Portland State Aerospace Society

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PSAS Propagation Test of the "ATV" Reference Dipole

Design frequency: 1.253 GHz
Actual frequency: TBD
Polarization: Horizontal

Plots included in this PDF file:

Test Run #	Receive Antenna Height	Rec. Ant. Polarization
26	Same height as dipole	V
25	Same height as dipole	H
27	Maximized signal strength	V
28	Maximized signal strength	H

NORTHWEST EMC

ABSOLUTE GAIN DATA SHEET

REV df4.02 11/25/2003

EUT:	1.253GHz Reference Dipole			Work Order:	PTLD0001
Serial Number:				Date:	12/09/03
Customer:	Portland State Aerospace Society / PSU AESS			Temperature:	73
Attendees:	none			Humidity:	32%
Cust. Ref. No.:				Barometric Pressure	30.18
Tested by:	Holly Ashkannejhad	Power:	N/A	Job Site:	EV01

SAMPLE CALCULATIONS

COMMENTS

1.24259GHz. Antenna height = Dipole height = 1.75m.

EUT OPERATING MODES

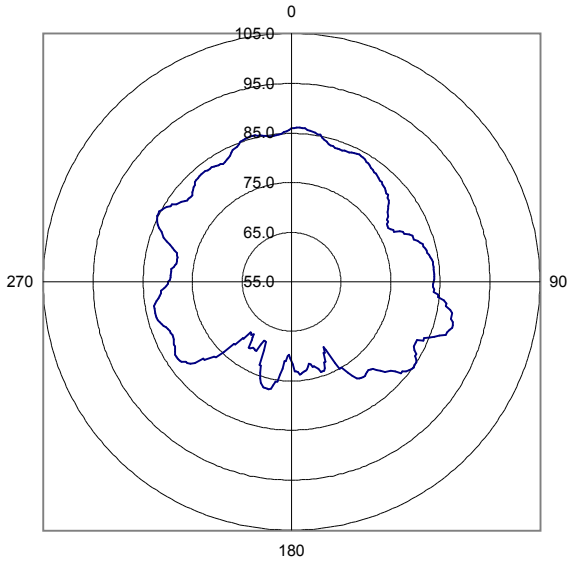
10dBm input power

Test Distance (m)	Run #
3	26

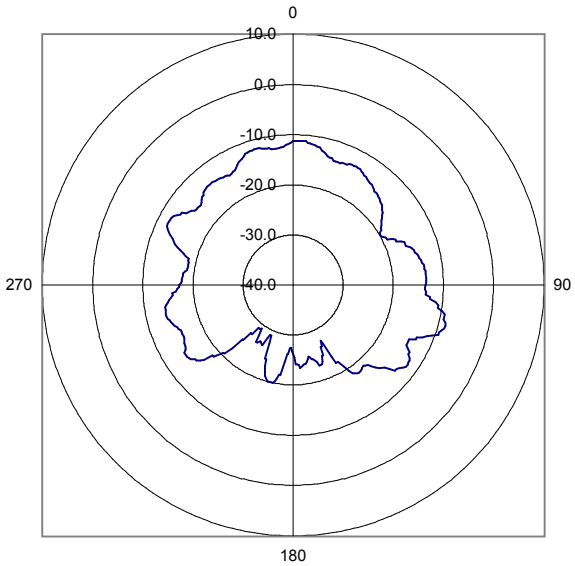
Other

Tested By:

Relative Gain of AUT



Absolute Gain of AUT



Frequency	1253.00
Absolute Gain of Reference Antenna (dBi)	7.66
Reference Antenna Relative Gain Max (dBuV/m)	104.90
AUT Relative Gain Max (dBuV/m)	88.60
Difference (Reference Antenna - AUT) (dB)	16.30
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	**-8.64**
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.24
Measurement Antenna Polarity	Vertical
Antenna Under Test (AUT) Polarity	Horizontal

NORTHWEST EMC

ABSOLUTE GAIN DATA SHEET

REV df4.02 11/25/2003

EUT:	1.253GHz Reference Dipole			Work Order:	PTLD0001
Serial Number:				Date:	12/09/03
Customer:	Portland State Aerospace Society / PSU AESS			Temperature:	73
Attendees:	none			Humidity:	32%
Cust. Ref. No.:				Barometric Pressure	30.18
Tested by:	Holly Ashkannejhad	Power:	N/A	Job Site:	EV01

SAMPLE CALCULATIONS

COMMENTS

1.24259GHz. Antenna height = Dipole height = 1.75m.

EUT OPERATING MODES

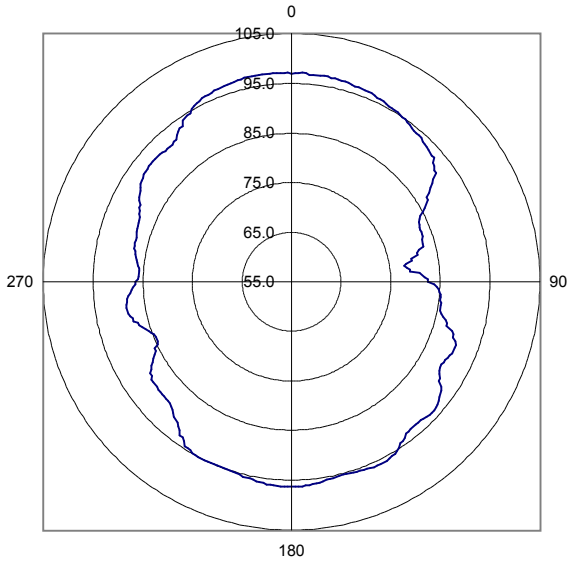
10dBm input power

Test Distance (m)	Run #
3	25

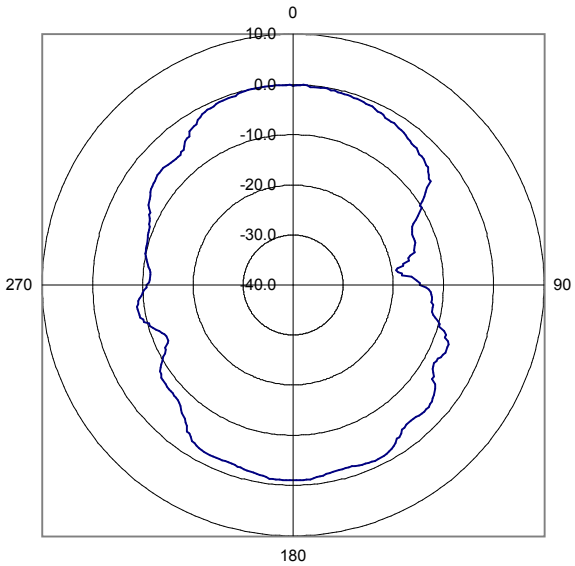
Other

Tested By:

Relative Gain of AUT



Absolute Gain of AUT



Frequency	1253.00
Absolute Gain of Reference Antenna (dBi)	7.66
Reference Antenna Relative Gain Max (dBuV/m)	104.90
AUT Relative Gain Max (dBuV/m)	97.20
Difference (Reference Antenna - AUT) (dB)	7.70
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	**-0.04**
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.24
Measurement Antenna Polarity	Horizontal
Antenna Under Test (AUT) Polarity	Horizontal

NORTHWEST EMC

ABSOLUTE GAIN DATA SHEET

REV df4.02 11/25/2003

EUT:	1.253GHz Reference Dipole			Work Order:	PTLD0001
Serial Number:				Date:	12/09/03
Customer:	Portland State Aerospace Society / PSU AESS			Temperature:	73
Attendees:	none			Humidity:	32%
Cust. Ref. No.:				Barometric Pressure	30.18
Tested by:	Holly Ashkannejhad	Power:	N/A	Job Site:	EV01

SAMPLE CALCULATIONS

COMMENTS

1.24259GHz. Antenna height = Maximized (3.04m)

EUT OPERATING MODES

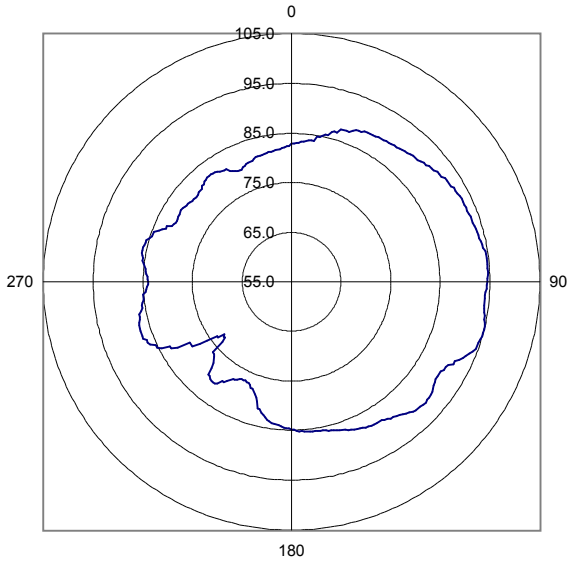
10dBm input power

Test Distance (m)	Run #
3	27

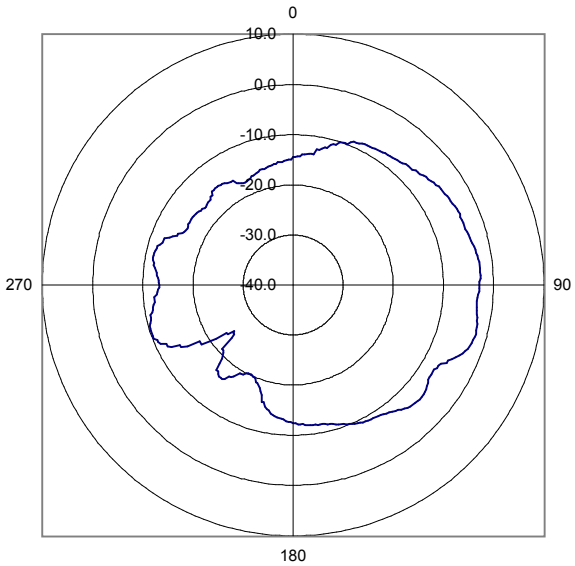
Other

Tested By:

Relative Gain of AUT



Absolute Gain of AUT



Frequency	1253.00
Absolute Gain of Reference Antenna (dBi)	7.66
Reference Antenna Relative Gain Max (dBuV/m)	104.90
AUT Relative Gain Max (dBuV/m)	95.00
Difference (Reference Antenna - AUT) (dB)	9.90
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	**-2.24**
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.24
Measurement Antenna Polarity	Vertical
Antenna Under Test (AUT) Polarity	Horizontal

NORTHWEST EMC

ABSOLUTE GAIN DATA SHEET

REV df4.02 11/25/2003

EUT:	1.253GHz Reference Dipole			Work Order:	PTLD0001
Serial Number:				Date:	12/09/03
Customer:	Portland State Aerospace Society / PSU AESS			Temperature:	73
Attendees:	none			Humidity:	32%
Cust. Ref. No.:				Barometric Pressure	30.18
Tested by:	Holly Ashkannejhad	Power:	N/A	Job Site:	EV01

SAMPLE CALCULATIONS

COMMENTS

1.24259GHz. Antenna height = Maximized (1.85m)

EUT OPERATING MODES

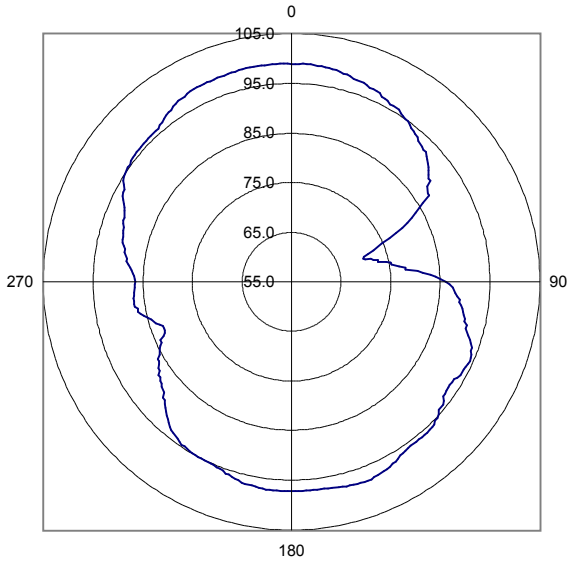
10dBm input power

Test Distance (m)	Run #
3	28

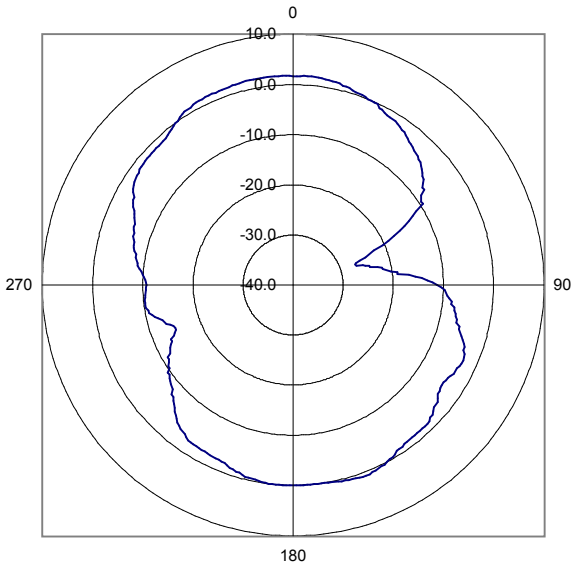
Other

Tested By:

Relative Gain of AUT



Absolute Gain of AUT



Frequency	1253.00
Absolute Gain of Reference Antenna (dBi)	7.66
Reference Antenna Relative Gain Max (dBuV/m)	104.90
AUT Relative Gain Max (dBuV/m)	99.00
Difference (Reference Antenna - AUT) (dB)	5.90
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	**1.76**
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.24
Measurement Antenna Polarity	Horizontal
Antenna Under Test (AUT) Polarity	Horizontal