

# 1.2m Fixed Antenna

## Characteristics:

- Meets CCIR 580 requirements
- Aluminum sheet stamping forming, one piece, easy installation, reflector RMS  $\leq 0.35\text{mm}$ ;
- High gain, low sidelobe, excellent high quality factor (G/T);
- Single band communication antenna has 70% efficiency;
- AZ and EL fine adjustment accuracy  $\leq 0.1^\circ$  ;
- hot-dip galvanizing+2 layers of primer+2 layers of topcoat. strong corrosion resistance;
- Nice appearance, reliable quality, high wind resistance and corrosion resistance performance, and high cost-effectiveness.

## Optional:

- Aluminum / Carbon fiber optional;
- L band, S band, X band, C band, Ku band, Ka band, S band, QV band, customized frequency available;
- Rx/Tx or 2Rx/2Tx;
- Manual or motorized;
- Optional: Antenna servo system, NPM, BUC,LNB, Modem, spectrum analyzer, BUC support, intallation tool, cable etc.;
- Antenna color: white, silver powder, military green or specified color.

| RF SPECS                 | NS-SEC120                     |                               | NS-SEKu120                     |                                | NS-SEKa120                     |                                |
|--------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Frequency                | 3.4-4.2GHz                    | 5.85-6.725GHz                 | 10.7-12.75GHz                  | 13.75-14.5GHz                  | 17.7-21.2GHz                   | 27.5-31GHz                     |
| Gain                     | ≥30.98+20lg<br>(f/3.8GHz) dBi | ≥35.23+20lg<br>(f/6.2GHz) dBi | ≥42.24+20lg<br>(f/12.5GHz) dBi | ≥43.23+20lg<br>(f/14.0GHz) dBi | ≥45.88+20lg<br>(f/19.0GHz) dBi | ≥49.55+20lg<br>(f/29.0GHz) dBi |
| Polarization             | linear/circular               |                               | linear                         |                                | circular                       |                                |
| X-POL isolation          | ≥35dB                         |                               | ≥35dB                          |                                | /                              |                                |
| VSWR                     | 1.25:1                        | 1.25:1                        | 1.25:1                         | 1.25:1                         | 1.25:1                         | 1.25:1                         |
| Axis ratio               | ≤1.2dB                        | ≤1.2dB                        | /                              | /                              | ≤1.5 dB                        | ≤1.5 dB                        |
| Feed loss                | ≤0.2dB                        | ≤0.2dB                        | ≤0.20dB                        | ≤0.20dB                        | ≤0.3dB                         | ≤0.4dB                         |
| Power capacity           | /                             | 1KW/port                      | /                              | 1KW/port                       | /                              | 1KW/port                       |
| Noise temperature        | EL=10°: ≤47K<br>EL=20°: ≤41K  | /                             | EL=10°: ≤27K<br>EL=20°: ≤24K   | /                              | EL=10°: ≤122K<br>EL=20°: ≤86K  | /                              |
| Beam width               | 4.61                          | 2.82                          | 1.4                            | 1.2                            | 0.92                           | 0.6                            |
| Interface                | FDP-40 (WR-229)               | FDP-70 (WR-137)               | FBP-120 (WR-75)                | FBP-120 (WR-75)                | FBP-220 (WR-42)                | FBP-320 (WR-28)                |
| Isolation                | ≥86dB                         |                               | ≥86dB                          |                                | ≥86dB                          |                                |
| 1st sidelobe             | ≤-14dB                        |                               | ≤-14dB                         |                                | ≤-14dB                         |                                |
| Far sidelobe<br>CCIR-580 | 29 - 25 logθ(1° ≤θ<20° )      |                               | 29 - 25 logθ(1° ≤θ<20° )       |                                | 29 - 25 logθ(1° ≤θ<20° )       |                                |

### Structure

|                    |                                  |                       |  |  |  |  |
|--------------------|----------------------------------|-----------------------|--|--|--|--|
| Diameter           | 1.2m                             |                       |  |  |  |  |
| Moving range       | AZ                               | 0-360° (continuous)   |  |  |  |  |
|                    | EL                               | 5° - 90° (continuous) |  |  |  |  |
|                    | Pol                              | 0-360° (continuous)   |  |  |  |  |
| Type               | single offset                    |                       |  |  |  |  |
| Reflector material | aluminum sheet forming           |                       |  |  |  |  |
| Structure          | AZ+EL, angle fine adjusting≤0.1° |                       |  |  |  |  |
| R.M.S              | ≤0.5mm(C、Ku)                     |                       |  |  |  |  |
|                    | ≤0.35mm (Ka)                     |                       |  |  |  |  |

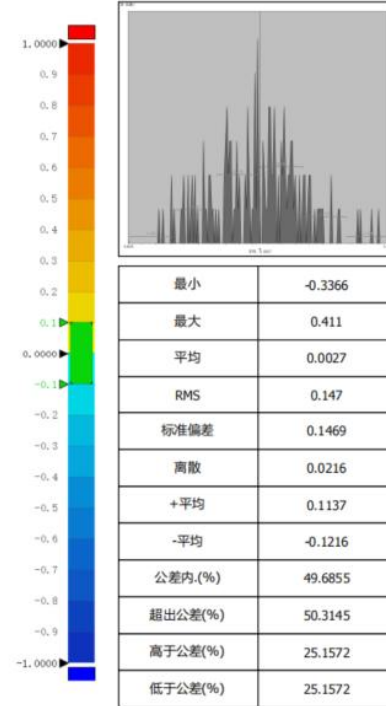
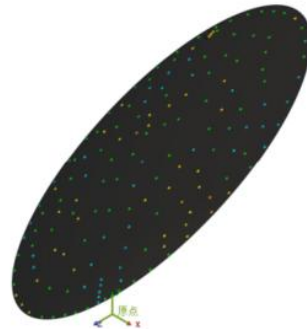
### Environment

|                     |  |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|
| Process             | primer paint + top paint for reflector, hot dipping + primer paint + top paint for steel parts |  |  |  |  |  |
| Wind speed          | ensure accuracy working under 72km/h ~ 97km/h, decreased accuracy working under 102km/h        |  |  |  |  |  |
| Stow not damage     | 200km/h (not damage when locked toward sky)  |  |  |  |  |  |
| Humidity            | 0%-100%  |  |  |  |  |  |
| Ice                 | normal working 13mm ice covered<br>not damage with 25mm ice covered                            |  |  |  |  |  |
| Working temperature | -45~70°C   |  |  |  |  |  |
| Seismic capacity    | horizontal 0.3G vertical 0.1G  |  |  |  |  |  |
| Service life        | ≥20 years  |  |  |  |  |  |



# RMS Test

结果数据 - 1 : 3D 比较1



|              |                |            |              |      |              |
|--------------|----------------|------------|--------------|------|--------------|
| Product Name | [Product Name] | Department | [Department] | Date | May 25, 2021 |
| Part Name    | [Part Name]    | Inspector  | [Inspector]  | Unit | mm           |

| 名称     | 最小      | 最大    | 平均     | RMS   | 标准偏差   | 离散     | +平均    | -平均     |
|--------|---------|-------|--------|-------|--------|--------|--------|---------|
| 3D 比较1 | -0.3366 | 0.411 | 0.0027 | 0.147 | 0.1469 | 0.0216 | 0.1137 | -0.1216 |

## Chamber test



## Typical pattern

