

End Fed Mini-Bicon Antenna Model 3183B

User Manual



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MANUAL, 3183B MINI-BICON ANTENNA| Part # 1701401 Rev A

Revision	Description	Date
A	Initial Release	March, 2019
B	Antenna Mount added to Replacement and Optional Parts list	April, 2019

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NOTES, CAUTIONS AND WARNINGS

	<p>Note: Denotes helpful information intended to provide tips for better use of the product.</p>
<p>CAUTION</p>	<p>Caution: Denotes a hazard. Failure to follow instructions could result in minor personal injury and/or property damage. Included text gives proper procedures.</p>
<p>WARNING</p>	<p>Warning: Denotes a hazard. Failure to follow instructions could result in SEVERE personal injury and/or property damage. Included text gives proper procedures.</p>

SAFETY INFORMATION

	<p>Refer to Manual: When product is marked with this symbol, see the instruction manual for additional information. If the instruction manual has been misplaced, download it from www.ets-lindgren.com, or contact ETS-Lindgren Customer Service.</p>
	<p>High Voltage: Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury or death.</p>
	<p>High Voltage: Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury or death.</p>
	<p>Protective Earth Ground (Safety Ground): Indicates protective earth terminal. You should provide uninterruptible safety earth ground from the main power source to the product input wiring terminals, power cord, or supplied power cord set.</p>



See the ETS-Lindgren **Product Information Bulletin** for safety, regulatory, and other product marking information.

GENERAL SAFETY CONSIDERATIONS

	<p>Before power is applied to this instrument, ground it properly through the protective conductor of the AC power cable to a power source provided with the protective earth contact. Any interruption of the protective (grounding) conductor, inside or outside the instrument, or disconnection of the protective earth terminal could result in personal injury.</p>
 	<p>Before servicing: contact ETS-Lindgren – servicing (or modifying) the unit by yourself may void your warranty. If you attempt to service the unit by yourself, disconnect all electrical power before starting. There are voltages at many points in the instrument which could, if contacted, cause personal injury. Only trained service personnel should perform adjustments and/or service procedures upon this instrument. Capacitors inside this instrument may still be CHARGED even when instrument is disconnected from its power source.</p>
	<p>Only qualified personnel should operate (or service) this equipment.</p>

INTRODUCTION

Model 3183B

ETS-Lindgren's Model 3183B is an end fed Mini-Bicon Antenna designed for CISPR 16-1-4 and ANSI C63.25 chamber validation testing above 1 GHz. The frequency range for the Model 3183B is 1 GHz to 18 GHz.

The Model 3183B is not weather protected, and is not recommended for outdoor testing.



Never attempt to remove the stem from the Model 3183B.



The radiation pattern is omni directional in the H plane, allowing the antenna to receive signals from every direction around the axis. The range covers most wireless bands worldwide, and is designed for the lowest possible VSWR across the range of operation. The antenna exhibits better than 2:1 VSWR for most of the range, and never exceeds 5:1 above 1 GHz.

The small size of the antenna enables it to be used for amplifier harmonic measurements when performing tests per IEC 61000-4-3.

Each antenna is calibrated during manufacturing. The calibration results will be radiation pattern graphs with Pass/Fail criteria. Typical data is provided starting on page 12.

Tripod

ETS Lindgren offers the 4 TR non metallic, non reflective tripod for use at both indoor and outdoor EMC test sites.

- Constructed of linen phenolic and delrin, designed with an adjustable center post for precise height adjustments.
- Maximum height is 2.0 m (80.0 in), and minimum height is 94 cm (37.0 in).
- Can support up to an 11.8 kg (26.0 lb) load.



ETS-Lindgren Product Information Bulletin

See the ETS-Lindgren *Product Information Bulletin* included with your shipment for the following:

- Warranty information
- Safety, regulatory, and other product marking information
- Steps to receive your shipment
- Steps to return a component for service
- ETS-Lindgren calibration service
- ETS-Lindgren contact information

MAINTENANCE

CAUTION

Before performing any maintenance, follow the safety information in the ETS-Lindgren *Product Information Bulletin* included with your shipment.



Maintenance of the Model 3183B is limited to external components such as cables or connectors.

If you have any questions concerning maintenance, contact ETS-Lindgren Customer Service.

Annual Calibration

See the *Product Information Bulletin* included with your shipment for information on ETS-Lindgren calibration services.

Replacement and Optional Parts

Following are the part numbers for ordering replacement or optional parts for the Model 3183B End Fed Mini-Bicon Antenna.

Part Description	Part Number
Clamp Block Assembly	102108
Support Base	101942B
Supporty Rod	100733
Antenna Mount 3104/3121C	101938C

Service Procedures

For the steps to return a system or system component to ETS-Lindgren for service, see the *Product Information Bulletin* included with your shipment.

SPECIFICATIONS

Electrical Specifications

Frequency Range	1 GHz – 18 GHz
VSWR Ratio (Average)	2:1
CW Power	20 W
Impedance	50 Ω
Connector	SMA female

Physical Specifications

Length	37.70 cm (14.86 in)
Width	10.80 cm (4.25 in)
Stinger Length	25.10 cm (9.88 in)
Weight	1.45 kg (3.20 lb)

MOUNTING INFORMATION

CAUTION

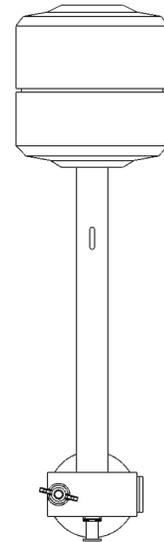
Before connecting any components, follow the safety information in the ETS-Lindgren *Product Information Bulletin* included with your shipment.

CAUTION

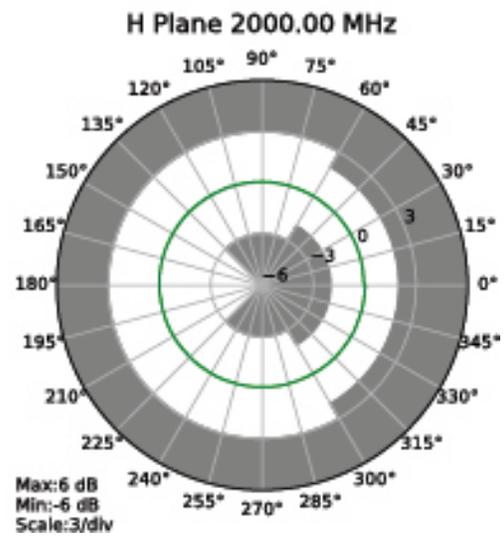
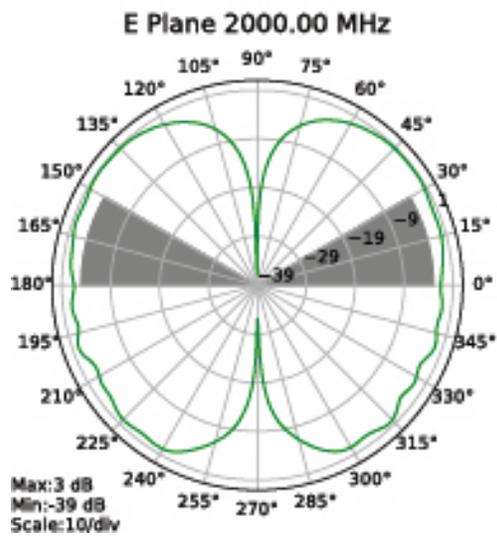
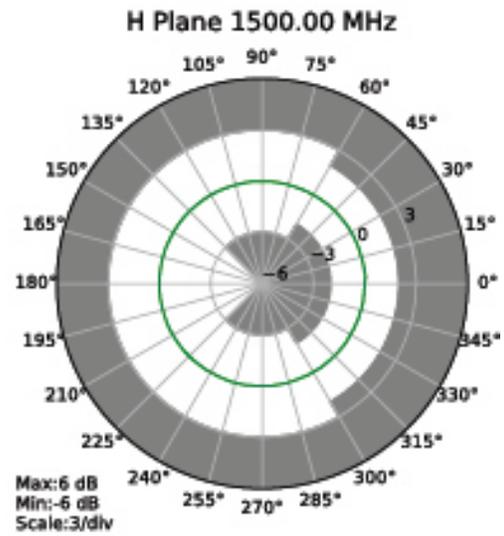
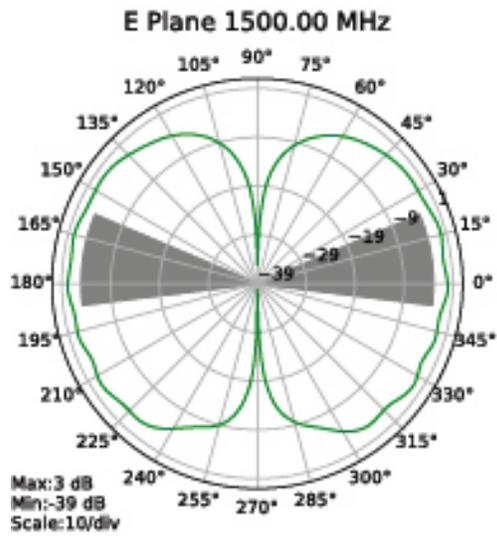
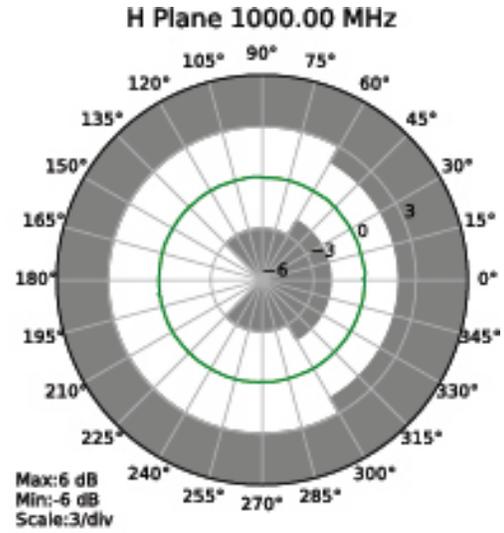
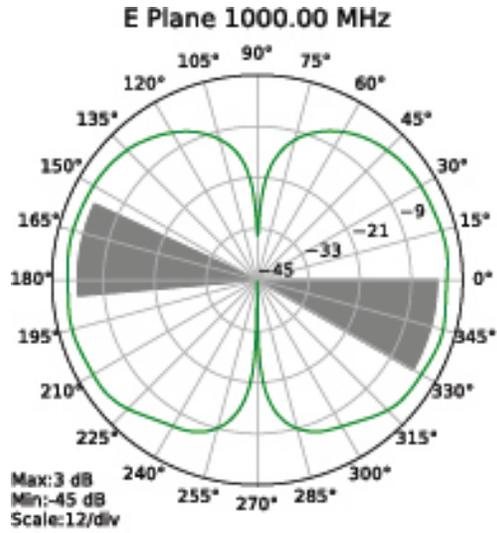
The Model 3183B antenna is a precision measurement device. Handle your antenna with care.

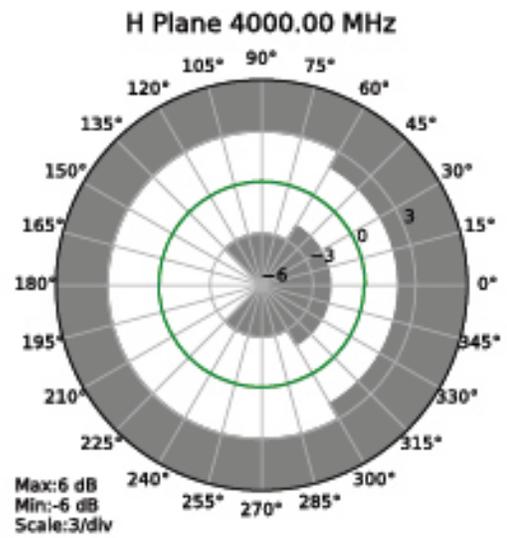
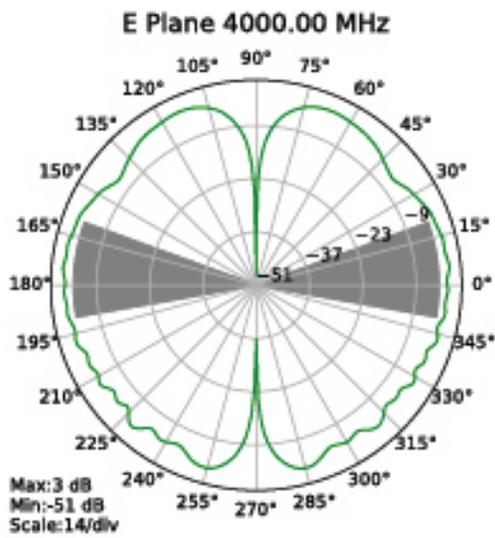
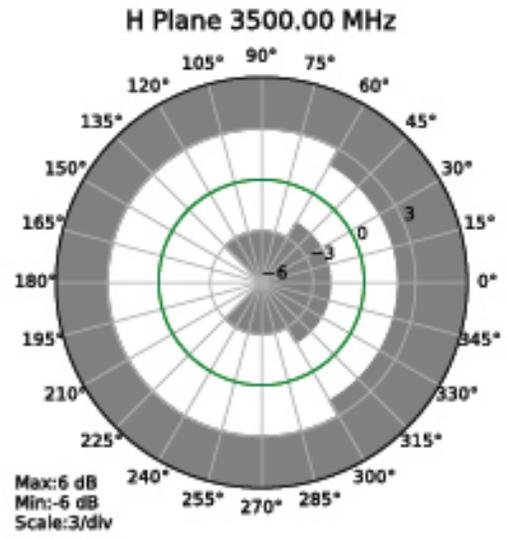
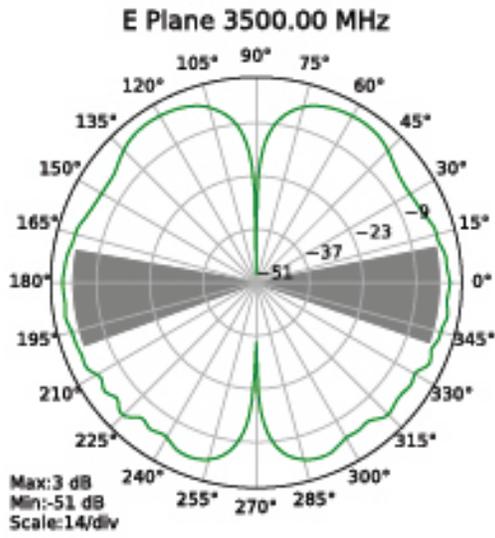
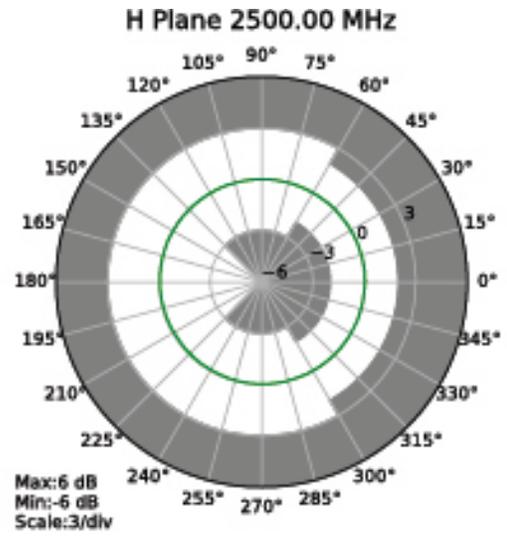
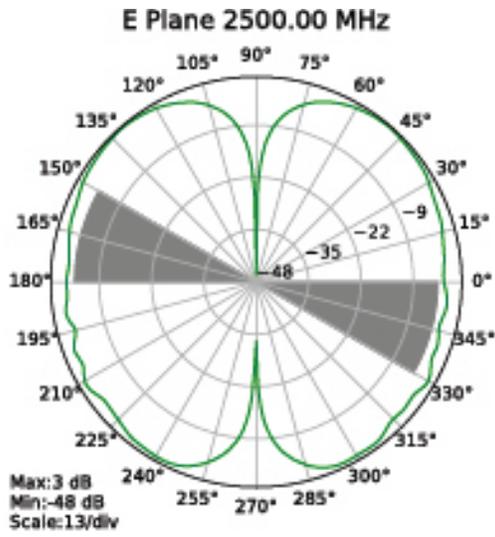
Orient to Notch

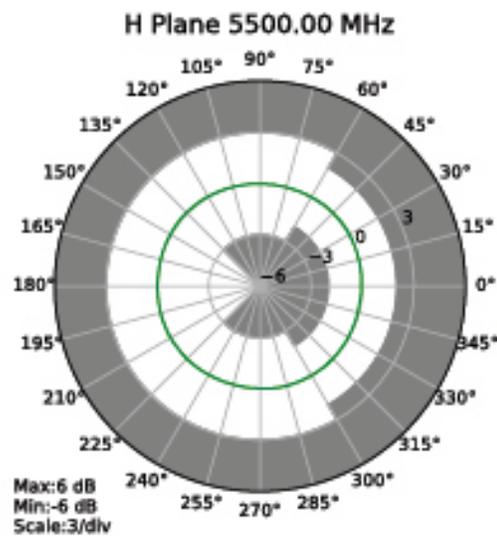
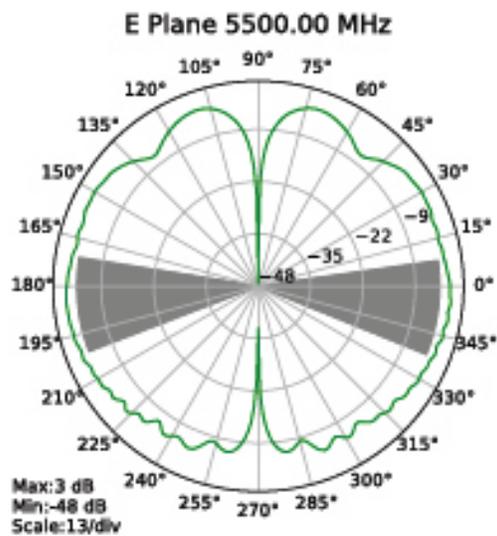
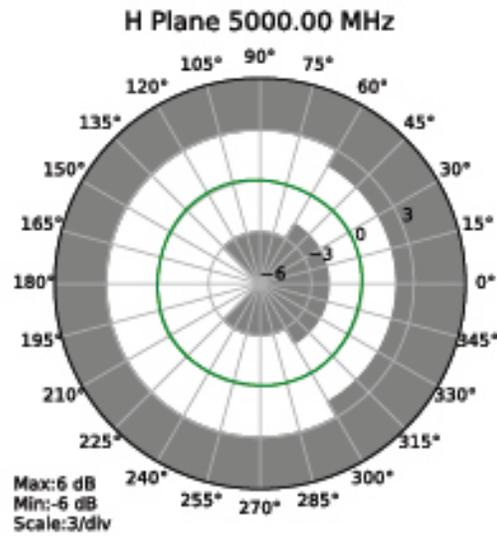
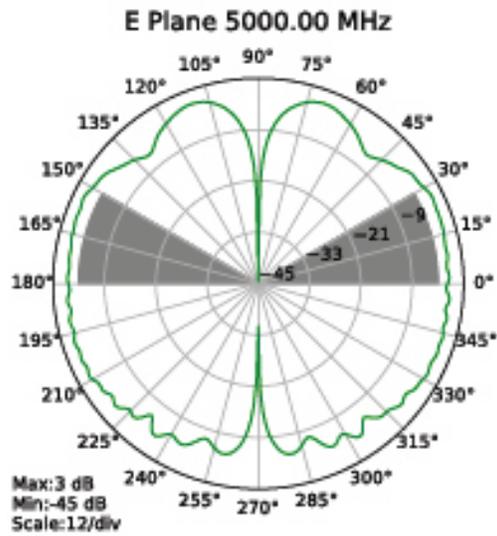
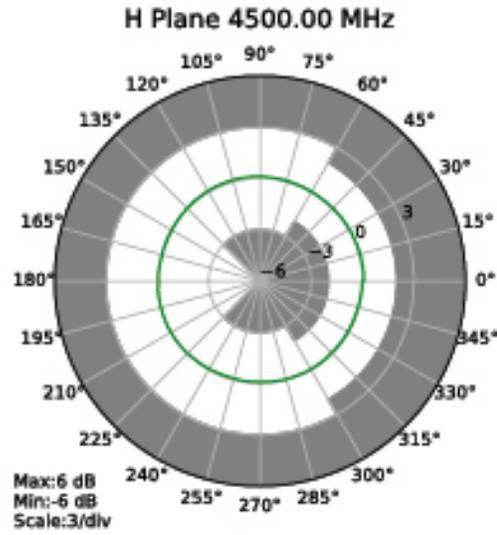
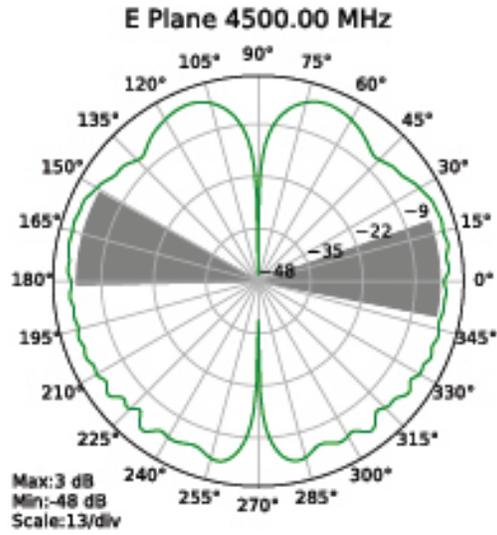
For consistency and reduced uncertainty, use the notch on the antenna shaft to orient the Model 3183B. This ensures that the same part of the Model 3183B will face the receive antenna during the sVSWR test.

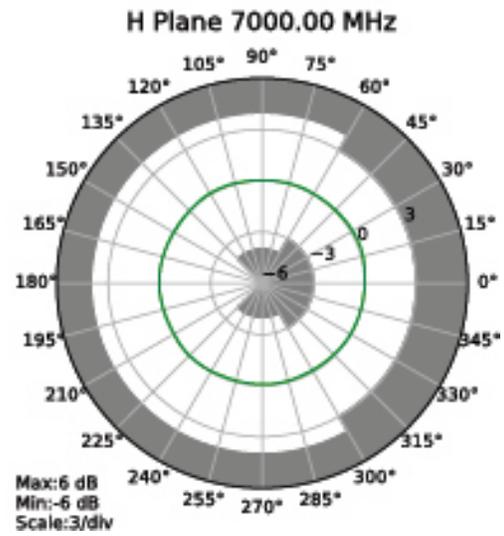
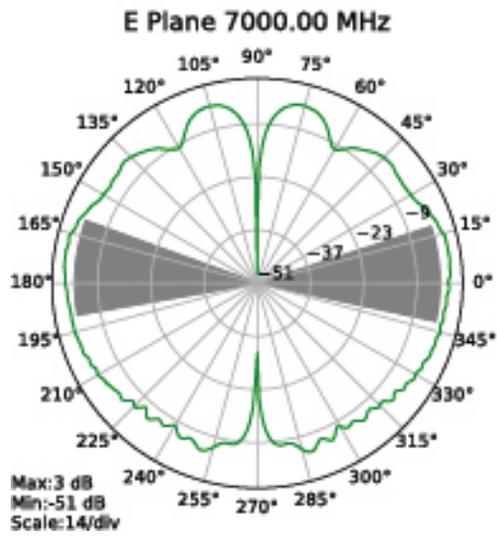
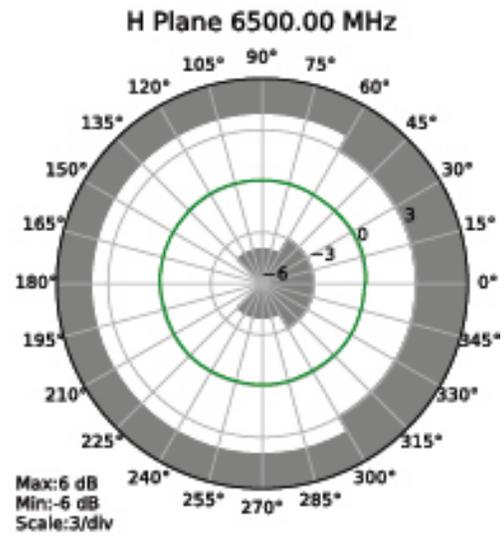
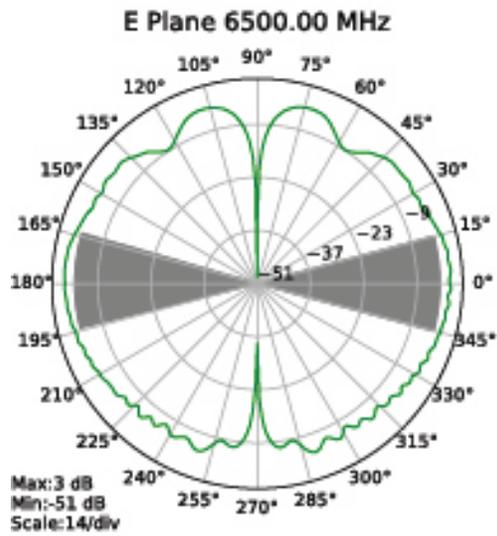
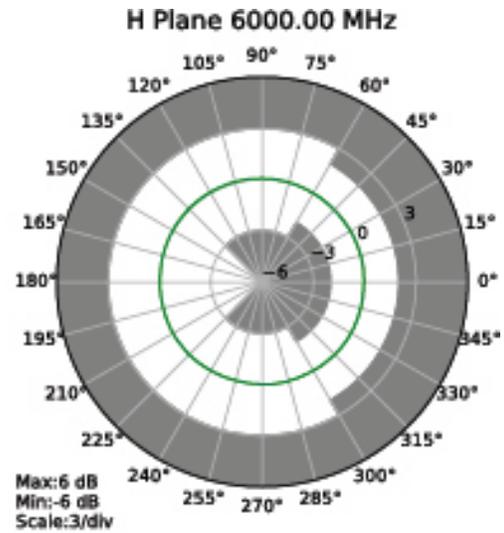
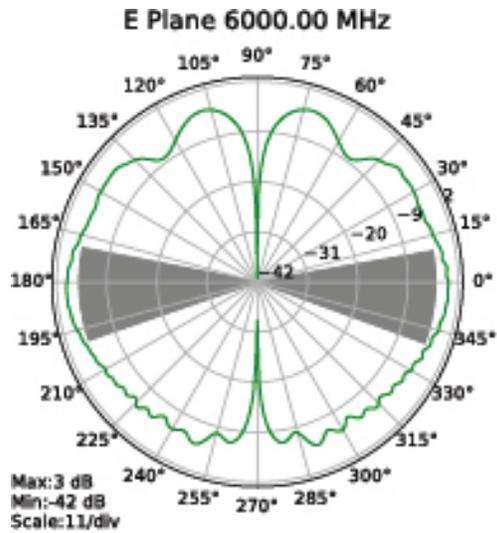


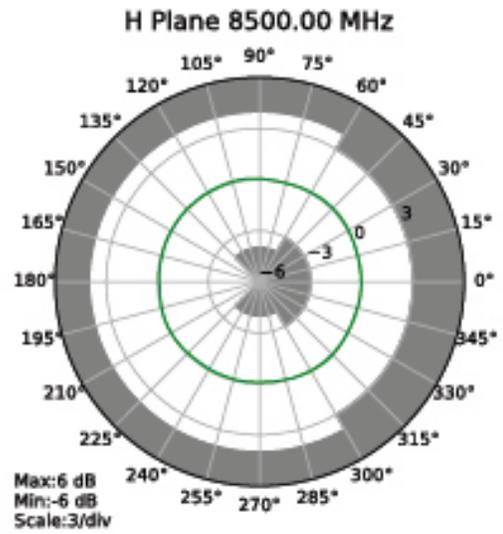
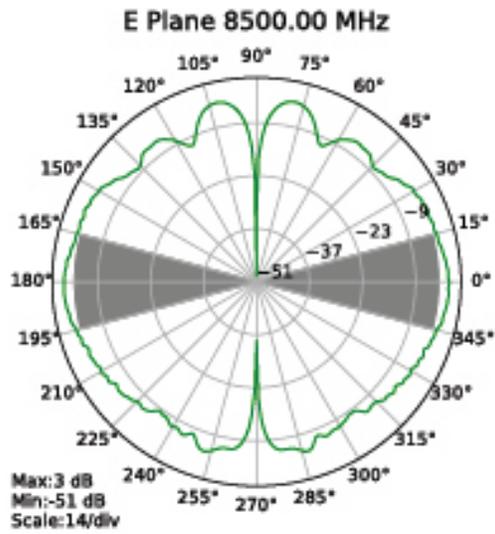
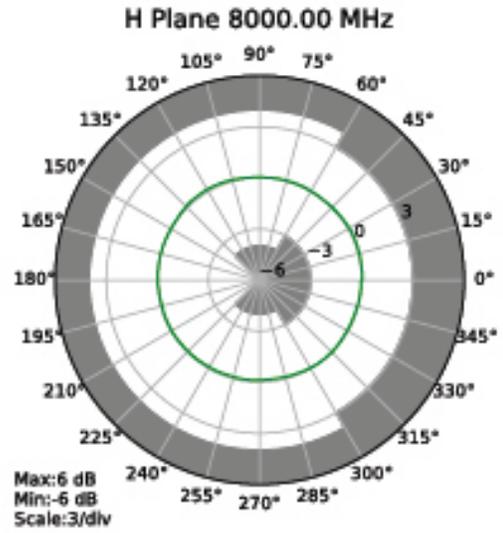
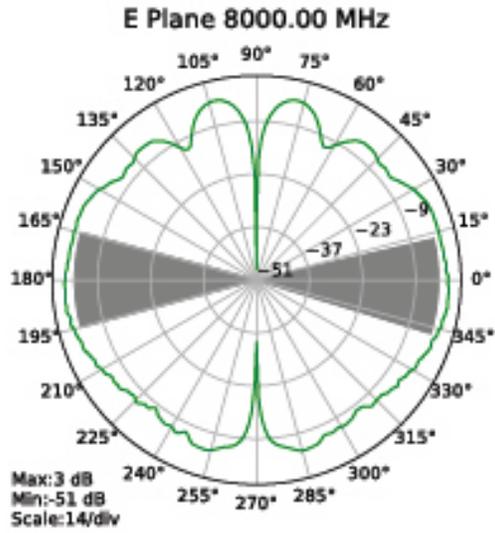
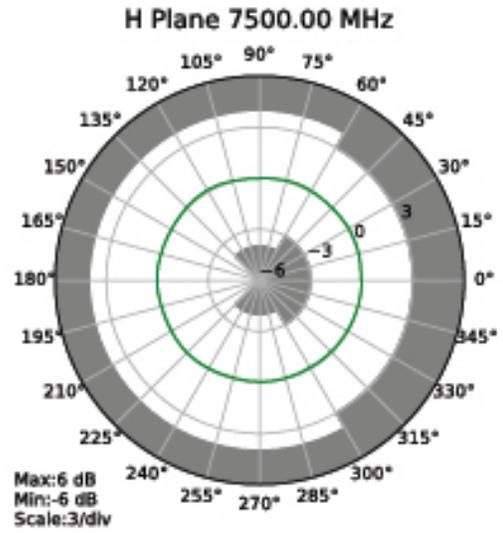
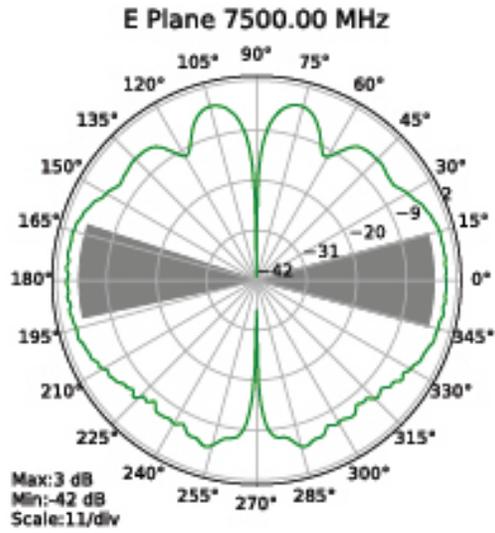
TYPICAL DATA

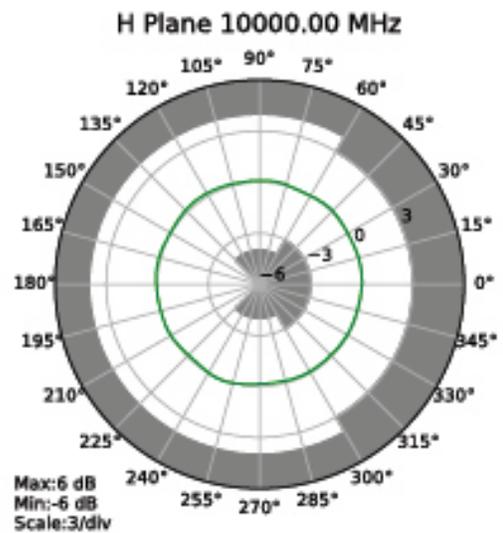
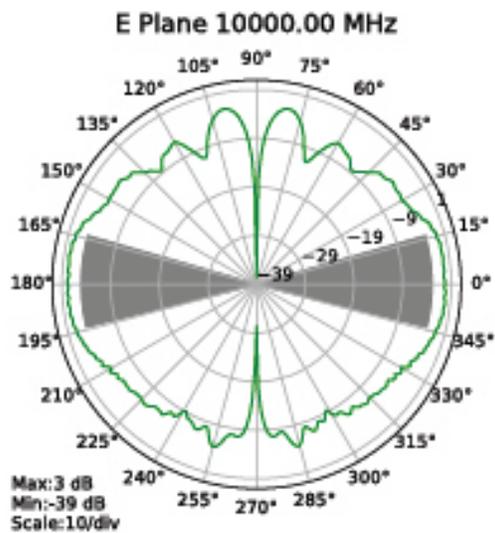
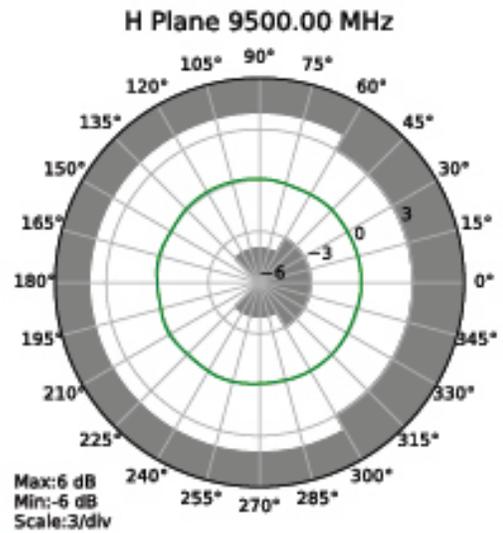
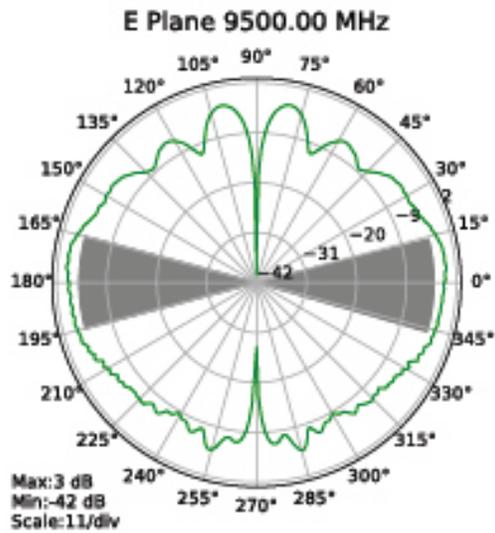
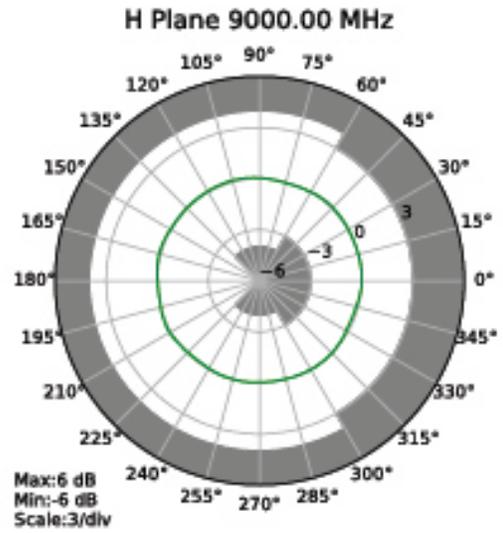
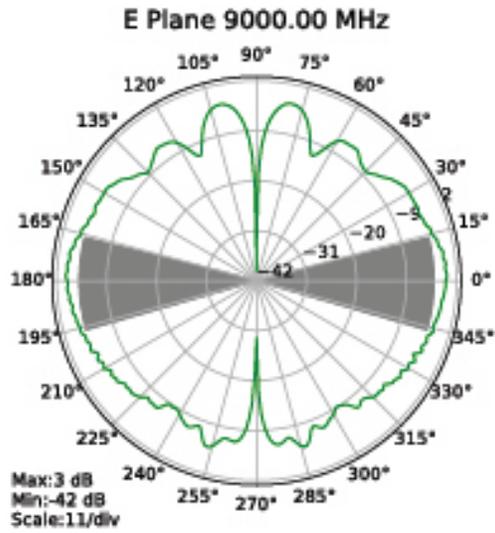




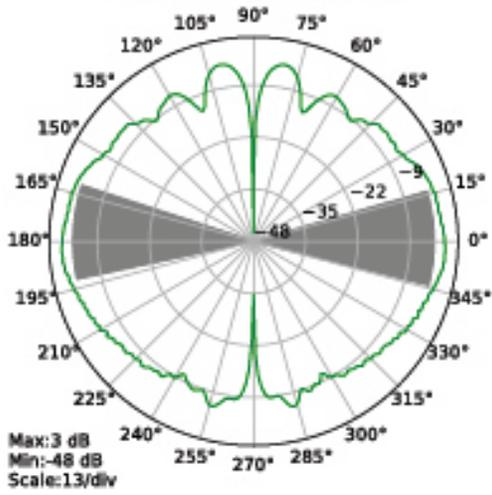




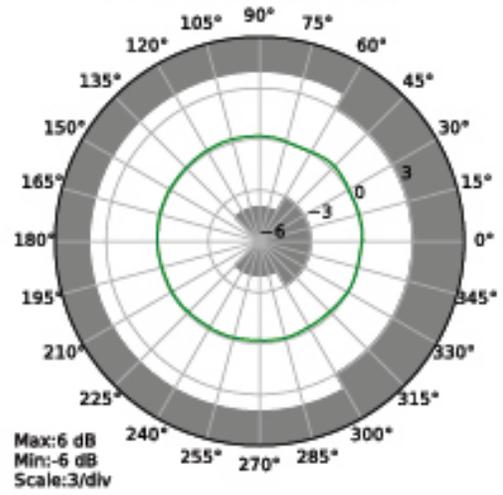




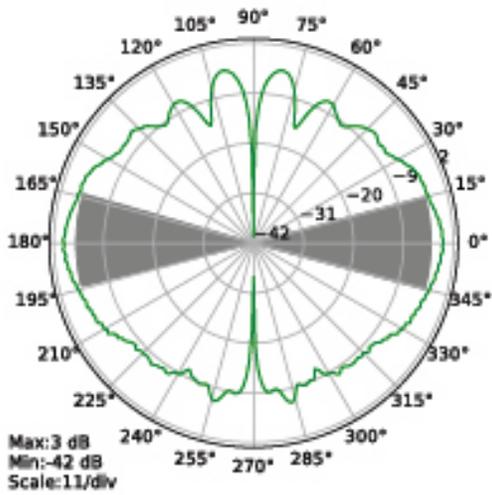
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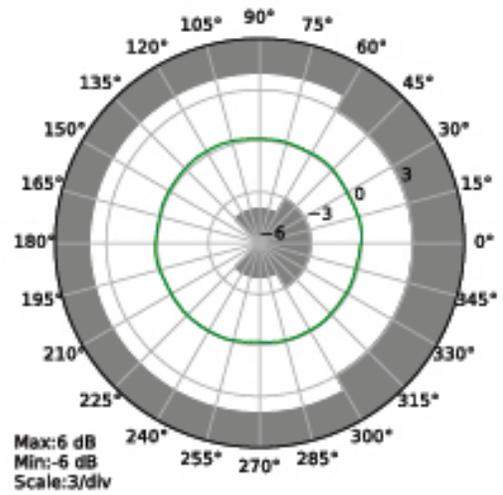
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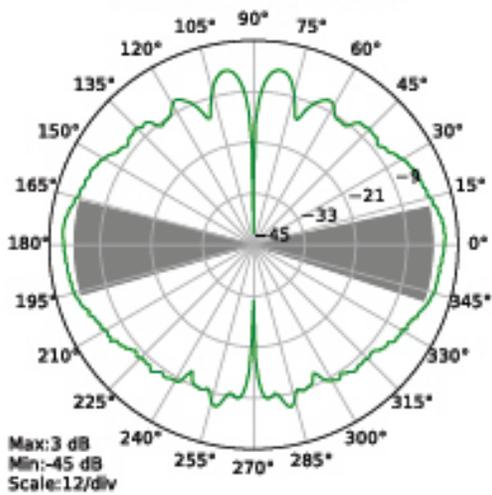
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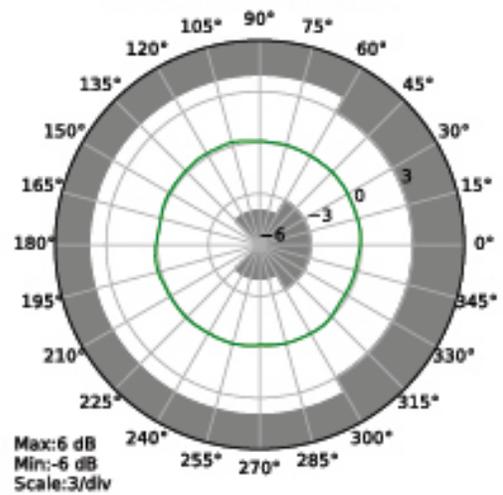
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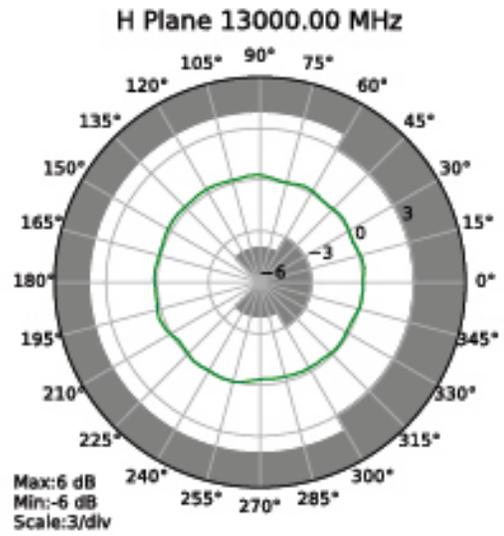
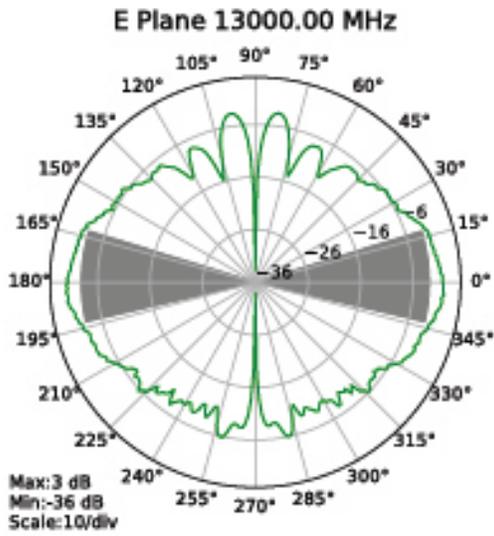
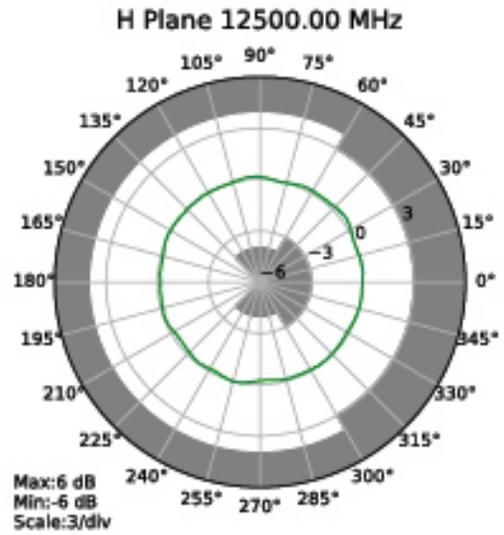
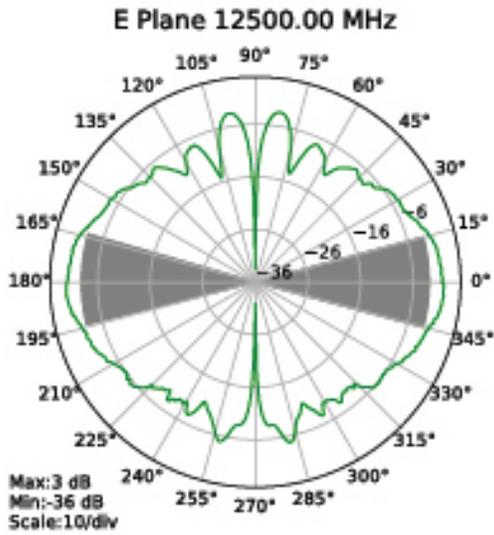
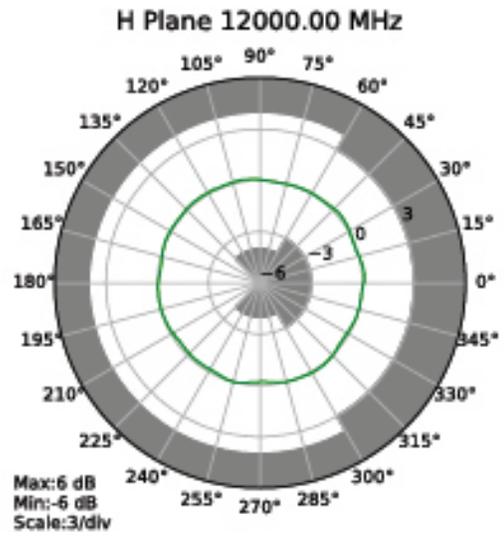
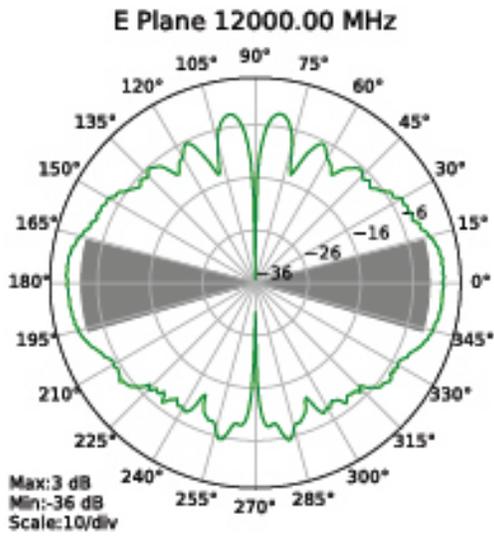


E Plane 11500.00 MHz

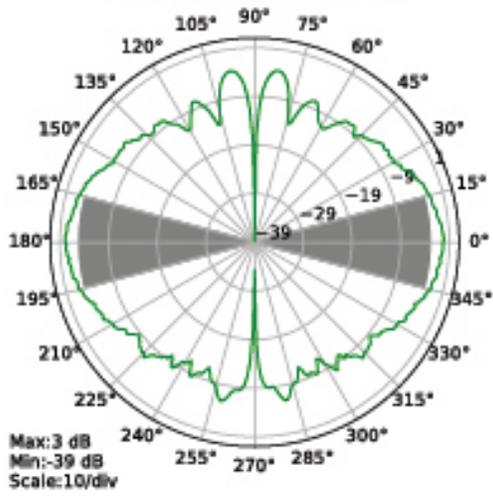


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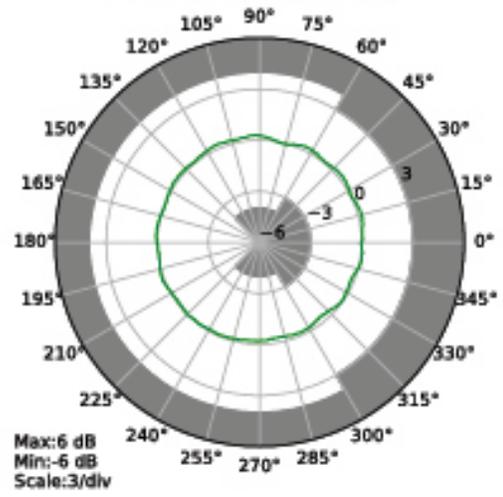




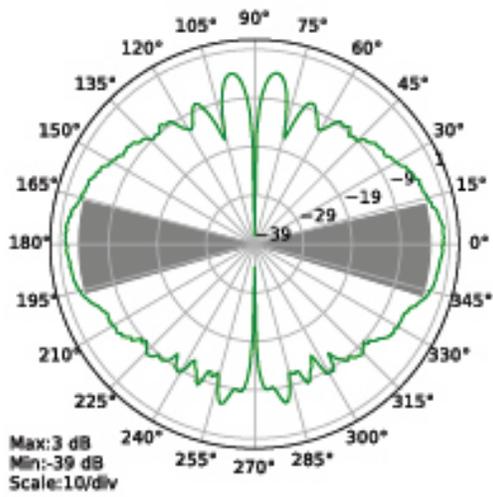
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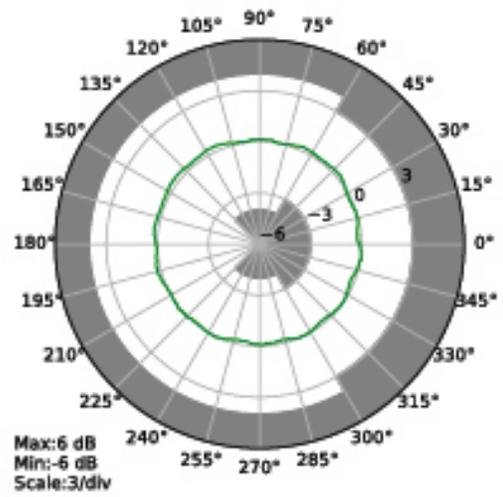
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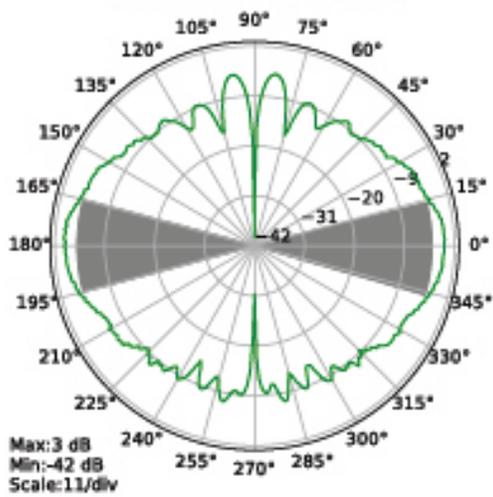
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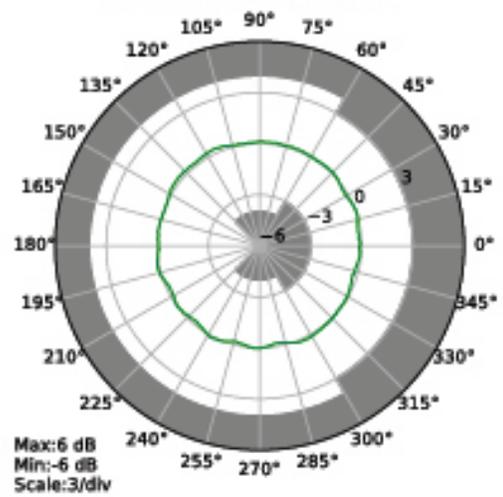
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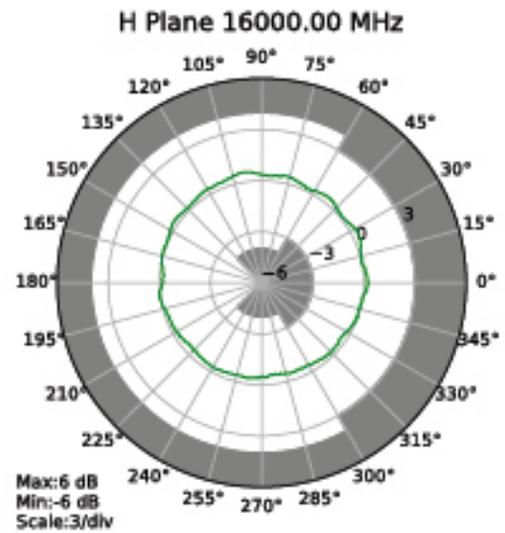
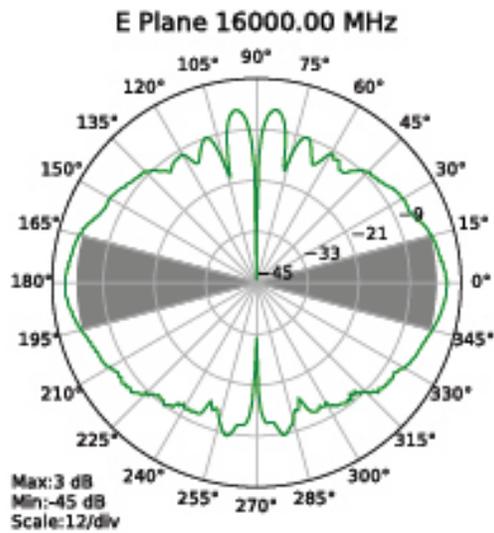
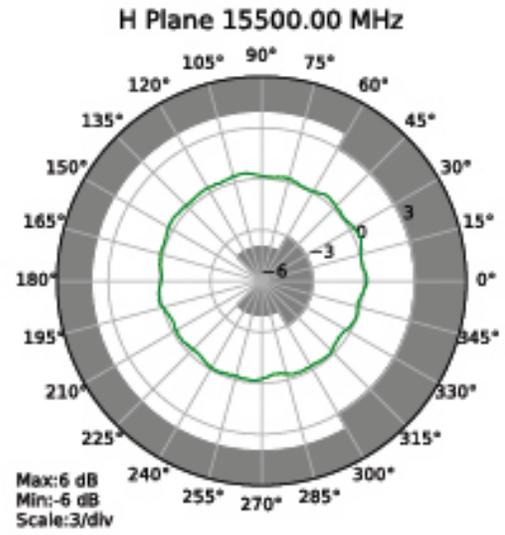
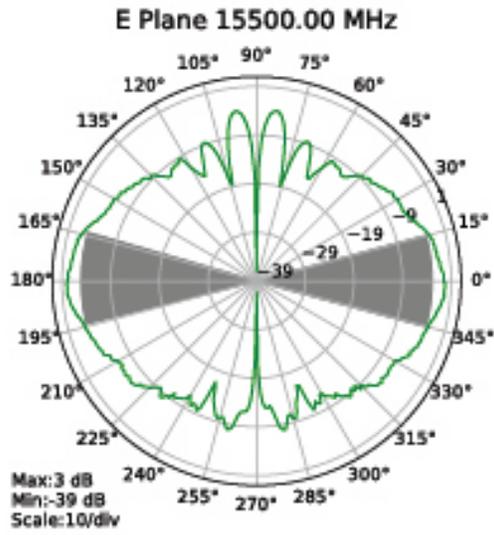
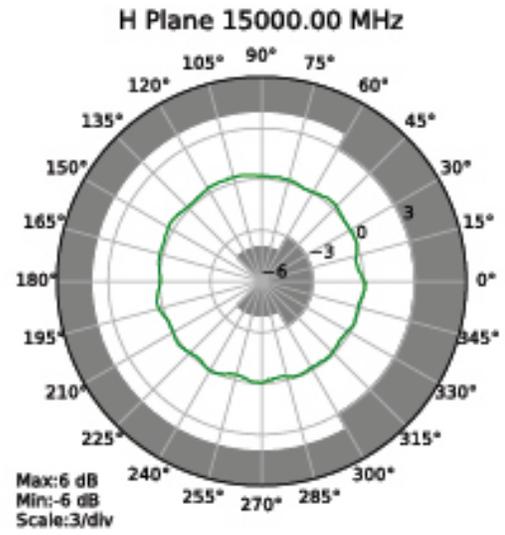
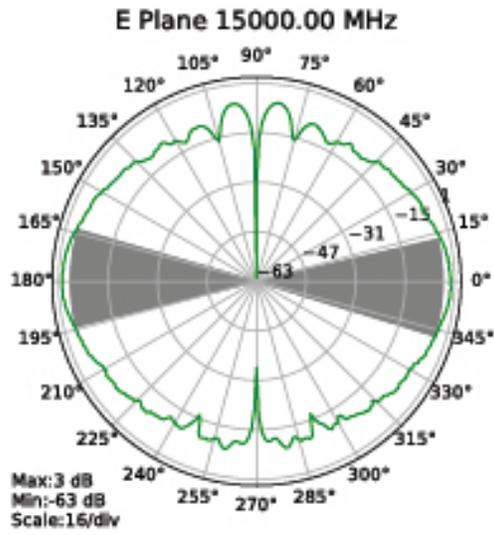


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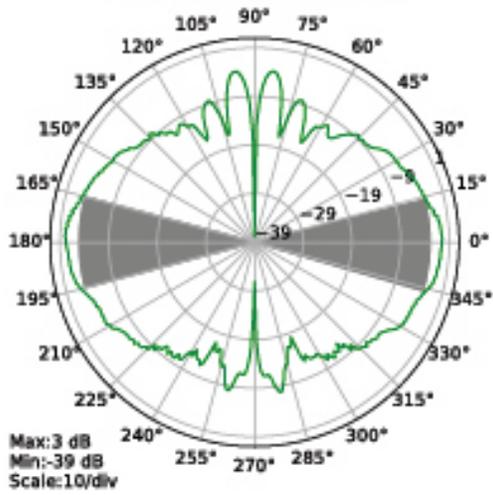


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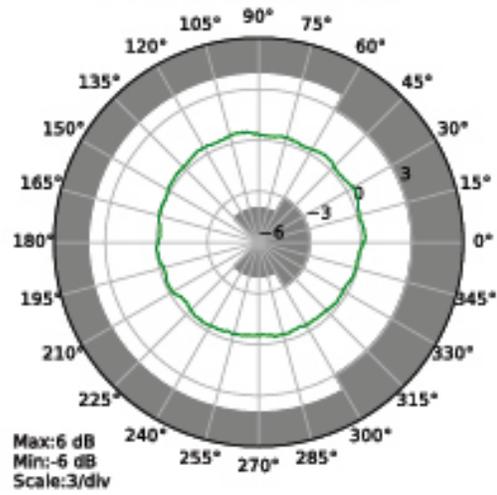




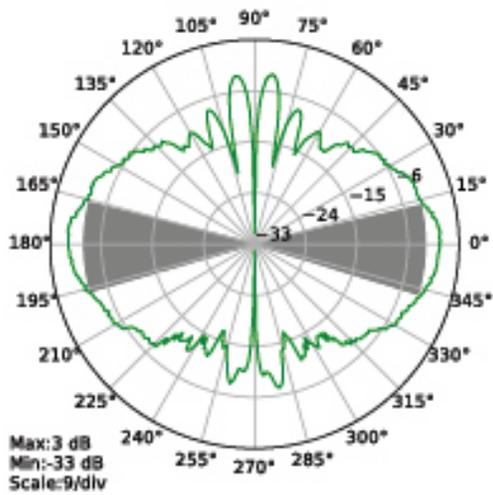
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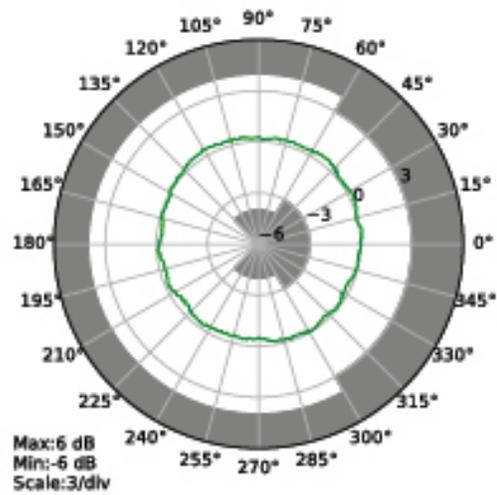
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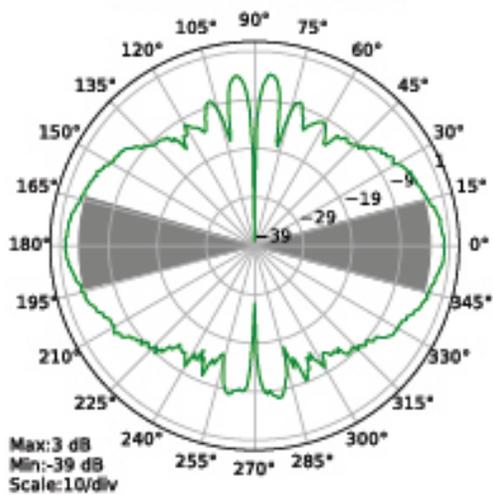
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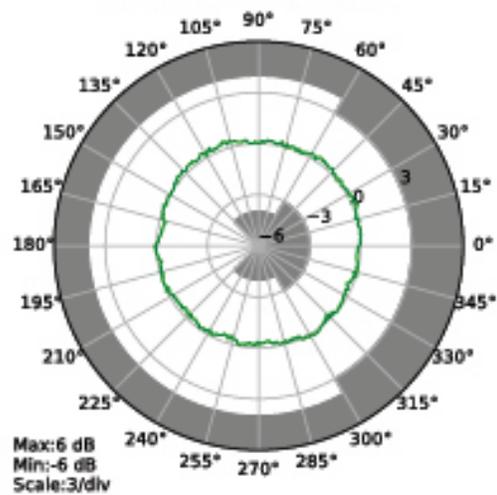
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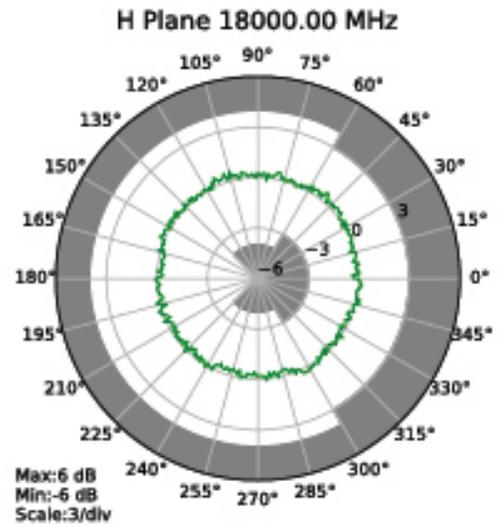
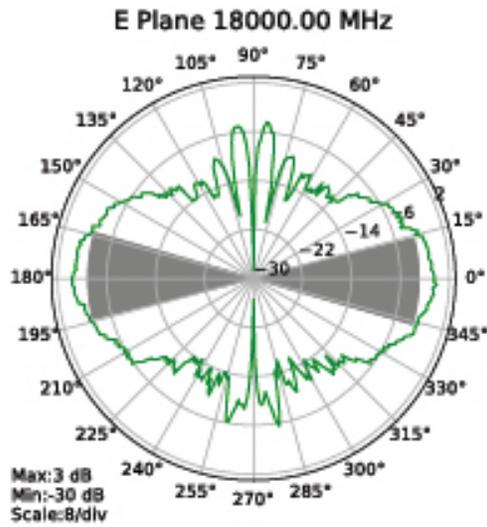


E Plane 17500.00 MHz



H Plane 17500.00 MHz





APPENDIX



See the *Product Information Bulletin* included with your shipment for the complete ETS Lindgren warranty for your Model 3183B.

DURATION OF WARRANTIES FOR MODEL 3183B

All product warranties, except the warranty of title, and all remedies for warranty failures are limited to two years.

Product Warranted	Duration of Warranty Period
Model 3183B End Fed Mini Bicon Antenna	2 Years

