



Broadband Spiral Antenna



Our OBS series cavity backed spirals are broadband antennas designed for ECM, surveillance, direction finding, telemetry, and flush mounted airborne applications. These spirals can be used as a separate component antenna or as broadband feeds for reflector type dish antennas.

ALL OBS series spiral antennas exhibit an excellent impedance match and radiation pattern control over the broad operating bands in a compact and lightweight package. These spirals are ideally suited for amplitude matching and phase or gain tracking. The unit-to-unit uniformity and frequency independent performance is ideal for airborne monitoring receiving systems. ALL cavity backed spirals are available in RHCP or LHCP. These spirals have been designed to operate in a harsh environment and meet the extremes of the Surroundings Specification.

Also we provide specific frequency spirals antennas according to customers' requirement.

Test reports are for reference only.

Model	Freq.(GHz)	Axial Ratio (dB) Max.	Gain(dBi) Typ.	VSWR Typ.	Connector	Size(mm)
OBS-520	0.5-2	6	-6	2	N-Female	Φ226 x 230
OBS-840	0.8-4	3	0	2	SMA-Female	Φ154 x 85
OBS-1020	1-2	3	-3	2	SMA-Female	Φ135 x 90
OBS-1080	1-8	4	0	2	SMA-Female	Φ120 x 90
OBS-10180	1-18	3	-6	2	SMA-Female	Φ120x 90
OBS-2040	2-4	4	1	2	SMA-Female	Φ68x 50
OBS-20180	2-18	4	-4	2.5	SMA-Female	Φ61.5x 50
OBS-20180SA	2-18	6	-5	3	SMA-Female	Φ55x 50
OBS-20180SB	2-18	8	-9	3	SMA-Female	Φ40x 50
OBS-4080	4-8	3	1	2.5	SMA-Female	Φ35x 39.5
OBS-80180	8-18	4	0	2.5	SMA-Female	Φ25x 50
OBS-180400	18-40	6	-4	3.5	SMA-Female	-



Broadband Spiral Antenna

0.8~4.0GHz

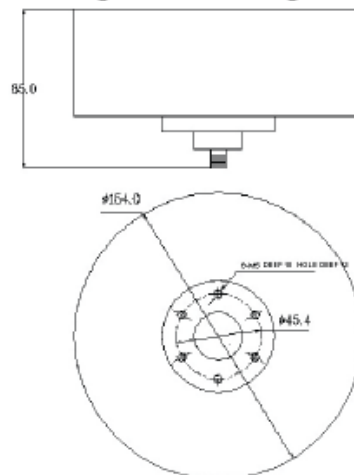
P/N: OBS-840

Technical Specification



Frequency (GHz)	0.8-4		
Polarization	RHCP or LHCP		
Gain(dBi)(Typ.)@GHz	0.6@0.8		
	1.8@2		
	2.2@4		
Beamwith (°)3dB	Freq.(GHz)	E	H
	0.8	90	90
	1	86	86
	2	74	74
	3	72	72
	4	76	76
Axial Ratio(dB) (Typ.)@GHz	2.2@0.8		
	1.5@1		
	2.0@2		
	1.8@3		
	1.3@4		
Front to back Ratio (dB) (Typ.)@GHz	15.6@0.8		
	15.2@1		
	16.6@2		
	20.7@3		
VSWR(Typ.)	18.3@4		
	2		
Connetor	SMA-Female		

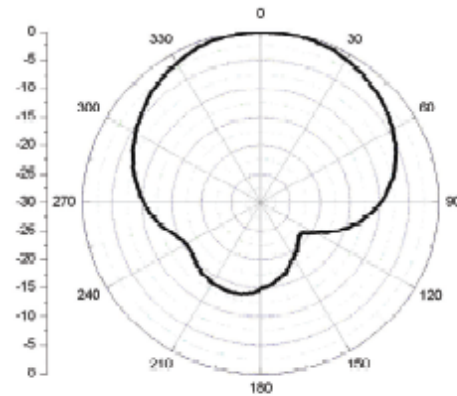
Outline Drawing and Mounting



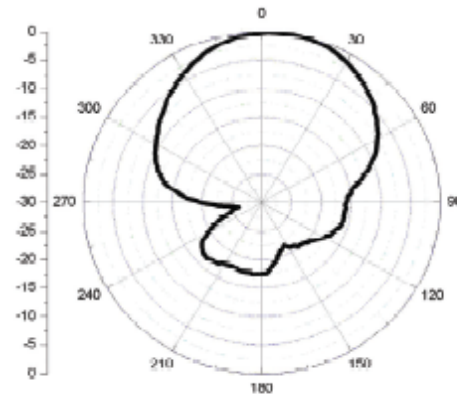


Pattern

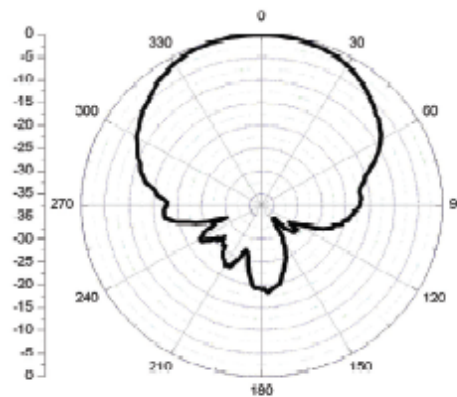
Frequency: 0.8GHz



Frequency: 2GHz



Frequency: 4GHz





Broadband Spiral Antenna

4.0~8.0GHz

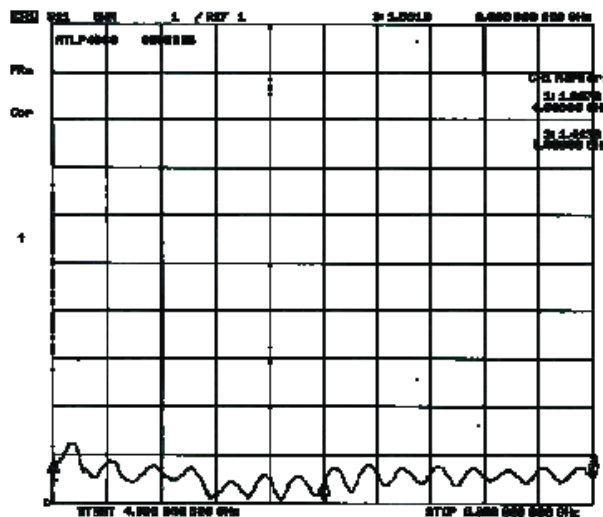
P/N: OBS-4080

Technical Specification

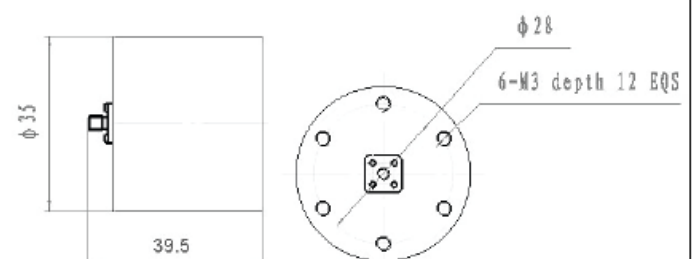
Frequency (GHz)	4-8
Polarization	RHCP or LHCP
Gain(dBi)(Typ.)@GHz	2.5@4
	4.3@6
	5.6@8
Axial Ratio(dB) (Typ.)@GHz	2.8@4
	1.8@6
	2.2@8
VSWR(Typ.)	2.5
Connetor	SMA-Female



VSWR



Outline Drawing and Mounting

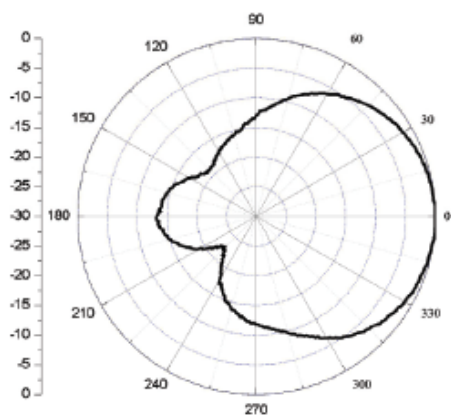




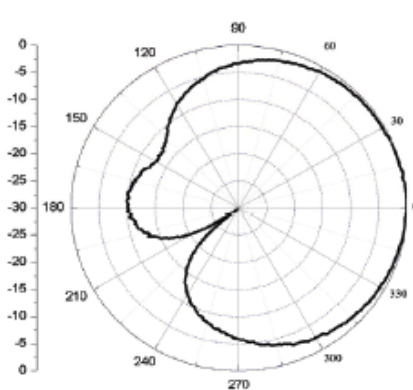
pattern

Frequency: 4GHz

E Plane

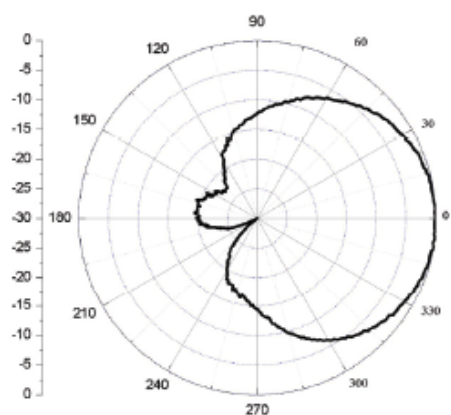


H Plane

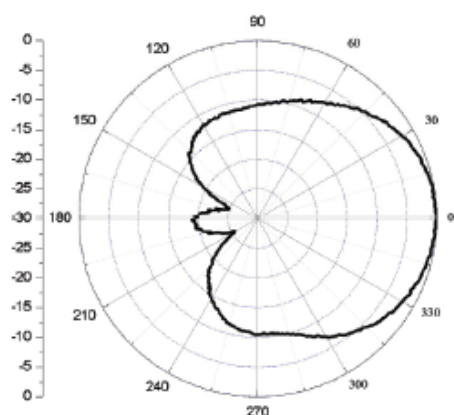


Frequency: 6GHz

E Plane

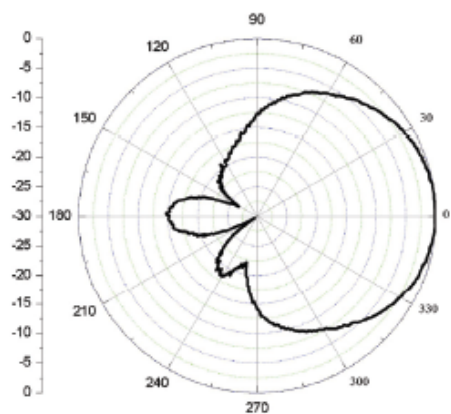


H Plane

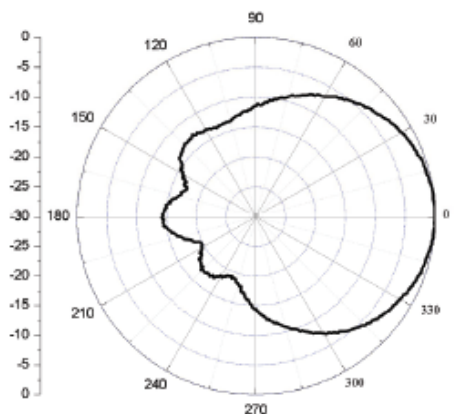


Frequency: 8GHz

E Plane



H Plane





Broadband Spiral Antenna

1.0~18.0GHz

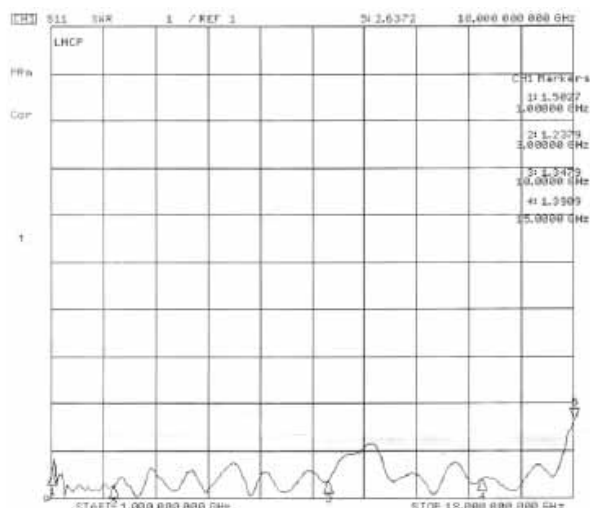
P/N: OBS-10180

Technical Specification

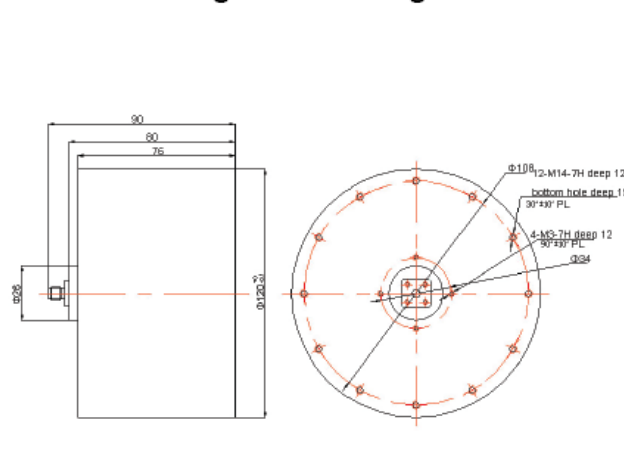
Frequency (GHz)	1-18		
Polarization	RHCP or LHCP		
Gain(dBi)(Typ.)@GHz	-3.5@1		
	2.2@2		
	3.5@4		
	4.7@8		
	5.2@12		
	5.3@18		
Beamwidth (°)3dB	Freq.(GHz)	E	H
	1	105	103.4
	2	91.2	88.2
	4	60.1	61
	8	70.5	76.7
	12	72.9	70.6
	18	78.8	68.7
Axial Ratio(dB) (Typ.)@GHz	1.2@1		
	1.3@2		
	1.5@4		
	2.0@8		
	1.2@12		
	1.1@18		
VSWR(Typ.)	2		
Connetor	SMA-Female		



VSWR



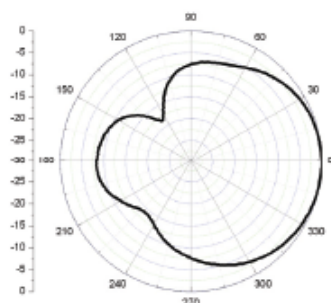
Outline Drawing and Mounting



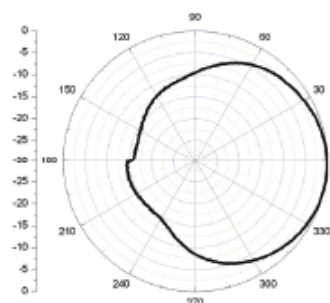
pattern

Frequency: 1GHz

E Plane

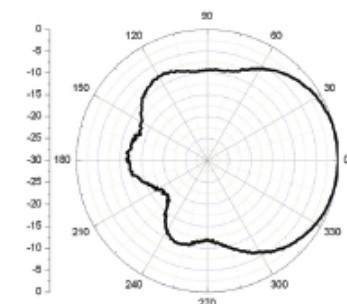


H Plane

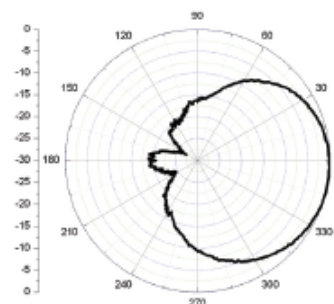


Frequency: 2GHz

E Plane

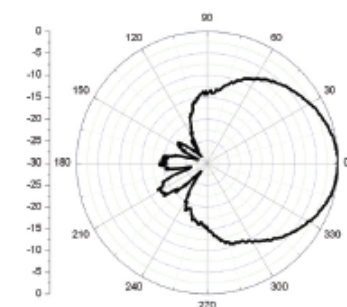


H Plane

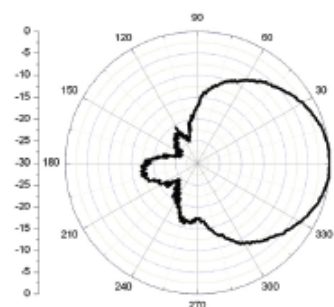


Frequency: 4GHz

E Plane

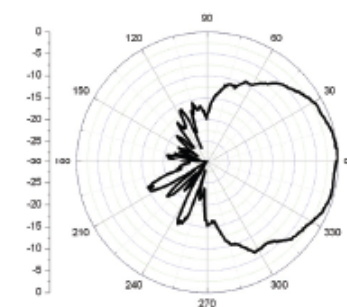


H Plane

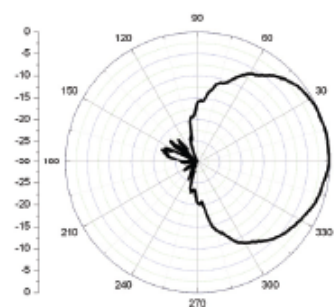


Frequency: 8GHz

E Plane

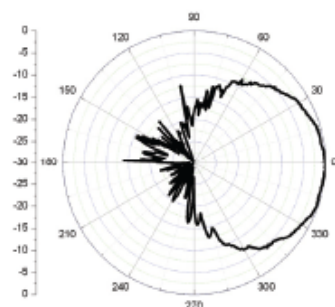


H Plane

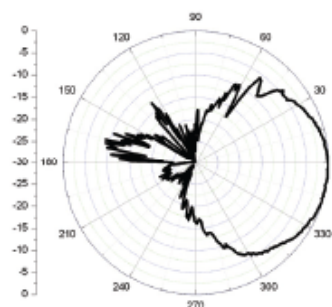


Frequency: 12GHz

E Plane

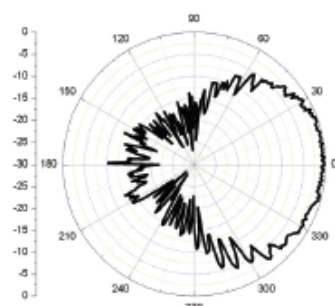


H Plane

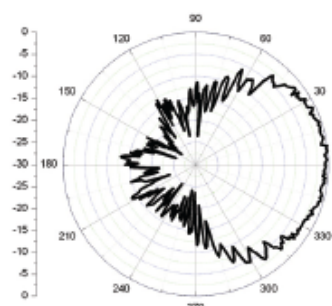


Frequency: 16GHz

E Plane

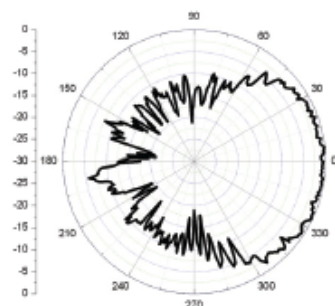


H Plane

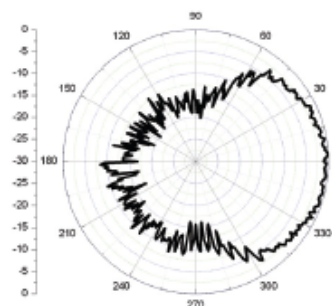


Frequency: 18GHz

E Plane



H Plane





Broadband Spiral Antenna

2.0~18.0GHz

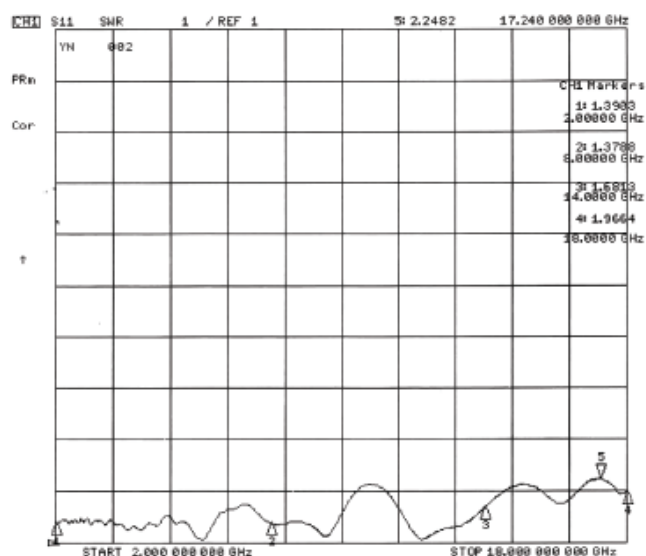
P/N: OBS-20180

Technical Specification

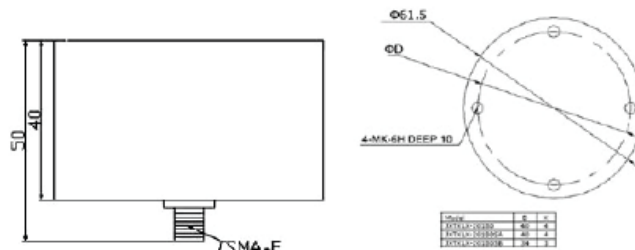
Frequency (GHz)	2-18		
Polarization	RHCP or LHCP		
Gain(dBi)(Typ.)@GHz	-3.2@2		
	1.3@4		
	4.0@8		
	3.2@12		
	3.8@18		
Beamwidth (°)3dB	Freq.(GHz)	E	H
	2	102	135
	4	80	89
	8	55	62
	12	72	79
	18	78	95
Axial Ratio(dB) (Typ.)@GHz	2.5@2		
	1.5@4		
	2.0@8		
	2.8@12		
	1.5@18		
VSWR(Typ.)	2.5		
Connetor	SMA-Female		



VSWR



Outline Drawing and Mounting



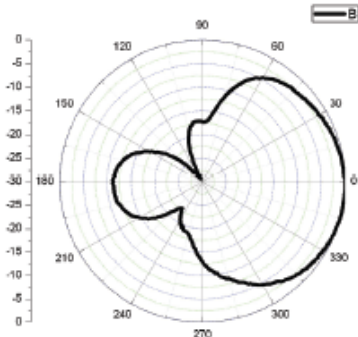


pattern

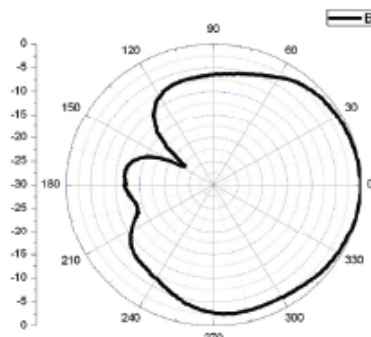
Broadband Spiral Antenna

Frequency: 2GHz

E Plane

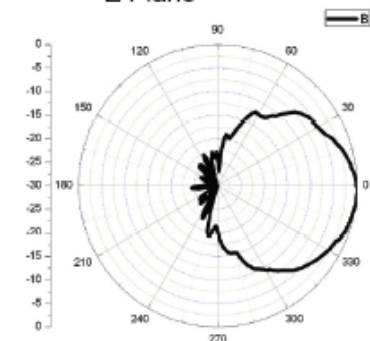


H Plane

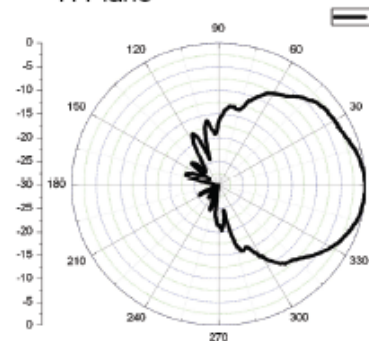


Frequency: 8GHz

E Plane

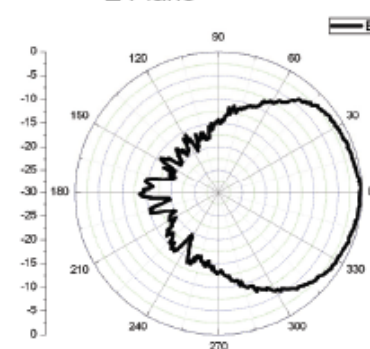


H Plane

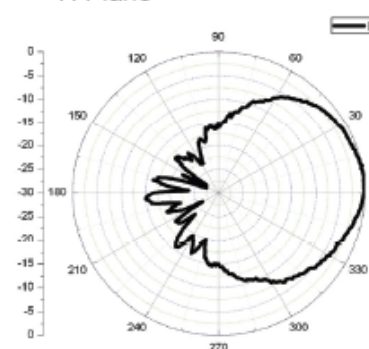


Frequency: 12GHz

E Plane

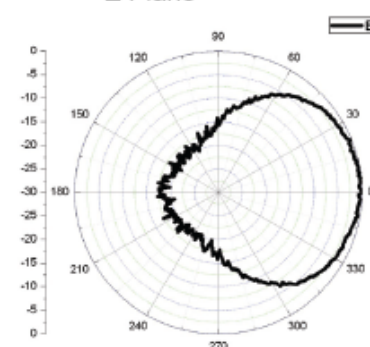


H Plane

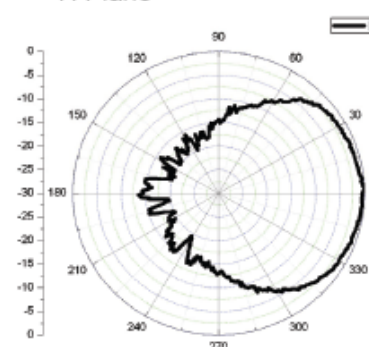


Frequency: 18GHz

E Plane



H Plane





Broadband Spiral Antenna

2.0~18.0GHz

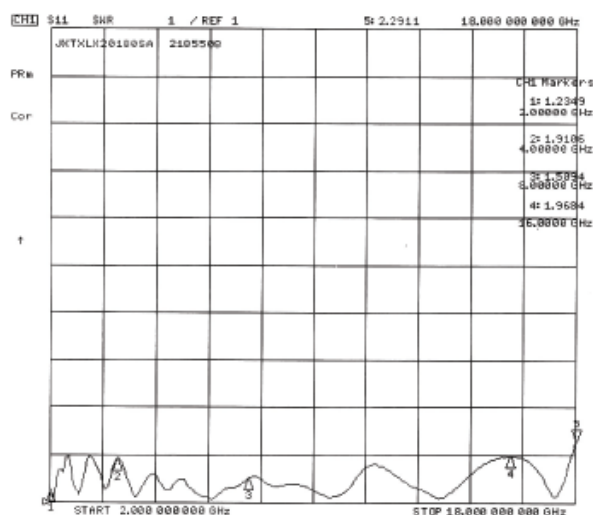
P/N: OBS-20180SA

Technical Specification

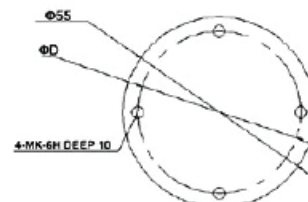
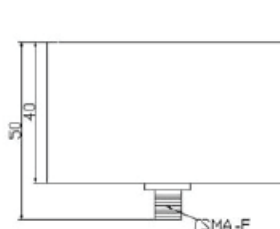
Frequency (GHz)	2-18		
Polarization	RHCP or LHCP		
Gain(dBi)(Typ.)@GHz	-3.5@2		
	1.4@4		
	1.6@8		
	1.7@12		
	1.8@18		
Beamwidth (°)3dB	Freq.(GHz)	E	H
	2	100	135
	4	95	95
	8	65	80
	12	65	75
	18	75	95
Axial Ratio(dB) (Typ.)@GHz	3.4@2		
	1.9@4		
	2.7@8		
	1.8@12		
	3.0@18		
VSWR(Typ.)	3		
Connetor	SMA-Female		



VSWR



Outline Drawing and Mounting



Item	Unit	Value
Length	mm	40
Width	mm	50
Height	mm	4

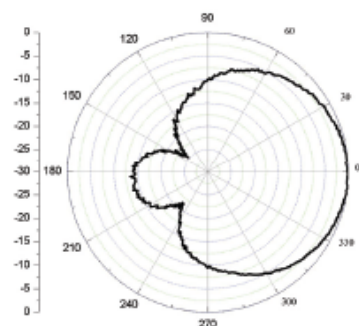


Broadband Spiral Antenna

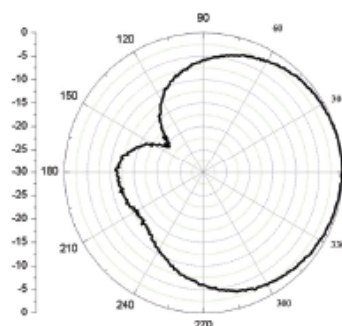
pattern

Frequency: 2GHz

E Plane

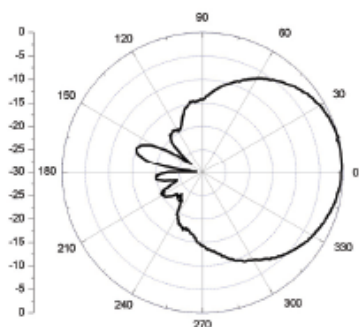


H Plane

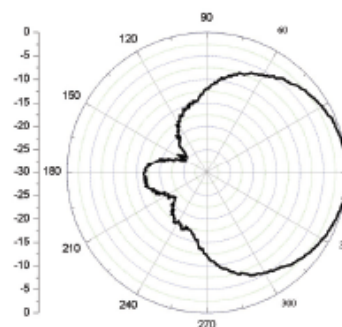


Frequency: 8GHz

E Plane

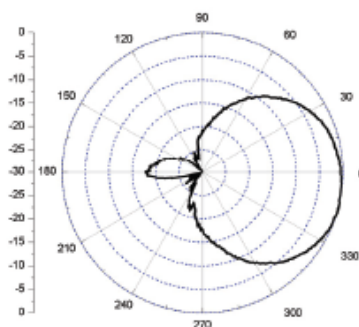


H Plane

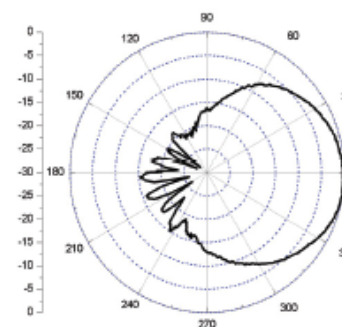


Frequency: 12GHz

E Plane

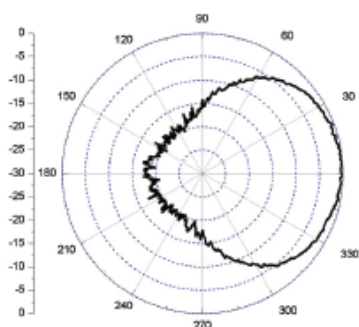


H Plane

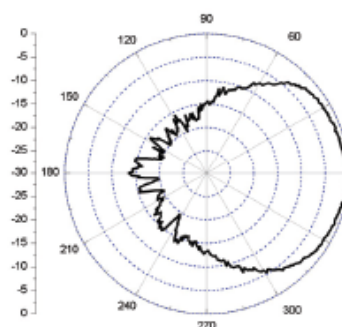


Frequency: 18GHz

E Plane



H Plane





Broadband Spiral Antenna

2.0~18.0GHz

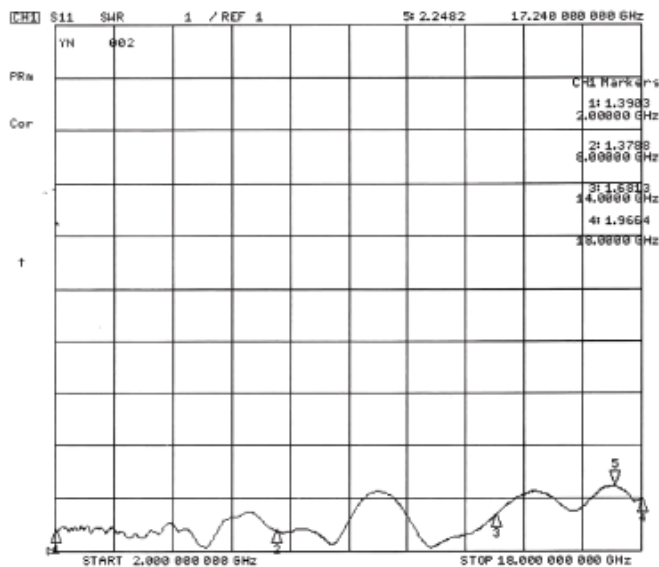
P/N: OBS-20180SB

Technical Specification

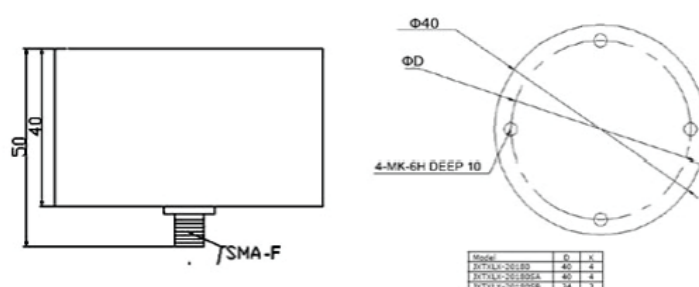
Frequency (GHz)	2-18
Polarization	RHCP or LHCP
Gain(dBi)(Typ.)@GHz	-8.5@2
	0.3@4
	1.5@8
	1.7@12
	1.5@18
Beamwith (°)3dB	110-55
Axial Ratio(dB) (Typ.)@GHz	8 max
VSWR(Typ.)	3
Connetor	SMA-Female



VSWR



Outline Drawing and Mounting

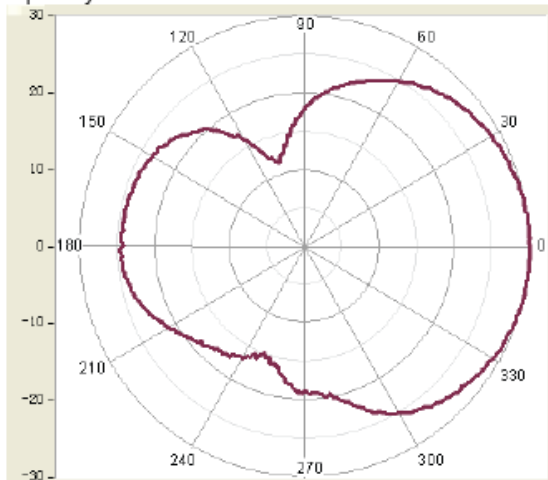




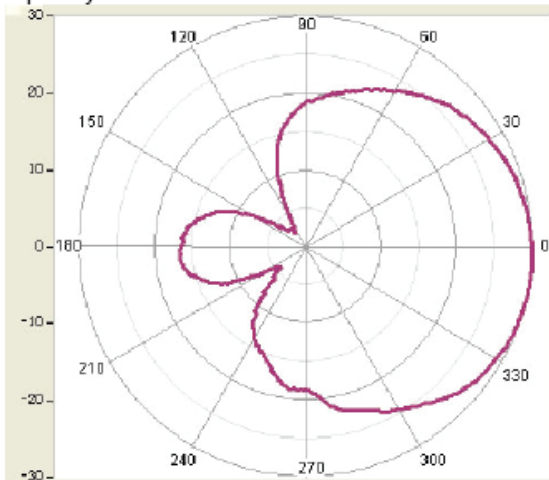
Broadband Spiral Antenna

Pattern

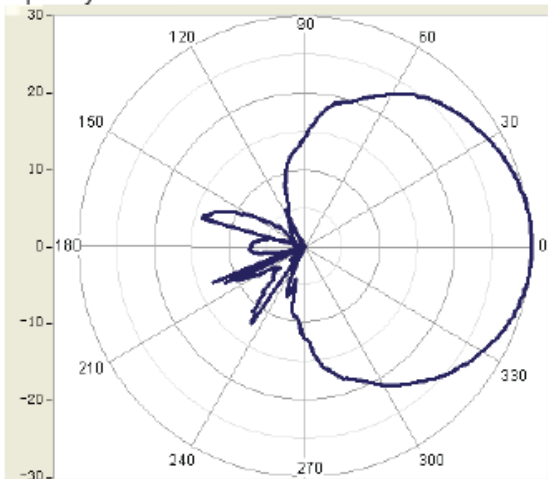
Frequency: 2GHz



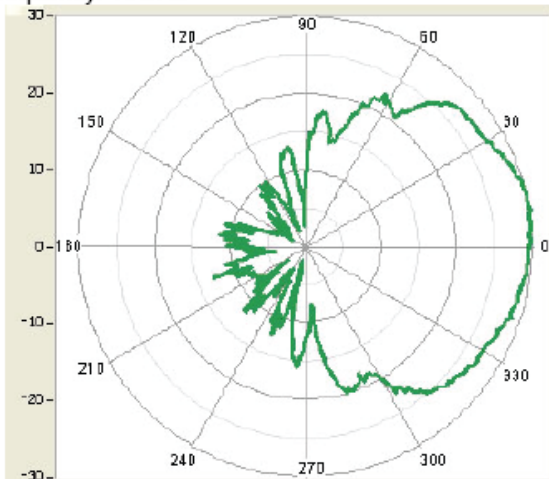
Frequency: 4GHz



Frequency: 8GHz



Frequency: 16GHz





Broadband Spiral Antenna

8.0~18.0GHz

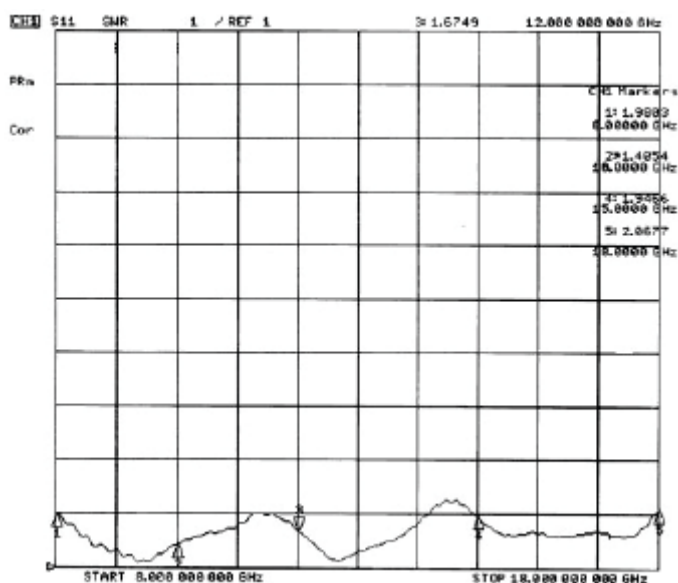
P/N: OBS-80180



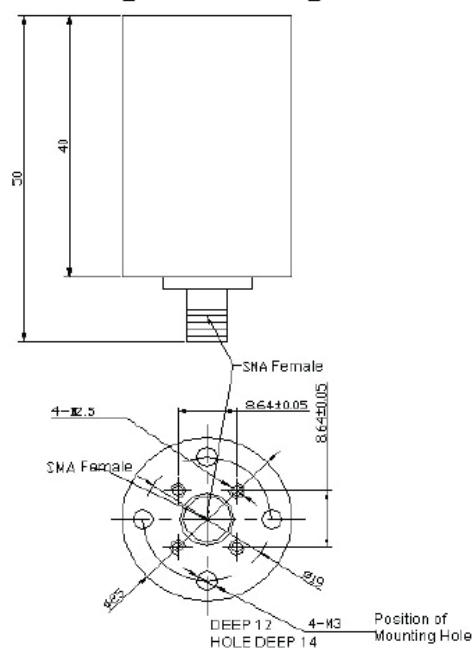
Technical Specification

Frequency (GHz)	8-18
Polarization	RHCP or LHCP
Gain(dBi)(Typ.)@GHz	1.4@8
	2.2@10
	2.1@12
	3.8@16
	3.7@18
Axial Ratio(dB) (Typ.)@GHz	3.5@8
	2.8@10
	1.8@12
	2.5@16
	1.6@18
VSWR(Typ.)	2.5
Connetor	SMA-Female

VSWR



Outline Drawing and Mounting



Pattern

