                              |   | < 2 (stand by, single RET)                                       |
| Adjustment Time (full range) | s | < 120 (typically, depending on antenna type)                     |

|                               |    |                                                                  |
|-------------------------------|----|------------------------------------------------------------------|
| RET Connector                 | /  | 1 pair of AISG 5 pin male & female                               |
| Pin Assignment According AISG | /  | 5-pin circular connector conforming to IEC 60130-9 - Ed. 3.0     |
| Lightning Protection          | kA | 5 (8/20 $\mu$ s differential mode), 8 (8/20 $\mu$ s common mode) |

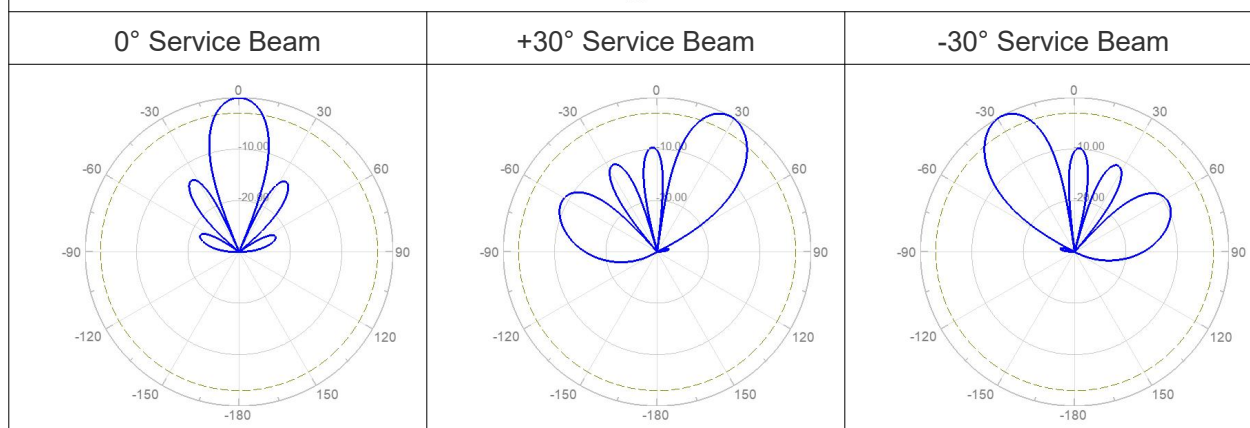
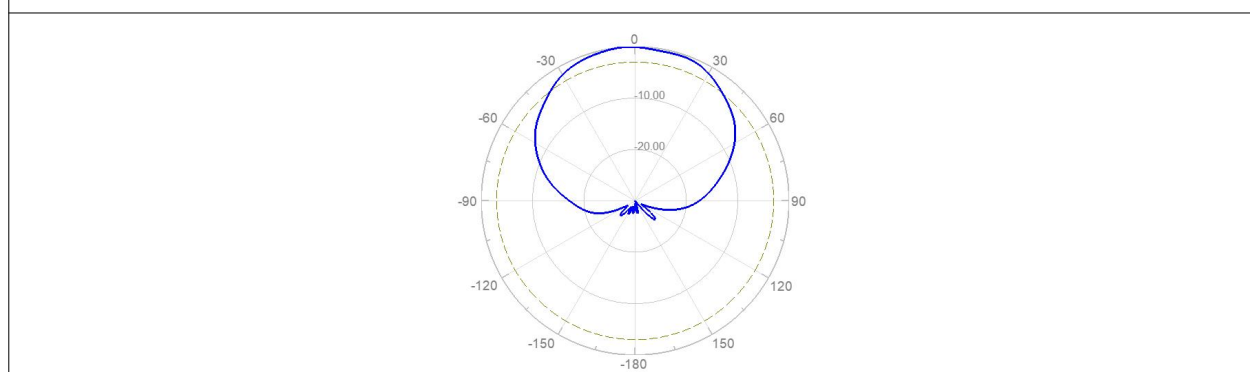
### Reference Pattern

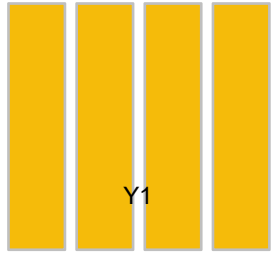
TDD:2500-2694MHz

Single Column Beam



Broadcast Beam



| Layout of Array |           |                |            |                                                                                     |
|-----------------|-----------|----------------|------------|-------------------------------------------------------------------------------------|
| Array           | Connector | Frequency(MHz) | RET Serial |                                                                                     |
| Y1              | MQ4&MQ5   | 2500-2694      | ZTY1...01  |  |

All data are based on NGMN recommendations on Base Station Antenna Standards (BASTA V12.0).