

High Precision Offset Parabolic Reflector



SOLUTION FOR

- High-gain reference antenna
- Far-field antenna measurements

Main features

Technical performance

- Smooth gain with frequency
- Linear polarized with high polarization purity
- Low return loss / VSWR
- Wide bandwidth

Design

- Super elliptical rim
- Lightweight for easy handling

Surface treatment

- Alodine 1200 according to MIL-C 5541E class 3

Repeatability

- Stiff and robust mechanical design
- Standard MVG circular interface for precision centering
- Precision pin for accurate polarization alignment
- Precision machined

Delivered documents

- Typical performance data (TYMEDA™)
- Measured return loss data

Product configuration

Equipment

- Mounting flange
- Feed adapter flange

Related services

- Calibration and maintenance
- Customization

■ Included Optional



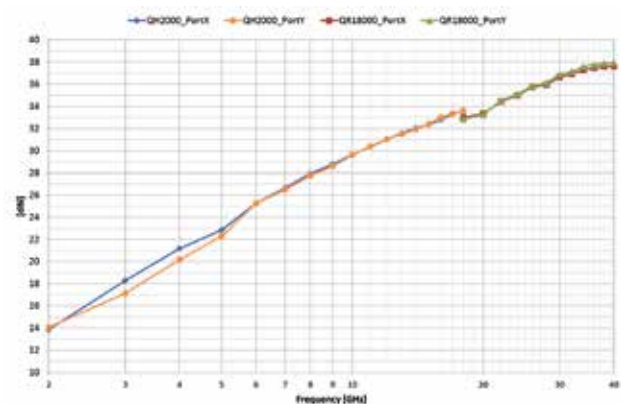
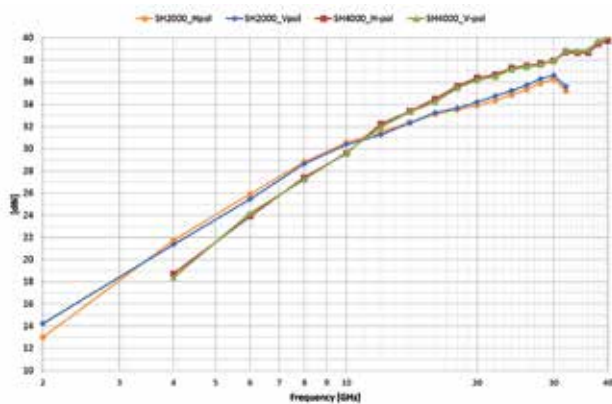
The MVG offset parabolic reflector, fed with MVG dual ridge horns, has been selected as a high-reliability reference antenna for uncertainty assessment in measurement systems and EM simulation software.

- L. J. Foged, M. Sierra Castañer, L. Scialacqua "Facility Comparison Campaigns within EurAAP", 5th European conference on Antennas and propagation, EuCAP2011, Rome, April 2011
- L.J.Foged, M.A. Saporetti, M. Sierra-Castanner, E. Jørgensen, T. Voigt, F. Calvano, D. Tallini, "Measurement and Simulation of Reflector Antenna", EuCAP2015, Lisbon, April 2015
- M. Sierra Castañer, L.J. Foged, M.A. Saporetti, E. Jørgensen, T. Voigt, D. Tallini, M. Orefice, G. Giordanengo, G. Dassano, M. Böttcher, A. Wien, J. M. Serna, D. Pérez de Diego, F. Calvano, "Comparison of Reflector Antenna Measurements and Simulations", Antenna Measurements Techniques Association, October 2015

Electrical characteristics

Part number	SR40-A	SR40-A	SR40-A	SR40-A
Featured feed part number	SH2000	SH4000	QH2000	QR18000
Featured feed type	Dual-ridge horn	Dual-ridge horn	Open-boundary Dual-ridge horn	Closed-boundary Dual-ridge horn
Frequency range	2 – 32 GHz	4 – 40 GHz	2 – 32 GHz	18 – 40 GHz
Polarization	Single linear	Single linear	Dual linear	Dual linear
Gain	14 – 35 dBi > 14 dBi @ 2 GHz > 21 dBi @ 4 GHz > 29 dBi @ 8 GHz > 33 dBi @ 16 GHz > 35 dBi @ 32 GHz	18 – 40 dBi > 18 dBi @ 4 GHz > 28 dBi @ 8 GHz > 34 dBi @ 16 GHz > 37 dBi @ 32 GHz > 39 dBi @ 40 GHz	14 – 34 dBi > 14 dBi @ 2 GHz > 20 dBi @ 4 GHz > 28 dBi @ 8 GHz > 31 dBi @ 12 GHz > 34 dBi @ 18 GHz	33 – 38 dBi > 33 dBi @ 18 GHz > 35 dBi @ 24 GHz > 36 dBi @ 30 GHz > 38 dBi @ 40 GHz
VSWR	< 2.5 [2 – 6 GHz] < 1.9 [6 – 31 GHz] < 2.5 [31 – 32 GHz]	< 2.5 [2 – 6 GHz] < 1.9 [6 – 31 GHz] < 2.5 [31 – 32 GHz]	< 1.9	< 1.9
Return loss	< -7.5 dB [2 – 6 GHz] < -10 dB [6 – 31 GHz] < -7.5 dB [31 – 32 GHz]	< -7.5 dB [4 – 10 GHz] < -10 dB [10 – 37 GHz] < -7.5 dB [37 – 38 GHz]	< -10 dB	< -10 dB

SR40-A gain



Mechanical characteristics

Part number	SR40-A	SR40-A	SR40-A	SR40-A
Featured feed	SH2000	SH4000	QH2000	QR18000
Reflector characteristics				
- Rim shape	Super elliptical	Super elliptical	Super elliptical	Super elliptical
- Rim dimensions	400 x 400 mm	400 x 400 mm	400 x 400 mm	400 x 400 mm
- "F/D" ratio	0.5	0.5	0.5	0.5
- Clearance	50 mm	50 mm	50 mm	50 mm
Dimensions				
Horizontal mounting (H1 x W x A1)	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm
Vertical mounting (H2 x W x A2)	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm
Weight (approx.)	3.9 Kg	3.6 Kg	3.7 Kg	3.6 Kg
RF connector	PC 3.5mm Female ⁽¹⁾	K Female ⁽²⁾	PC 3.5mm Female ⁽¹⁾	K Female ⁽³⁾
Material	Aluminum	Aluminum	Aluminum	Aluminum
Treatment	Alodine 1200 ⁽⁴⁾	Alodine 1200 ⁽⁴⁾	Alodine 1200 ⁽⁴⁾	Alodine 1200 ⁽⁴⁾
Interface	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm

(1) Huber & Suhner type 23 PC35-50-0-51/199 UE

(2) Anritsu K103F + Southwest 1030-10SF

(3) Southwest 1012-16SF

(4) Equivalent to MIL-C 5541E class 3

