

PROVISIONAL SPECIFICATION

MMDS VERTICALLY POLARISED

PANEL ANTENNA

2600-Vp-65-19

- Gain 19 dBi
- 65° Azimuth Coverage
- Microstrip Design
- Good IMP specification
- 5 Year Warranty
- Low Profile

ELECTRICAL PERFORMANCE

Frequency Range	:	2500 -2700 MHz
Gain	:	19dBi +/-0.5 dBi
VSWR	:	1.4:1 maximum
Polarization	:	Vertical
Horizontal Beamwidth	:	65° +/-5°
Vertical Beamwidth	:	4° +/-0.5°
Electrical downtilt	:	0°
Sidelobe Suppression	:	Better than -17dB
Front to Back Ratio	:	Better than 25dB
Null fill	:	-18 dB
Power Rating	:	100W
Intermodulation	:	-110dBm for 2 x 10w carriers
Impedance	:	50Ω
Lightning Protection	:	DC Ground
Connector	:	7/16 DIN or type N Female



**MMDS
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2600-VP-65-19 CONT'D

MECHANICAL PERFORMANCE

Length	:	72 in
Width	:	5.7in
Depth	:	1.8in (excl. brackets)
Weight	:	18lb (excl. brackets)
Mounting	:	Supplied with pole & wall mounting kits that allow pan & tilt
Radome Material	:	UV stabilized high impact extruded polystyrene
Wind Load	:	<75 lbf@ 120mph

ENVIRONMENTAL SURVIVAL

Temperature	:	-40°F to +122°F (-40°C to +50°C)
Wind Survival	:	<150mph
No Degradation During or After	:	Salt mist/driving rain and any moisture ingress

Specifications subject to change without notice

Electrical Test Report

2.6GHz

Integrated :

M/N : MMDS VERTICALLY POLARISED ANTENNA

P/N : 2600-VP-65-19

Date: 24 October 2000

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1. INTRODUCTION

This report presents the performance of an Racal Antennas 2.6GHz antenna designed for both upper sidelobe suppression and null-filling of the first null below the horizon. The antenna is designed for maximum gain given the space restrictions. The space requirements dictate maximum dimensions of 72" x 5.7" (Height x Width).

The microstrip antenna design incorporates vertically polarised elements.

2. SUMMARY OF ELECTRICAL PARAMETERS

The table below summarises the **measured** electrical parameters. Typical values, together with maximum and minimum values are given. Data for each parameter across the frequency range is given in the Appendix.

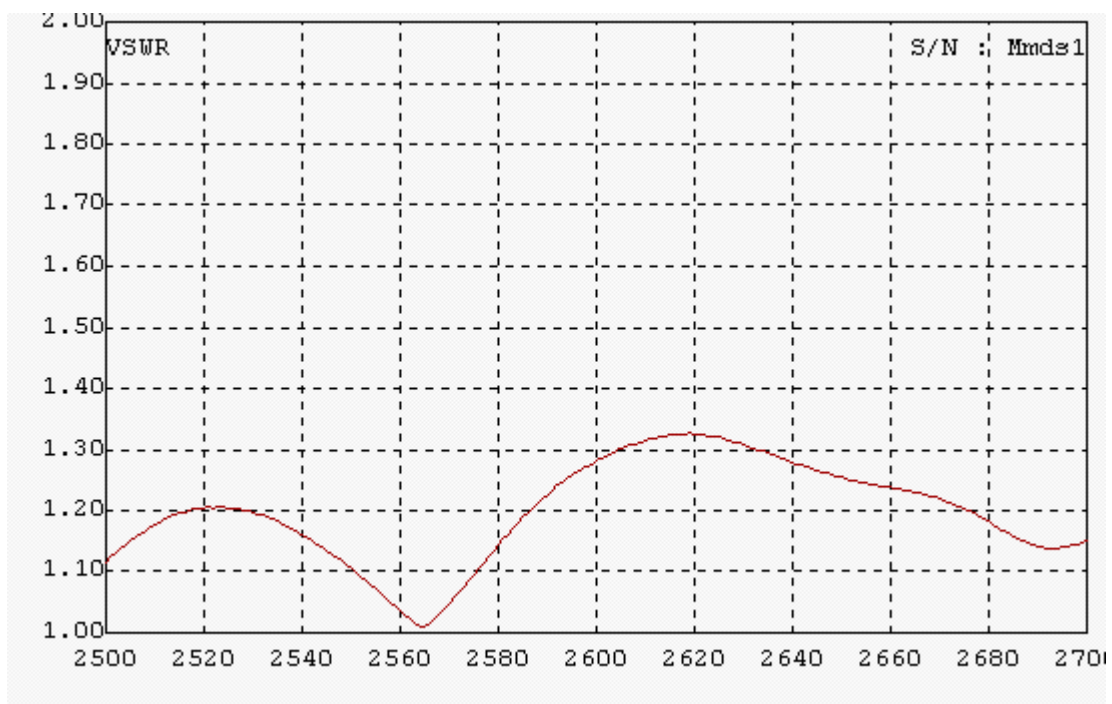
150-0001 (separate)

Frequency	2500 - 2700 MHz		
Impedance	50 Ω		
Polarisation	Vertical		
	Typical	Min	Max
VSWR	1.2	1.1	1.4
Gain	19.8	19.7	19.9
Azimuth 3dB Beamwidth	60.7	58.3	60.9
Elevation 3dB Beamwidth	3.8	3.6	4.0

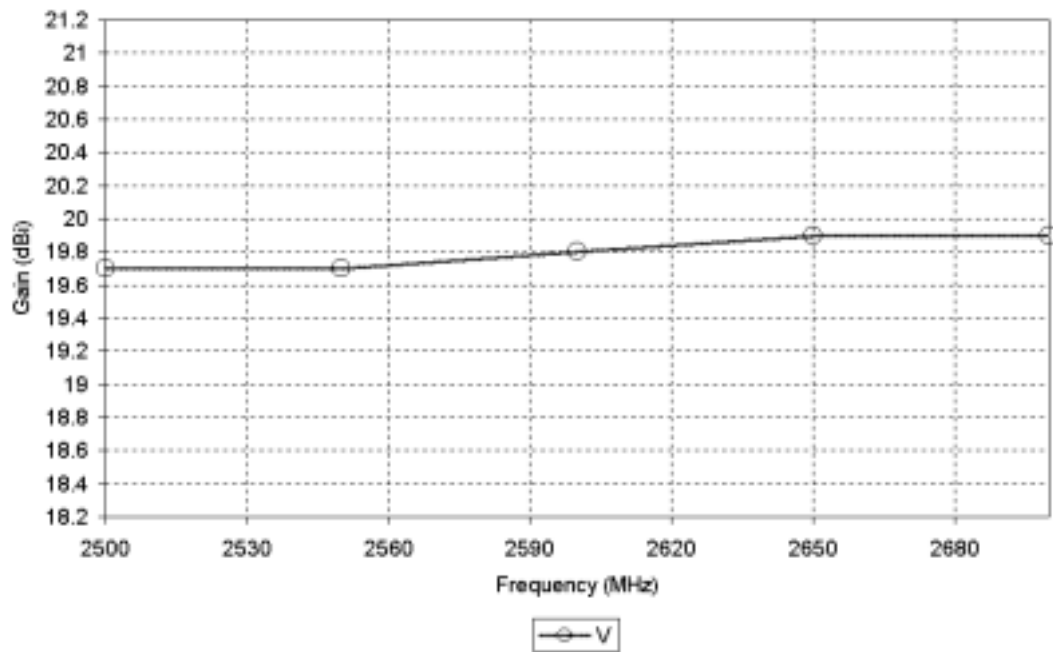
3. APPENDIX

3.1. 103-0005

3.1.1. VSWR



3.1.2. Gain



3.1.3. Radiation Patterns

3.1.3.1. Horizontal Beamwidth

FREQUENCY	Azimuth 3dB Beamwidth	Azimuth 10dB Beamwidth
2500MHz	60.9	119.7
2550MHz	63.2	120.3
2600MHz	61.6	117.4
2650MHz	59.5	114.9
2700MHz	58.3	113.7

3.1.3.2. Elevation Beamwidth

FREQUENCY	Elevation 3dB Beamwidth
2500MHz	3.9
2550MHz	4.0
2600MHz	3.8
2650MHz	3.7
2700MHz	3.6

3.1.3.3. Elevation Sidelobes

FREQUENCY	Upper sidelobes
2500MHz	-17.2dB
2550MHz	-18.5dB
2600MHz	-18.3dB
2650MHz	-17.8dB
2700MHz	-17.6dB

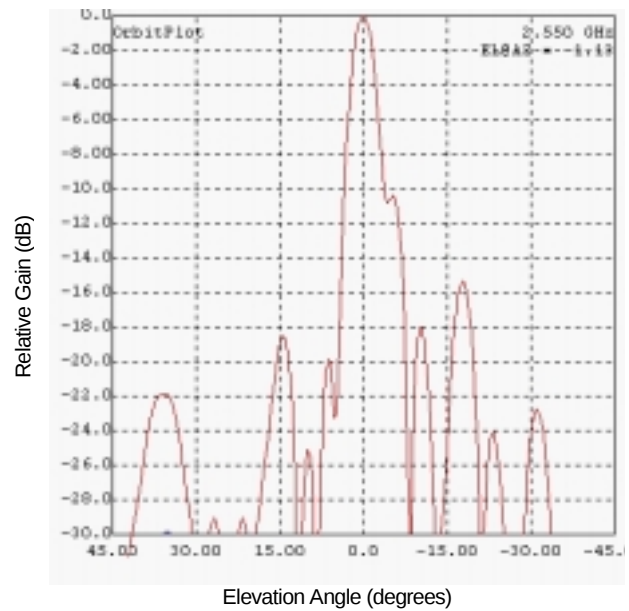
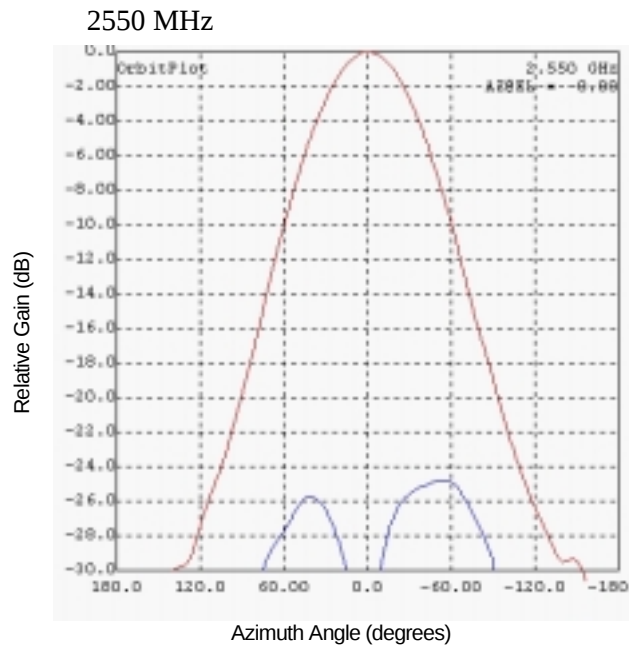
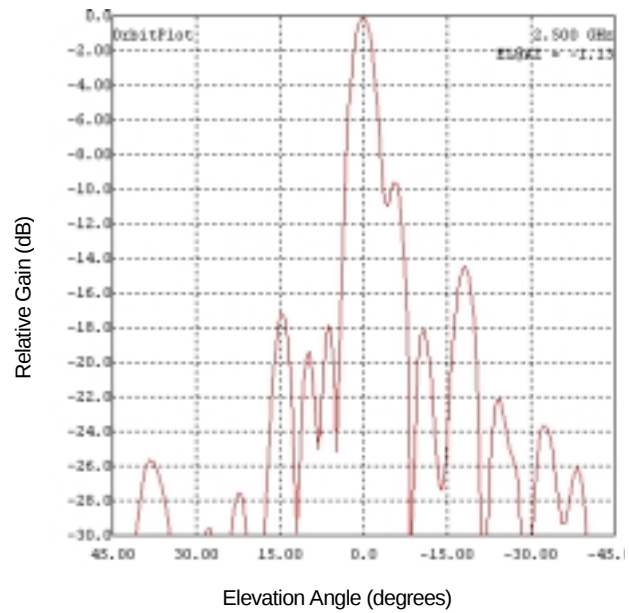
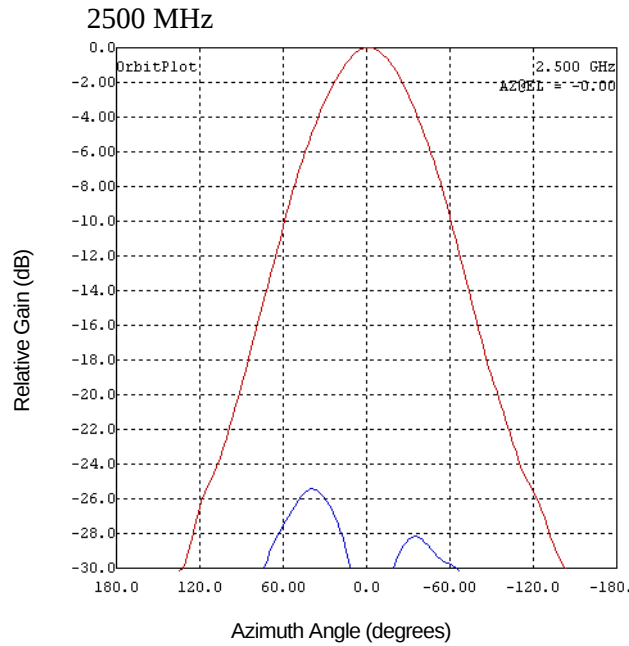
3.1.3.4. Elevation Null Fill

FREQUENCY	Elevation Null-fill level
2500MHz	-10.9dB
2550MHz	-10.8dB
2600MHz	-11.0dB
2650MHz	-10.9dB
2700MHz	-10.8dB

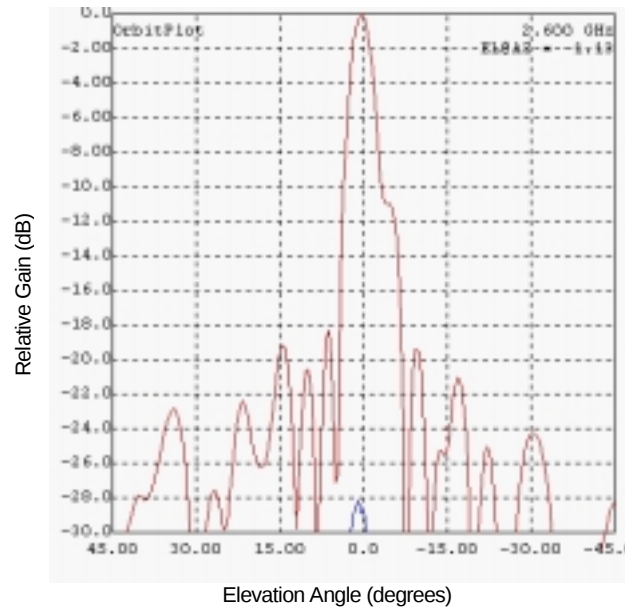
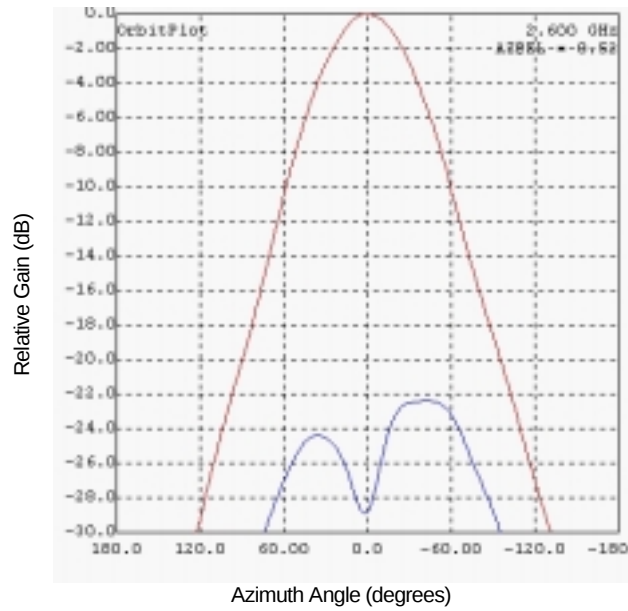
3.1.3.5. Back to Front Ratio

FREQUENCY	Back/Front Ratio
2500MHz	-38dB
2550MHz	-30dB
2600MHz	-38dB
2650MHz	-30dB
2700MHz	-39dB

3.1.3.6. Patterns



2600 MHz



2650 MHz

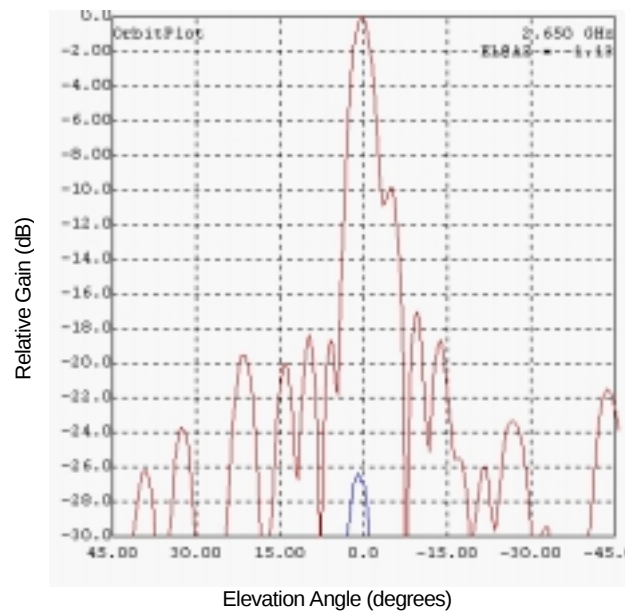
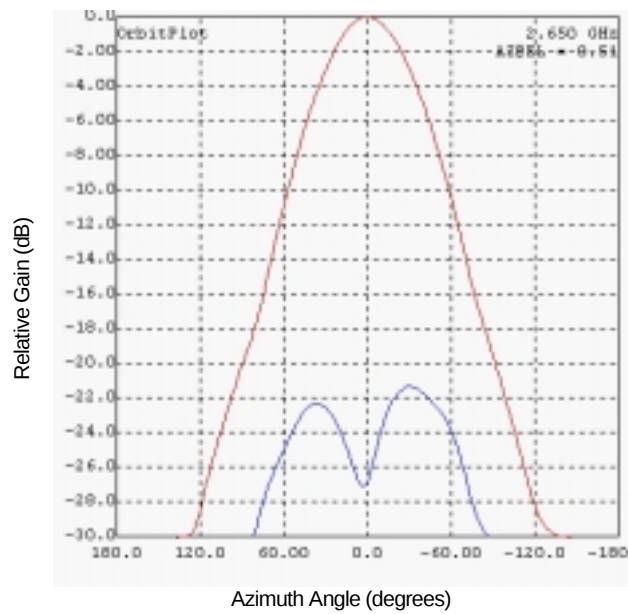


Figure 10 is a plot of Relative Gain (dB) versus Azimuth Angle (degrees) for the 2.700 GHz band. The plot shows two curves: a red curve for the 'A100' antenna and a blue curve for the 'A100' antenna. The red curve has a main peak at 0 degrees (0 dB) and side lobes at approximately +/- 45 degrees (-20 dB). The blue curve has a main peak at 0 degrees (-24 dB) and side lobes at approximately +/- 30 degrees (-20 dB).

