

2.3 - 2.7 GHz MIMO Omni – Directional Base Station Antenna AO-024-MIMO-8



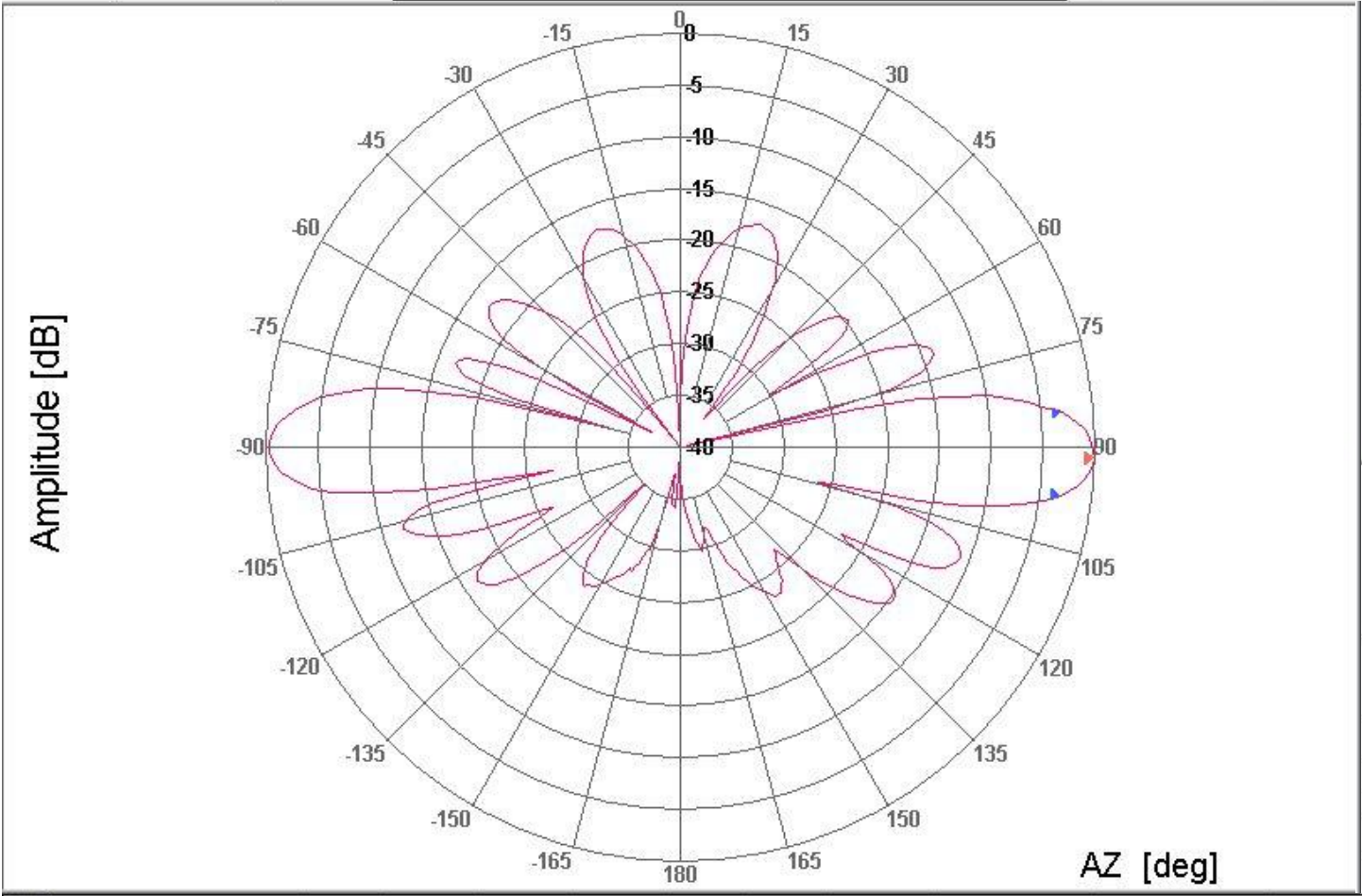
Specifications:

Electrical	
Frequency range	2.3 - 2.7 GHz
GAIN, typ.	3 x 8 dBi
VSWR, max.	2 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	Omni - Directional
3 dB Beam-Width, E-Plane, typ.	10°
Input power, max	10 Watt
Input Impedance	50 Ohm
Mechanical	
Dimensions (H x W x D)	640 x 390 x 90 mm
Weight	1.5 Kg
Connector	3 x N-Type, Female
Radome	UV Protected , Plastic
Mount	Pole Mount with Brackets
Environmental	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

Specifications subject to change without notice

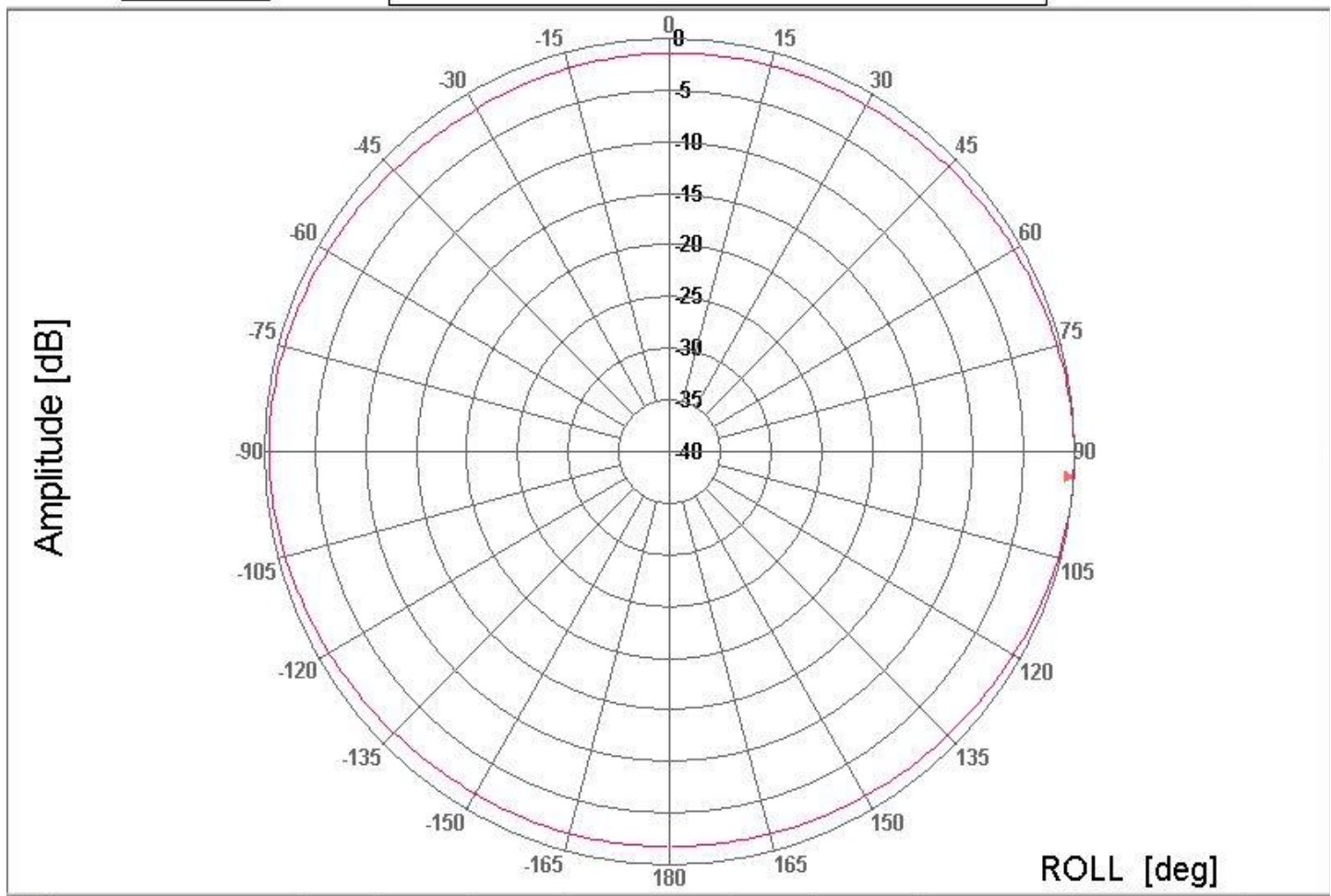
AO-024-MIMO-8 E-plane

Operator: FIRETIDE



AO-024-MIMO-8 H-plane

Operator: FIRETIDE



**2.3-2.7 GHz MIMO Base Station Antenna, 90°
AS90-024-MIMO-13**



Specifications:

Electrical	
Frequency range	2.3 – 2.7 GHz
GAIN, typ.	3 x 13 dBi
VSWR, max.	1.7 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	90°
3 dB Beam-Width, E-Plane, typ.	15°
Side Lobes, min.	-12 dB
Cross Polarization, min.	-20 dB
Front to Back Ratio, min.	-24 dB
Input power, max	50 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
Mechanical	
Dimensions (HxWxD)	380 x 225 x 80 mm
Weight	2 Kg.
Connector	3 x N-Type, Female
Back Plane	Aluminum protected through chemical passivation
Radome	UV Protected, Plastic
Mount	MNT-22 (Not Included)
Environmental	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

Specifications subject to change without notice

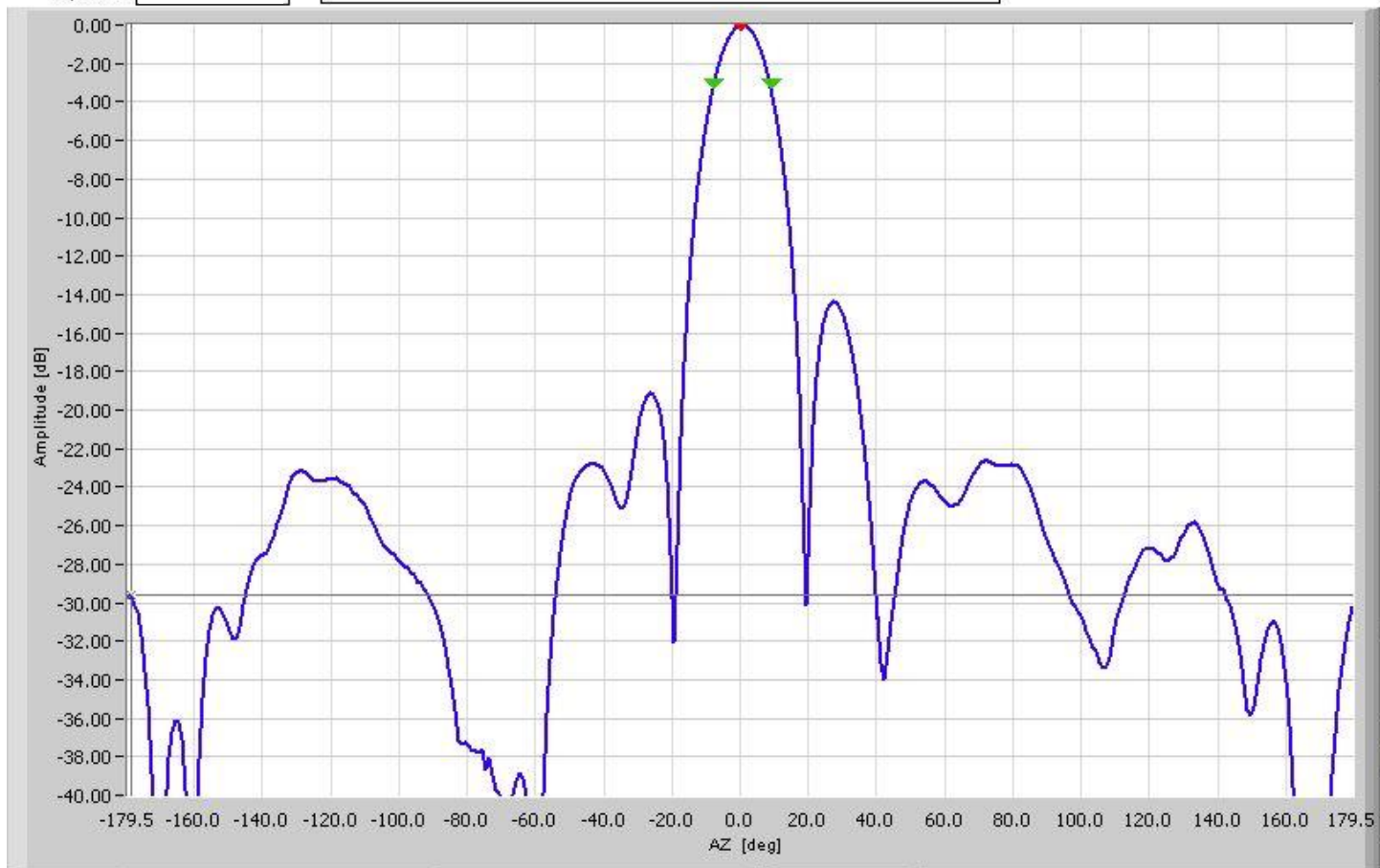
Operator: FIRETIDE

AS90-024-MIMO-13 H-plane



Operator: FIRETIDE

AS90-024-MIMO-13 E-plane



**4.9 - 5.875 GHz MIMO Omni – Directional Base Station Antenna
AO-050-MIMO-9**



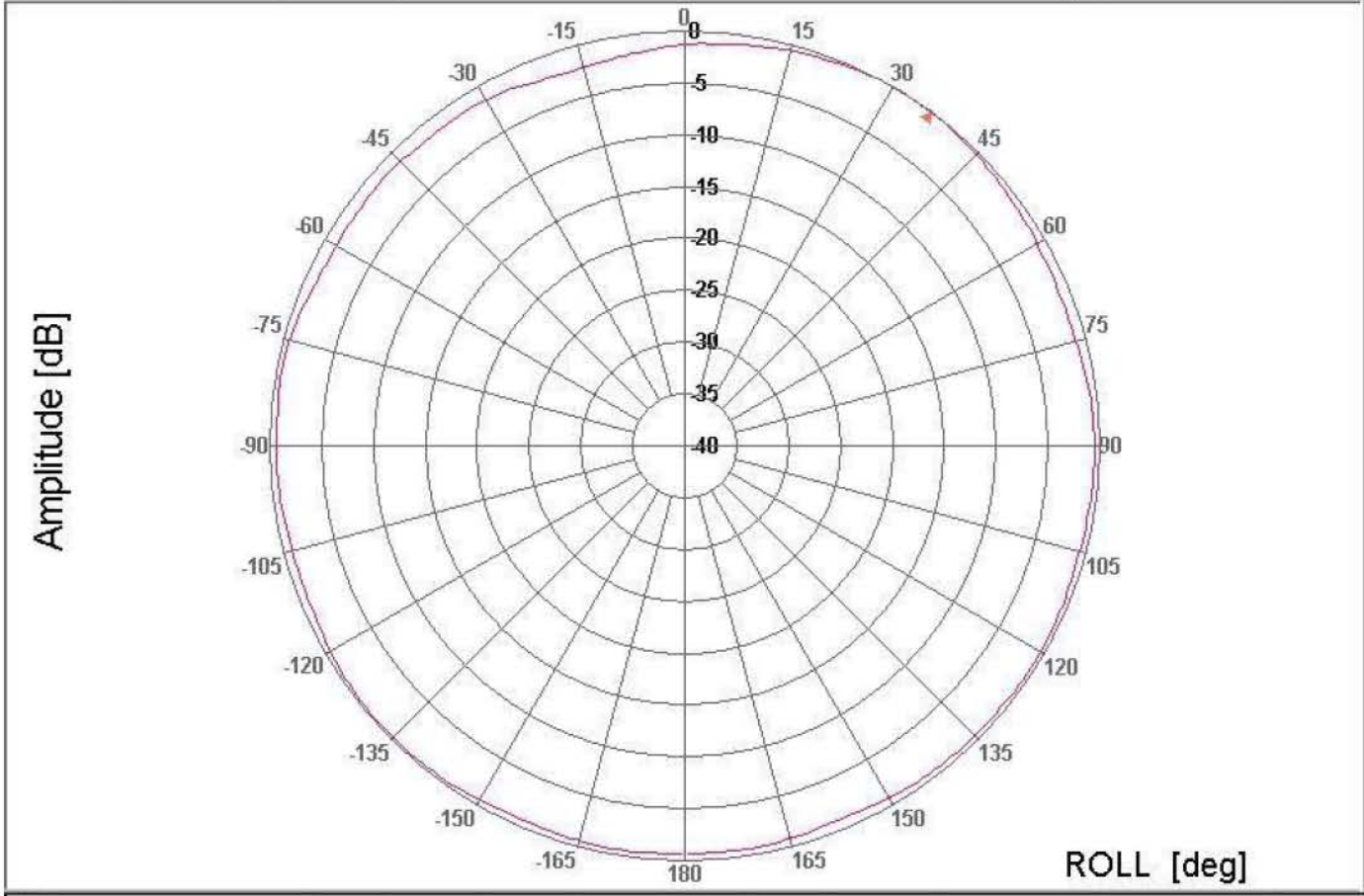
Specifications:

Electrical	
Frequency range	4.9 - 5.875 GHz
GAIN, typ.	3 x 9 dBi
VSWR, max.	2 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	Omni - Directional
3 dB Beam-Width, E-Plane, typ.	10°
Input power, max	50 Watt
Input Impedance	50 Ohm
Mechanical	
Dimensions (HxDia.)	330 x 200 mm
Weight	600 gr
Connector	3 x N-Type, Female
Radome	UV Protected , Plastic
Mount	Provision for Fire Tide MIMO
Environmental	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

Specifications subject to change without notice

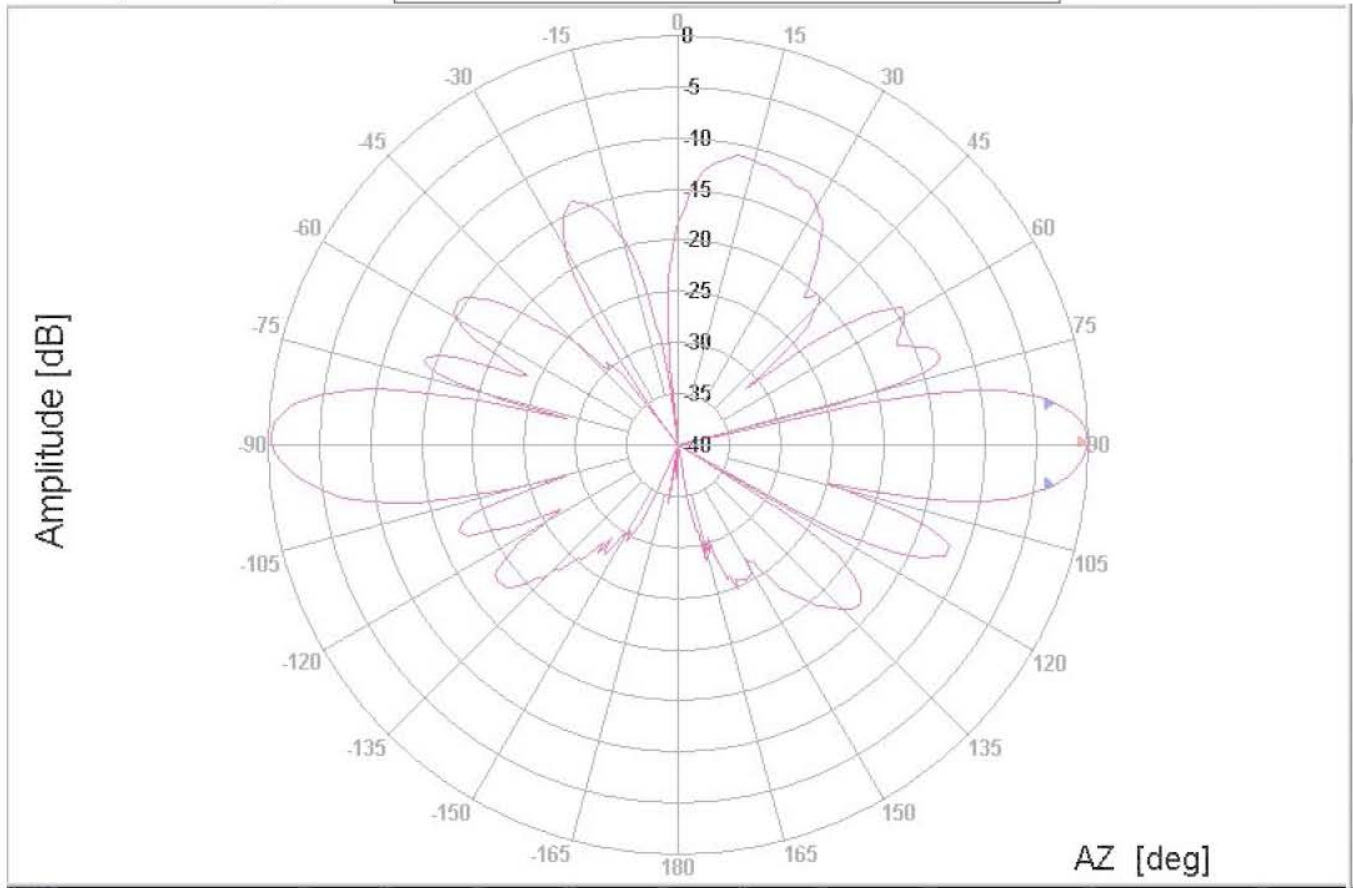
Operator: FIRETIDE

AO-050-MIMO-9 H-plane



AO-050-MIMO-9 E-plane

Operator: FIRETIDE



5 GHz MIMO Base Station Antenna, 120°

AS120-050-MIMO-15



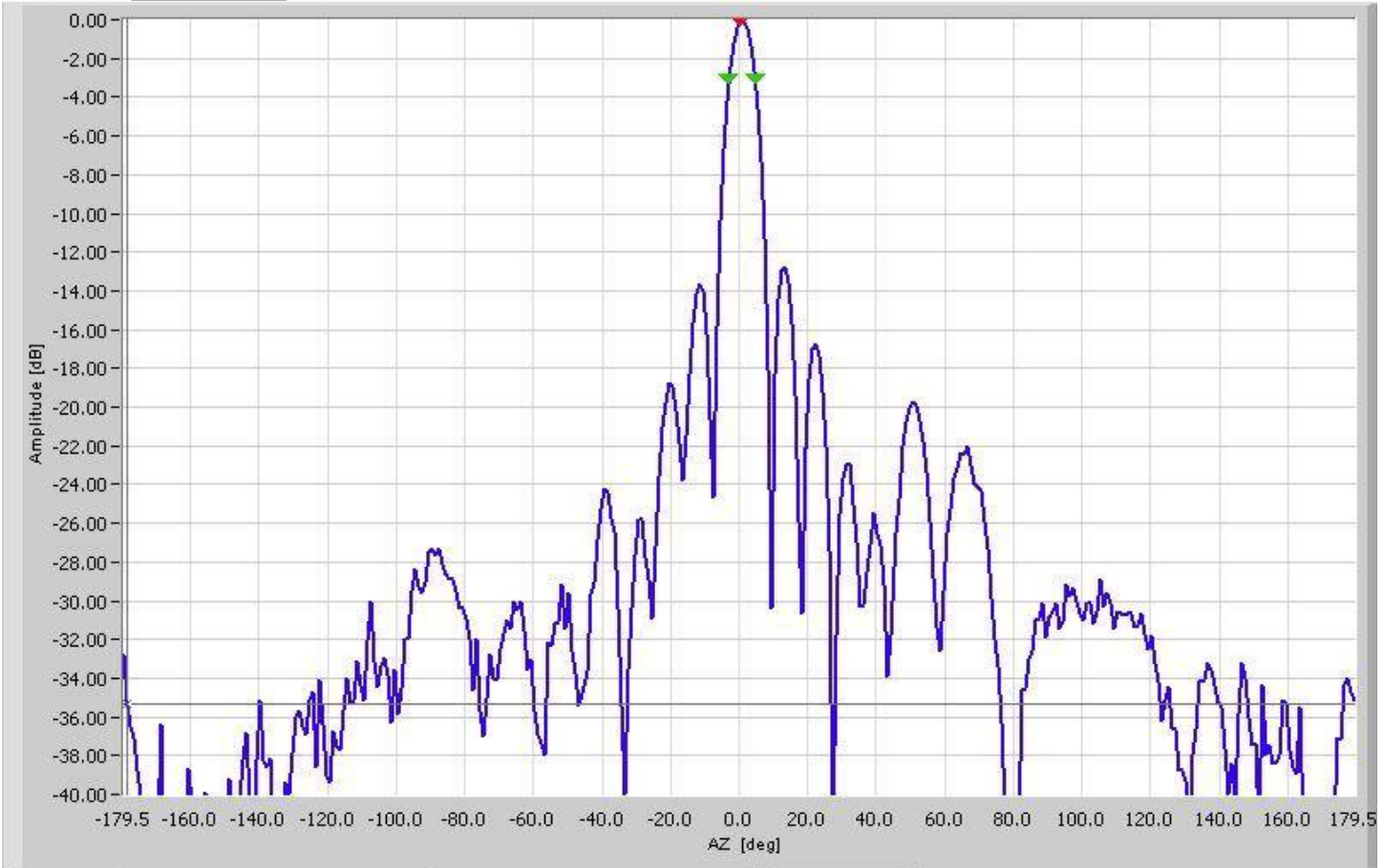
Specifications:

Electrical	
Frequency range	4.9 – 6.1 GHz
GAIN, typ.	3 x 15 dBi
VSWR, max.	1.8 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	120°
3 dB Beam-Width, E-Plane, typ.	8°
Side Lobes, min.	ETSI EN 302 085 V1.2.3 – CS1
Cross Polarization, min.	ETSI EN 302 085 V1.2.3 – CS1
Front to Back Ratio, min.	ETSI EN 302 085 V1.2.3 – CS1
Input power, max	50 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
Mechanical	
Dimensions (HxWxD)	400 x 300 x 50 mm
Weight	2.5 Kg.
Connector	3 x N-Type, Female
Back Plane	Aluminum protected through chemical passivation
Radome	UV Protected, Plastic
Mount	MNT-22 (Not included)
Environmental	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)
Standard Compliance	
ETSI EN 302 085 V1.2.3 – CS1	

Specifications subject to change without notice

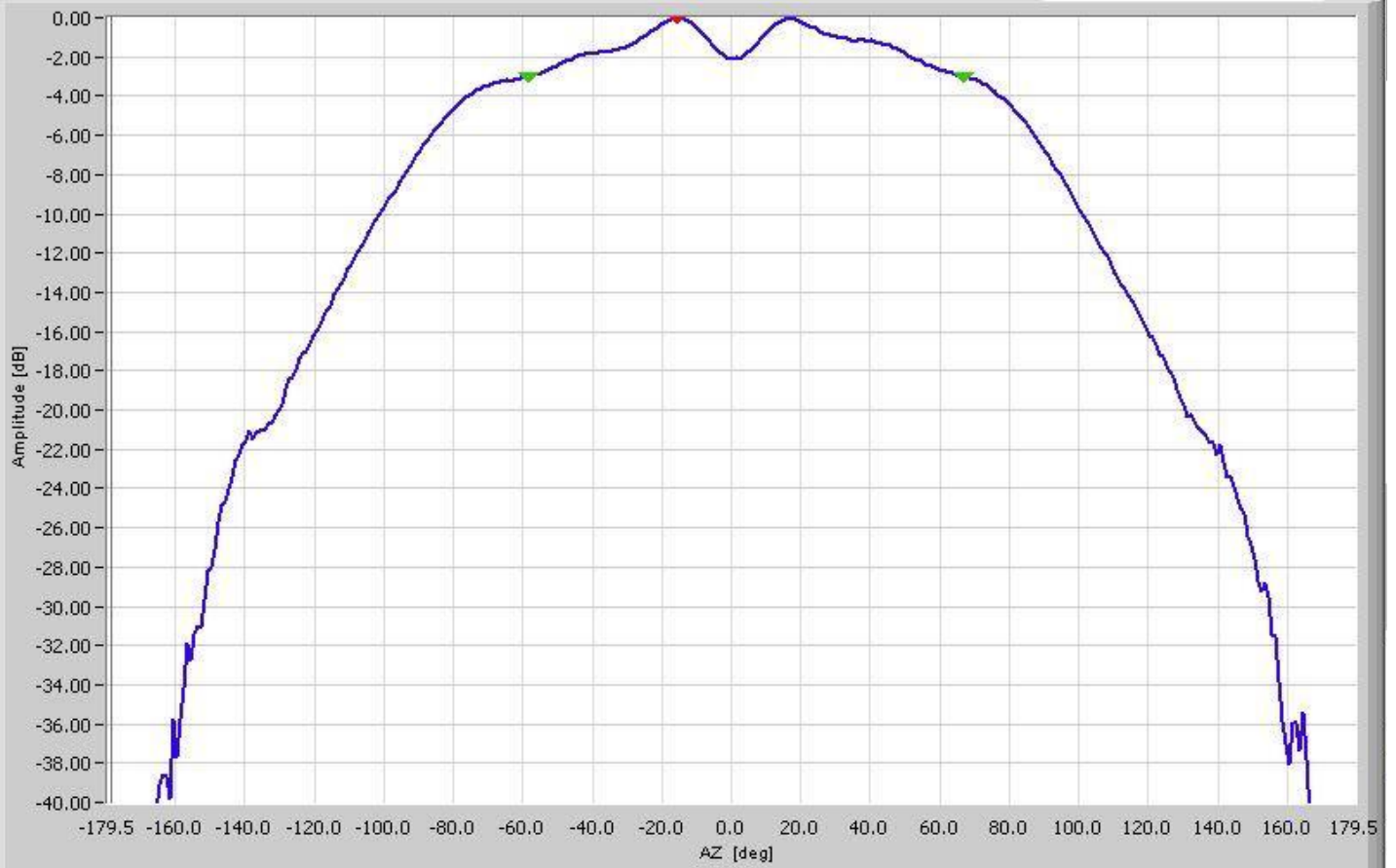
Operator: FIRETIDE

AS120-050-MIMO-15 E-plane



Operator: FIRETIDE

AS120-050-MIMO-15 H-plane



AS90-050-MIMO-16-T 4.9-6.1 GHz Triple Polarizations MIMO Base Station Antenna, 90



The Triple Polarization Sector antenna provides coverage of 4.9-6.1 GHz frequency band in a single antenna radome.

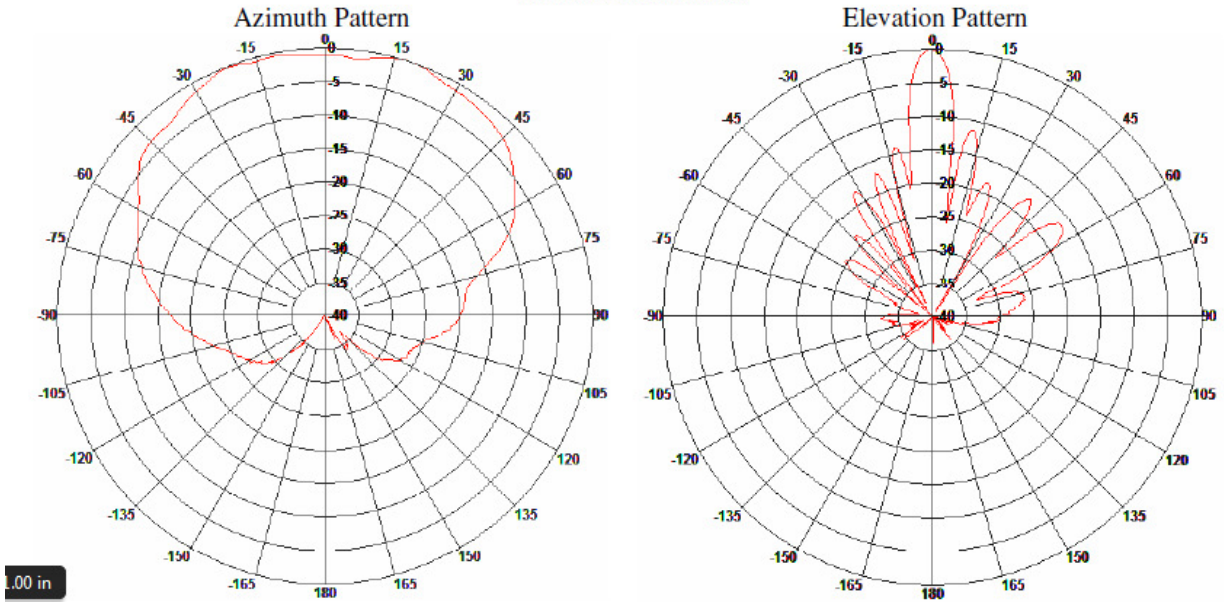
- light weight and durable construction
- 3 Ports: Dual Slant ($\pm 45^\circ$) and Vertical Polarization
- UV protected radome made of plastic
- specially designed for MIMO applications for optimal decorrelation

Specifications:	
<i>Electrical</i>	
Frequency range	4.9- 6.1 GHz
GAIN : Vertical Pol.	16 dBi
Dual Slant Pol.	16 dBi
VSWR, max.	1.7 : 1
Polarization	Dual Slant $\pm 45^\circ$ and Vertical
3 dB Beam-Width-Azimuth, typ.	Dual Slant : 90° ; V- Pol 90°
3 dB Beam-Width-Elevation, typ.	Dual Slant : 8° ; V- Pol 8°
Front to Back Ratio, min.	-30 dB
Port to Port Isolation, min.	-30 dB
Input power, max	10 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
<i>Mechanical</i>	
Dimensions (HxWxD)	370 x 370 x 40 mm (14.5" x14.5" x1.6")
Connector	3 x N-Type Female
Weight	2.1 Kg
Mounting	MNT-22
Radome	UV Protected Polycarbonate
Back Plane	Aluminum protected through chemical passivation
<i>Environmental</i>	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 Km/h (Survival)
Flammability	UL94
Water Proofing	IP-67
Humidity	ETS 300 019-1-4,EN 302 085 (Annex A.1.1)
Salt Fog	According to IEC 68-2-11

AS90-050-MIMO-16-T 4.9–6.1 GHz Triple Polarizations MIMO Base Station Antenna, 90

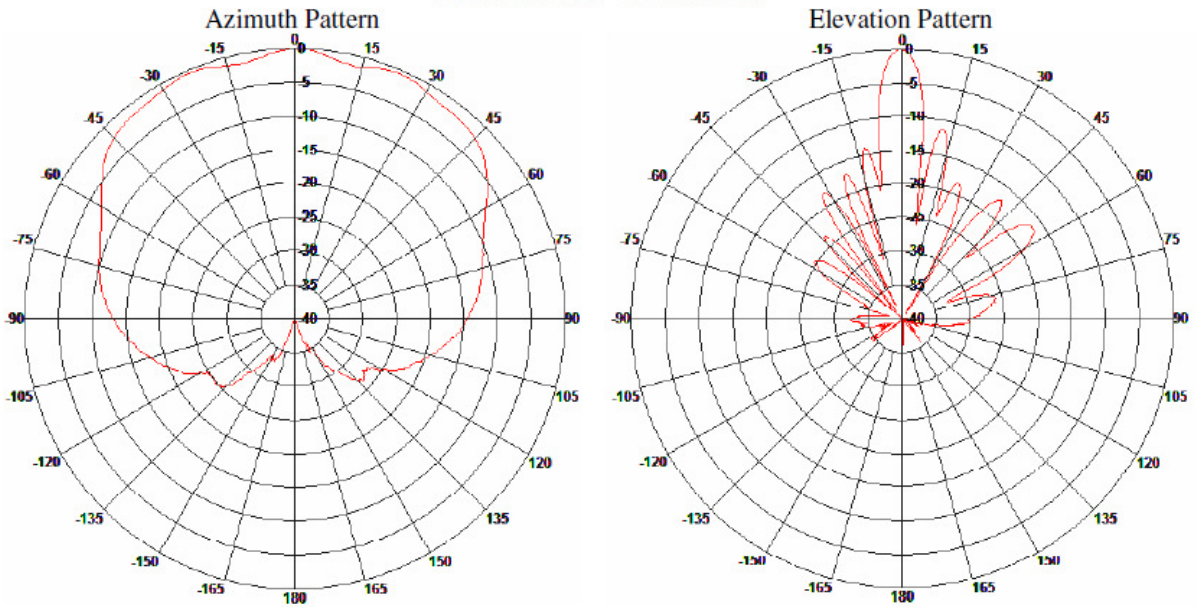
Radiations Patterns	
Frequency	5500 MHz
Gain, typ.	16 dBi

Vertical Polarization



1.00 in

Dual Slant ± 45° Polarization



5.125–6.1 GHz Triple Polarizations MIMO Subscriber Antenna AP20-050-MIMO-19



Specifications:

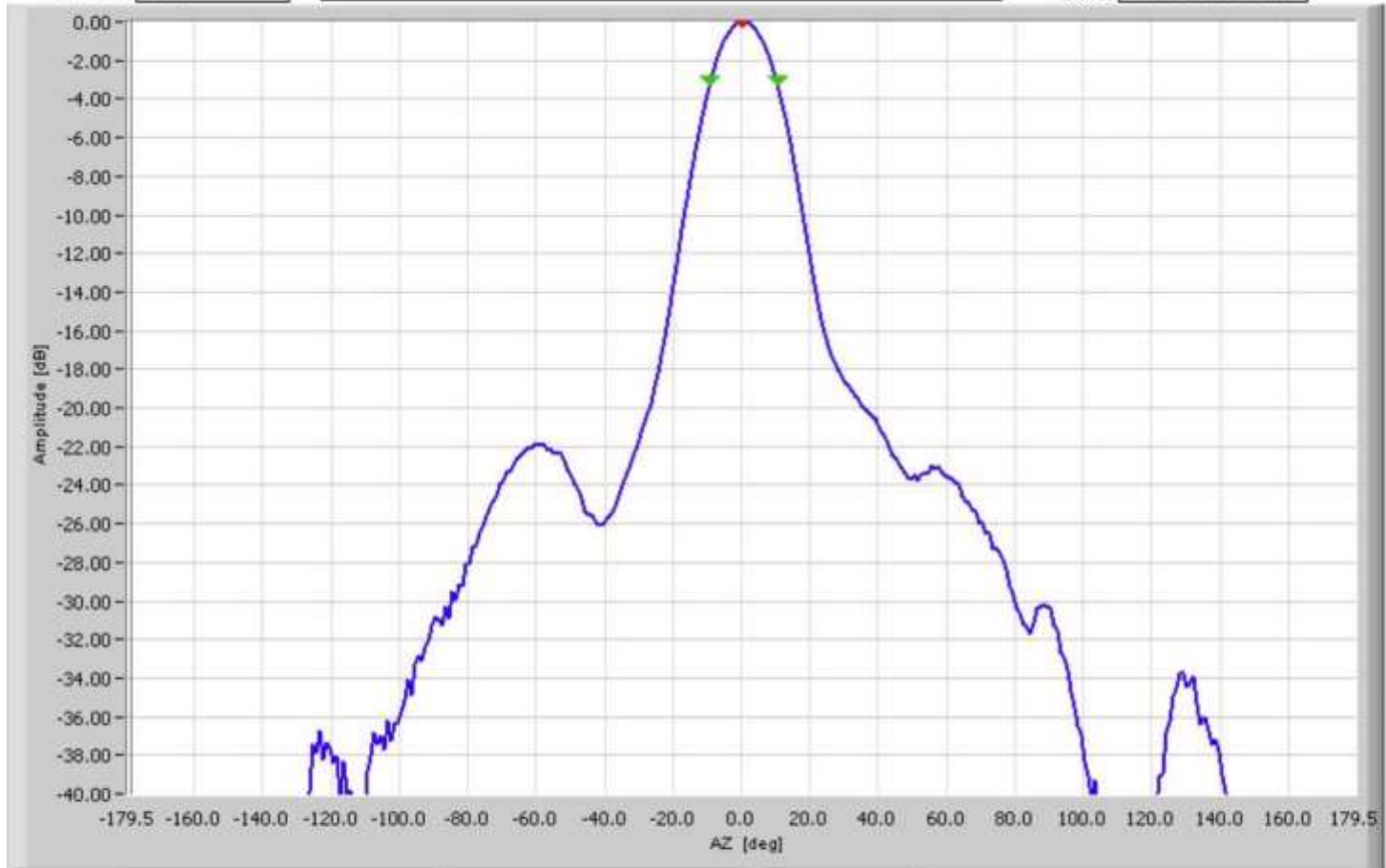
Electrical	
Frequency range	5.125 - 6.1 GHz
GAIN : Vertical Pol.	19 dBi
Dual Slant Pol	17.5 dBi
VSWR, max.	1.7 : 1
Polarization	Dual Slant $\pm 45^\circ$ and Vertical
3 dB Beam-Width-Azimuth, typ.	Dual Slant :20° ; V- Pol 22°
3 dB Beam-Width-Elevation, typ.	Dual Slant :19° ; V- Pol 14°
Side Lobes, min.	-12 dB
Front to Back Ratio, min.	-35 dB
Input power, max	10 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
Mechanical	
Dimensions (HxWxD)	305 x 305 x 15 mm
Connector	3 x N-Type
Weight	1.5 Kg
Mounting	MNT-22
Radome	UV Protected Polycarbonate
Back Plane	Aluminum protected through chemical passivation.
Environmental	
Operating Temperature Range	- 55°C to + 65°C
Vibration Wind	According to IEC 60721-3-4
Load	200 Km/h (Survival)
Flammability	UL94
Water Proofing	IP-67
Humidity	ETS 300 019-1-4,EN 302 085 (Annex A.1.1)
Salt Fog	According to IEC 68-2-11

Specifications subject to change without notice

Operator: FIRETIDE

AP40-050-MIMO-19 E-plane Dual Slant

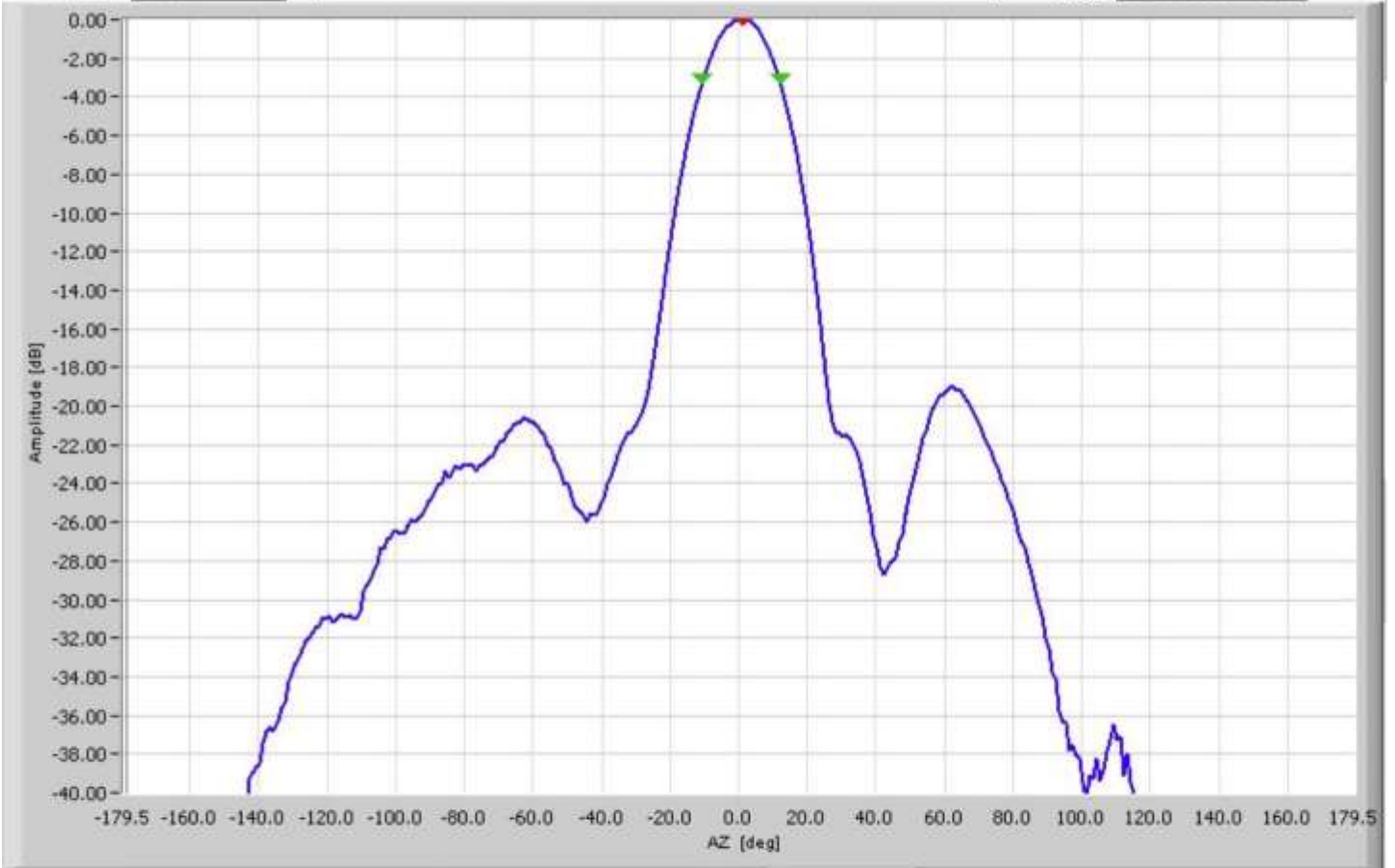
Date: 17/02/2009 14:23



Operator: FIRETIDE

AP40-050-MIMO-19 H-plane Vertical pol.

Date: 02/03/2009 16:21



**4.9 - 5.875 GHz MIMO Omni – Directional Base Station Antenna
MA-WO55-MIMONHFT9**



Specifications:

<i>Electrical</i>	
Frequency range	4.9 - 5.875 GHz
GAIN, typ.	3 x 9 dBi
VSWR, max.	2 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	Omni - Directional
3 dB Beam-Width, E-Plane, typ.	10°
Input power, max	50 Watt
Input Impedance	50 Ohm
<i>Mechanical</i>	
Dimensions (HxDia.)	330 x 200 mm
Weight	600 gr
Connector	3 x N-Type, Female
Radome	UV Protected , Plastic
Mount	Provision for Fire Tide MIMO
<i>Environmental</i>	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

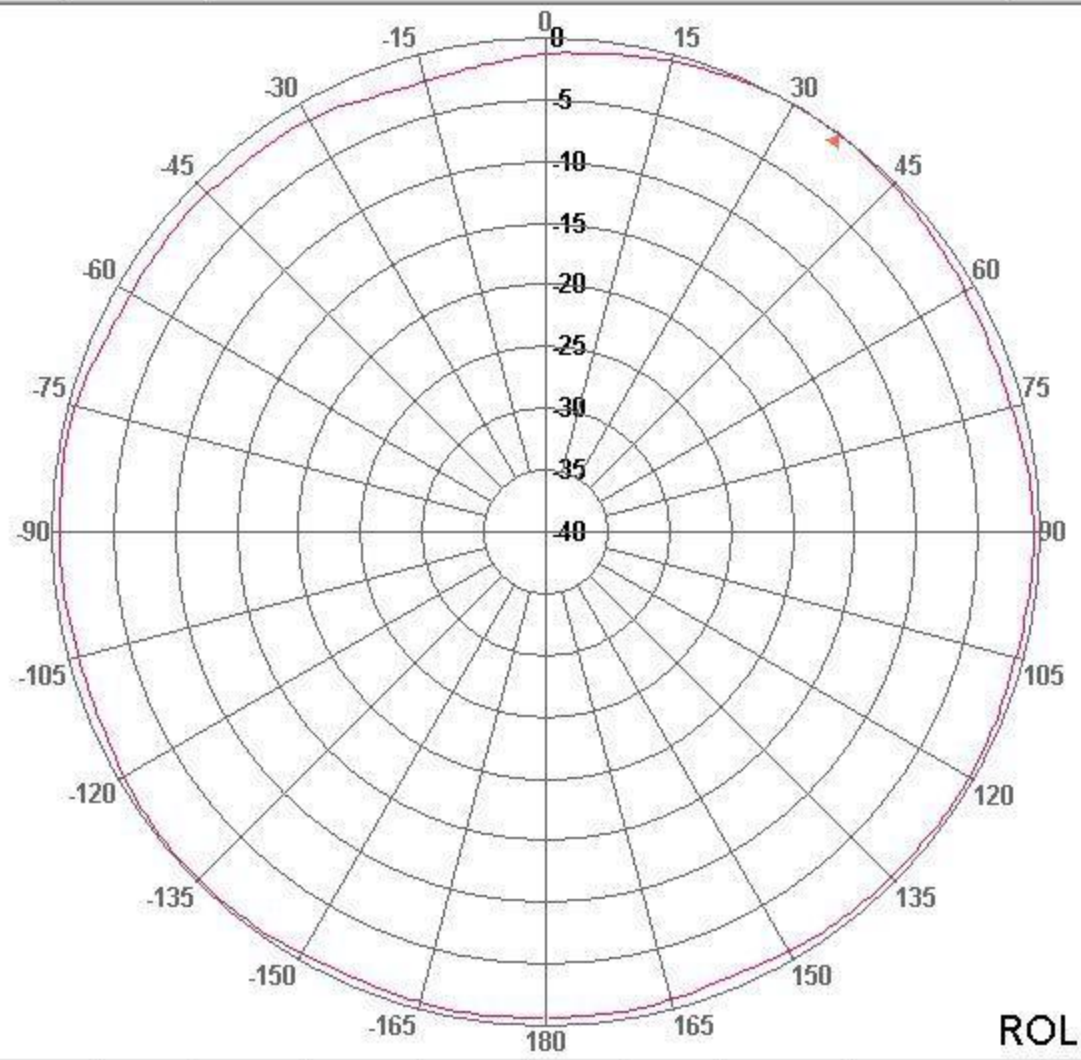
Specifications subject to change without notice

Operator: MARS

MA-WO55-MIMONHFT9 H-plane

MARS ANTENNAS & RF
SYSTEMS
MARS ANTENNAS RANGE

Amplitude [dB]





ROLL [deg]

Side lobes Database Ax. Ratio

Side Lobes

No.	Ampl	Deg

Ampl. Color 

Visible Section 

- Amplitude [dB]
- Phase [deg]

No Skirt	Not Aligned
Not Rotated	Normalized
Ends Not Connected	Phase wrapped
	Log. Display

A	P	File Name	Freq.	AZ	Ch.	Beam	Switch	Beam Peak [dB]			Beam Width [deg]		Null Depth [dB]		GainA
			[GHz]	[deg]				Value	[deg]	P	Value	At dB	P	Value	[deg]
		MA-WO55-MIMONHFT9 H-plane-CAL.n	5.500 G	90.50000	CH1			9.21	36.50	P	N/A	3.00	P		9.33

5 GHz MIMO Base Station Antenna, 90°

MA-WD55-MIMOFT16



Specifications:

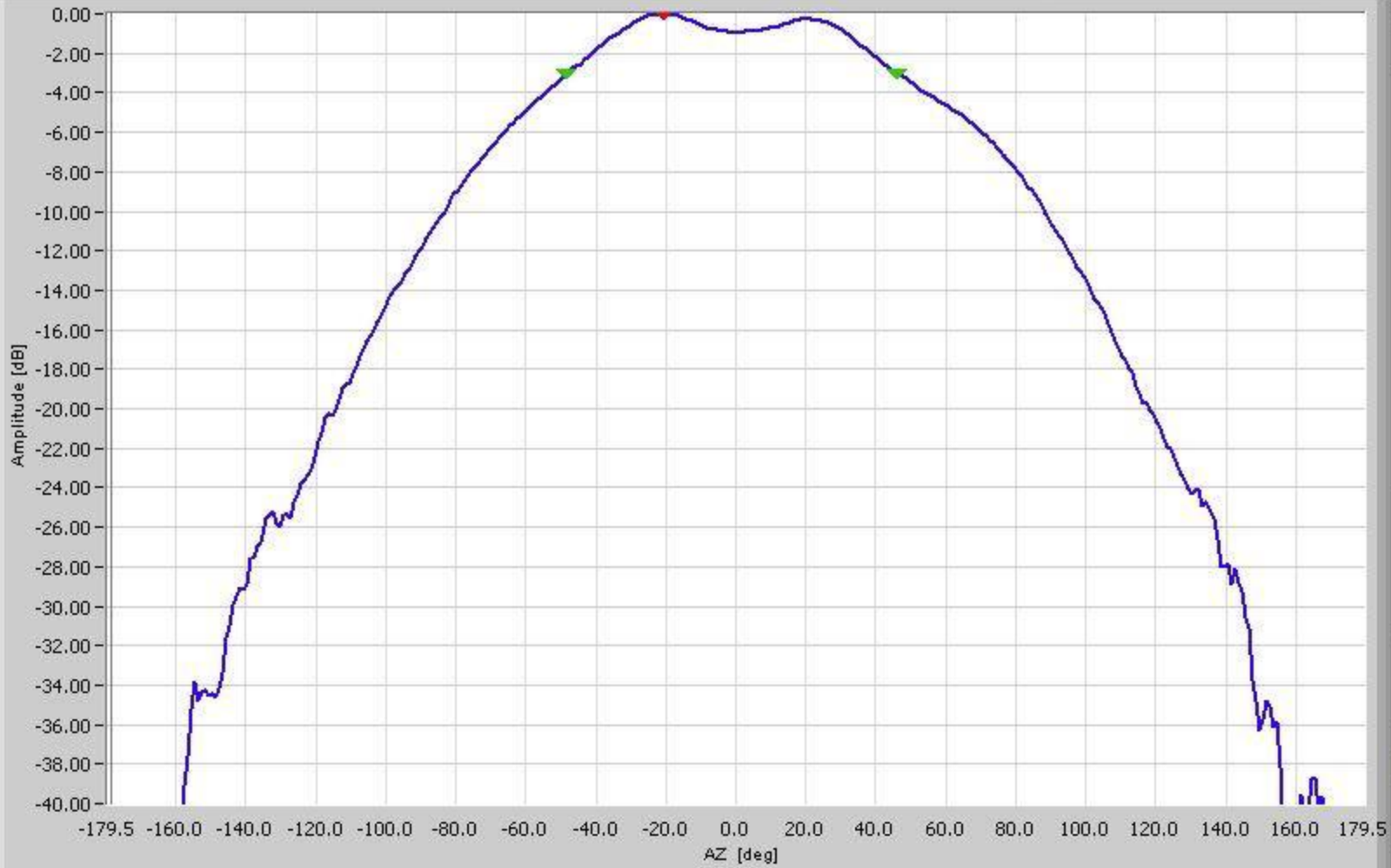
<i>Electrical</i>	
Frequency range	4.9 – 6.1 GHz
GAIN, typ.	3 x 16 dBi
VSWR, max.	1.8 : 1
Polarization	Linear, Vertical
3 dB Beam-Width, H-Plane, typ.	90°
3 dB Beam-Width, E-Plane, typ.	8°
Side Lobes, min.	ETSI EN 302 085 V1.2.3 – CS1
Cross Polarization, min.	ETSI EN 302 085 V1.2.3 – CS1
Front to Back Ratio, min.	ETSI EN 302 085 V1.2.3 – CS1
Input power, max	50 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
<i>Mechanical</i>	
Dimensions (HxWxD)	400 x 300 x 50 mm
Weight	2.5 Kg.
Connector	3 x N-Type, Female
Back Plane	Aluminum protected through chemical passivation
Radome	UV Protected, Plastic
Mount	MNT-22 (Not included)
<i>Environmental</i>	
Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)
<i>Standard Compliance</i>	
ETSI EN 302 085 V1.2.3 – CS1	

Specifications subject to change without notice

Operator: MARS

MA-WD55-MIMOFT16 H-Plane

MARS ANTENNAS & RF SYSTEMS
MARS ANTENNAS RANGE



Side lobes Database Az. Ratio

No.	Ampl	Deg

AZ [deg]

Amplitude [dB]

Phase [deg]

- Amplitude [dB]
- Phase [deg]
- Not Aligned
- Normalized
- Phase wrapped
- Log Display
- No Skirt

MA-WD55-MIMOFT16 SI -178.50 -47.42

A	P	File Name	POL [deg]	Freq. [GHz]	ROLL [deg]	Ch.	Beam	Switch	Beam Peak [dB]			Beam Width [deg]		Null Depth [dB]		GainA dBi
									Value	[deg]	P	Value	At dB	P	Value	
		IA-WD55-MIMOFT16 SN 153-CAL.nf	0.00	5.500 G	0.00	CH1			16.56	-20.50	P	93.84	3.00	P		16.56

**5.125–6.1 GHz Triple Polarizations MIMO Subscriber Antenna
MA-WA55-MIMOFT**



Specifications:

<i>Electrical</i>	
Frequency range	5.125 - 6.1 GHz
GAIN : Vertical Pol.	19 dBi
Dual Slant Pol	17.5 dBi
VSWR, max.	1.7 : 1
Polarization	Dual Slant $\pm 45^\circ$ and Vertical
3 dB Beam-Width-Azimuth, typ.	Dual Slant : 20° ; V- Pol 22°
3 dB Beam-Width-Elevation, typ.	Dual Slant : 19° ; V- Pol 14°
Side Lobes, min.	-12 dB
Front to Back Ratio, min.	-35 dB
Input power, max	10 Watt
Input Impedance	50 Ohm
Lightning Protection	DC Grounded
<i>Mechanical</i>	
Dimensions (HxWxD)	305 x 305 x 15 mm
Connector	3 x N-Type
Weight	1.5 Kg
Mounting	MNT-22
Radome	UV Protected Polycarbonate
Back Plane	Aluminum protected through chemical passivation.
<i>Environmental</i>	
Operating Temperature Range	- 55°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 Km/h (Survival)
Flammability	UL94
Water Proofing	IP-67
Humidity	ETS 300 019-1-4,EN 302 085 (Annex A.1.1)
Salt Fog	According to IEC 68-2-11

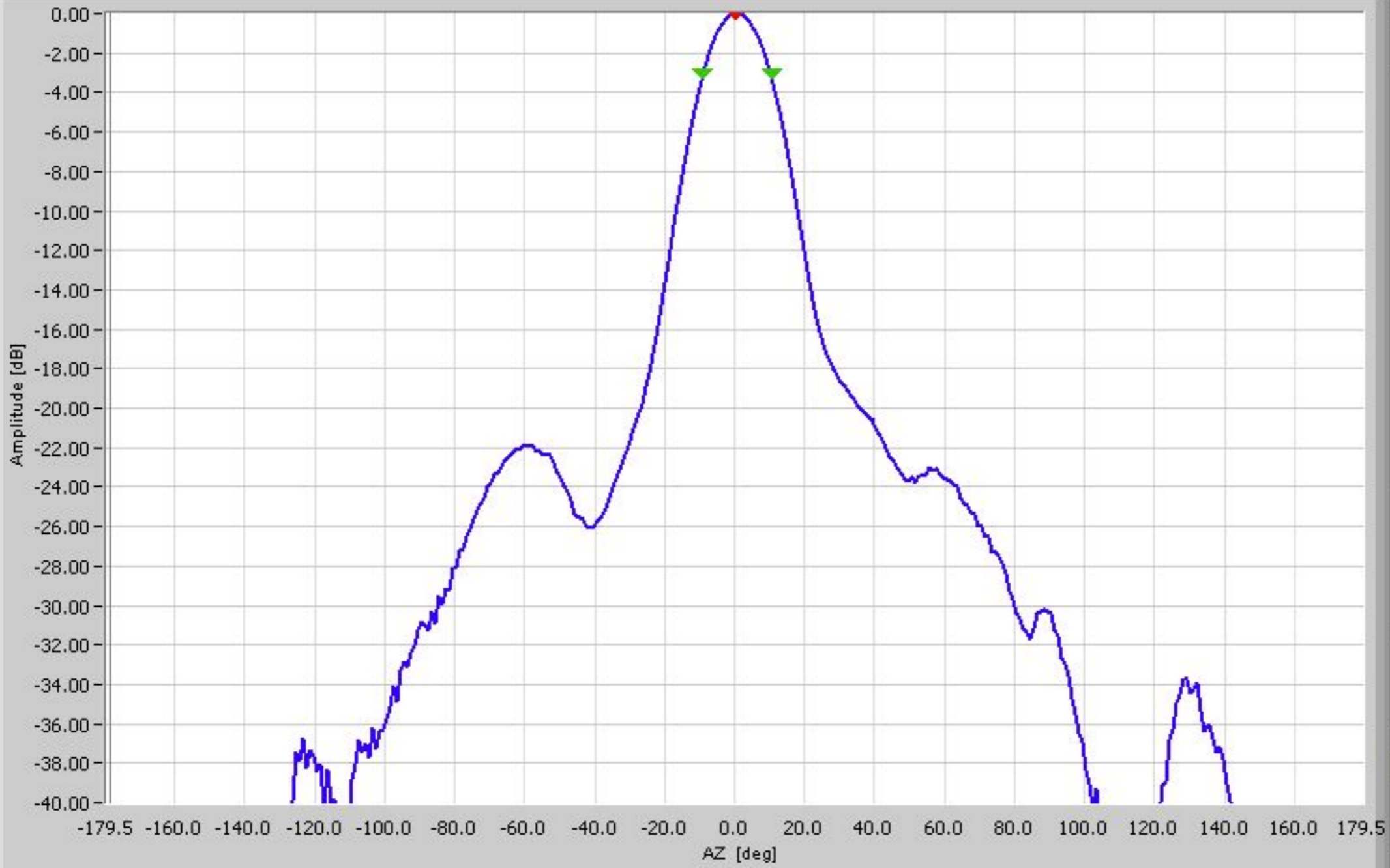
Specifications subject to change without notice

Operator: MARS

MA-WA55-MIMO E-plane Dual Slant

Date 17/02/2009 14:23

MARS ANTENNAS & RF SYSTEMS
MARS ANTENNAS RANGE



Side lobes Database Az Ratio

No.	Ampl	Deg

AZ [deg]

Amplitude [dB]

Phase [deg]

- Amplitude [dB]
- Phase [deg]
- Not Aligned
- Normalized
- Phase wrapped
- Log Display
- No Skirt

MA-W555-PROXMON-file#2-CAL.nff -178.50 -45.75

A	P	File Name	POL	Freq.	ROLL	Ch.	Beam	Switch	Beam Peak [dB]		Beam Width [deg]		Null Depth [dB]		GainA
			[deg]	[GHz]	[deg]			Value	[deg]	Value	At dB	Value	[deg]	dBi	
		MA-W555-PROXMON-file#2-CAL.nff	90.00	5.500 G	90.00	CH1			17.82	0.50	P	19.20	3.00	P	17.82

