

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	1 / 37

RETRACTABLE ANTENNA SPECIFICATION

UV-100 Antenna

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	2 / 37

⦿ Contents ⦿

1. Specification

- 1.1 Electrical Specification
- 1.2 Mechanical Specification
- 1.3 Packing Specification

2. Test Equipments

3. Electrical Specification

- 3.1 V.S.W.R
- 3.2 Radiation Pattern
- 3.3 Gain

4. Mechanical Specification

- 4.1 Dimension
- 4.2 Bending Test
- 4.3 Extracting and Retraction Force
- 4.4 Drop Test
- 4.5 Pull Test
- 4.6 Torque Test
- 4.7 Cycle Test

5. Environmental Specification

- 5.1 Thermal Shock
- 5.2 Temperature Cycling
- 5.3 Low temp. Test
- 5.4 High temp. Test
- 5.5 Humidity
- 5.6 Salt Spray Test

Appendix A. : Reference of test methods

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	3 / 37

1. Specification

1.1 Electrical Specification

Frequency	CELLULAR		GPS	US-PCS	
	TX(824MHz)	RX(894MHz)	1.575GHz	TX(1.85GHz)	RX(1.99GHz)
Folder Close Whip IN	5.5 : 1	3.0 : 1	4.5 : 1	3.0 : 1	4.0 : 1
Folder Open Whip IN	3.5 : 1	2.2 : 1	3.0 : 1	3.2 : 1	4.0 : 1
Folder Open Whip OUT	3.0 : 1	2.0 : 1	3.8 : 1	3.5 : 1	5.0 : 1

Frequency			Gain	Remark	
CELLULAR (Peak)	TX	849 MHz	- 1.28 dBi	AZIMUTH	Close, Whip IN
	RX	894 MHz	0.13 dBi		
	TX	849 MHz	0.70 dBi	AZIMUTH	Open, Whip OUT
	RX	869 MHz	1.03 dBi		
US-PCS (Peak)	TX	1850 MHz	- 0.36 dBi	AZIMUTH	Close, Whip IN
	RX	1930 MHz	- 1.24 dBi		
	TX	1850 MHz	0.13 dBi	AZIMUTH	Open, Whip OUT
	RX	1930 MHz	- 0.60 dBi		
GPS (Peak)	1575 MHz		- 2.25 dBi	AZIMUTH	Close, Whip IN
			- 0.15 dBi		Open, Whip OUT

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	4 / 37

1.2 Mechanical Specification

Length	See the drawing
Temperature	-40 °C - +70 °C
Connector type	Screw

1.3 Packing Specification

Description	Q'ty	Material	Remark
Tray	50EA	P.P	
Air Vinyl	-	Polyester	
Inner Box	20EA	SW 1 (A)	17.4Kgf/50mm min.
Master Carton Box	1,000EA	DW 1(A)	25.4Kgf/50mm min.

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	5 / 37

2. Test Equipment

Description	Purpose
Network Analyzer	V.S.W.R, Impedance
Standard Horn	Gain, Impedance
Digital Calipers	Dimension
Torque Driver	Torque Test
Push Pull Gauge	Force Test
Temp. Chamber	Temperature Test
Thermal Shock Chamber	Thermal Shock
Vibration Shaker	Vibration
Dummy Set	Drop Test

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	6 / 37

3. Electrical Specification

3.1 V.S.W.R

The performance of this antenna shall be in accordance with the best V.S.W.R requirements as followings over the entire band.

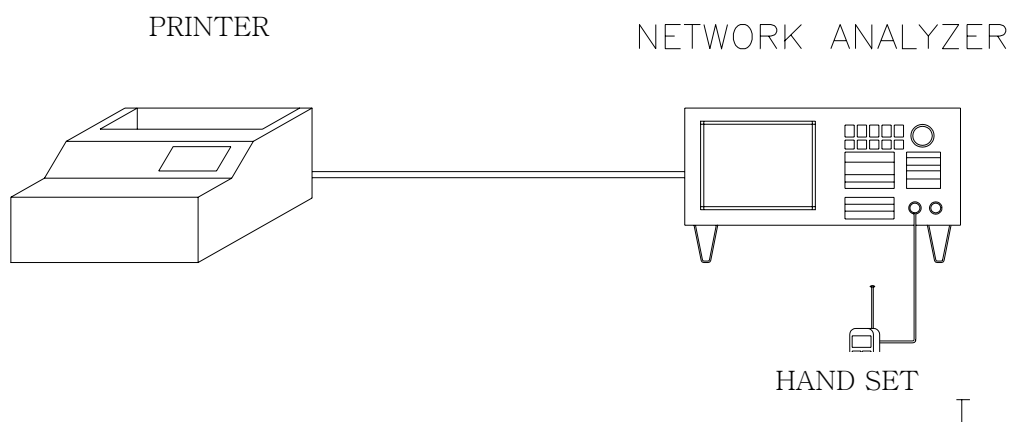
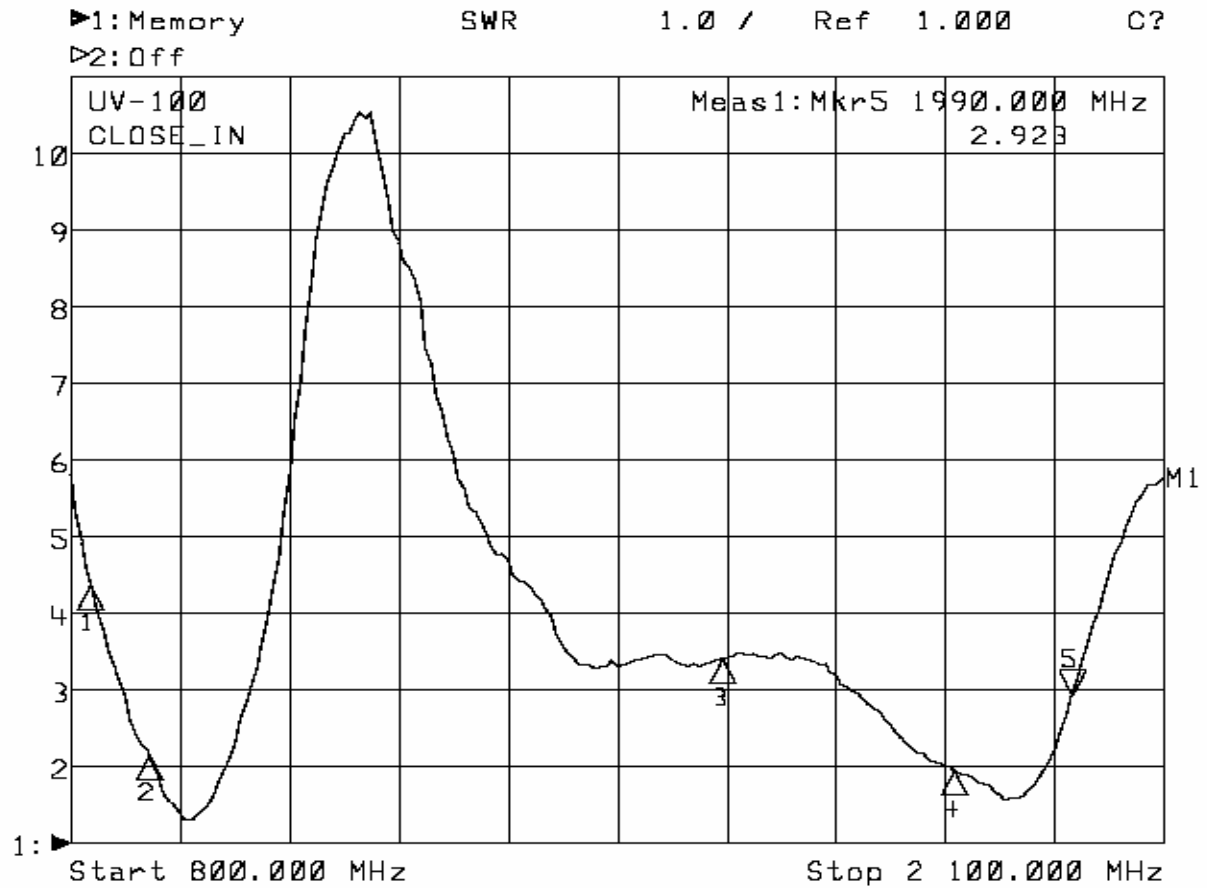


Figure 1 V.S.W.R Measurement System

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	7 / 37

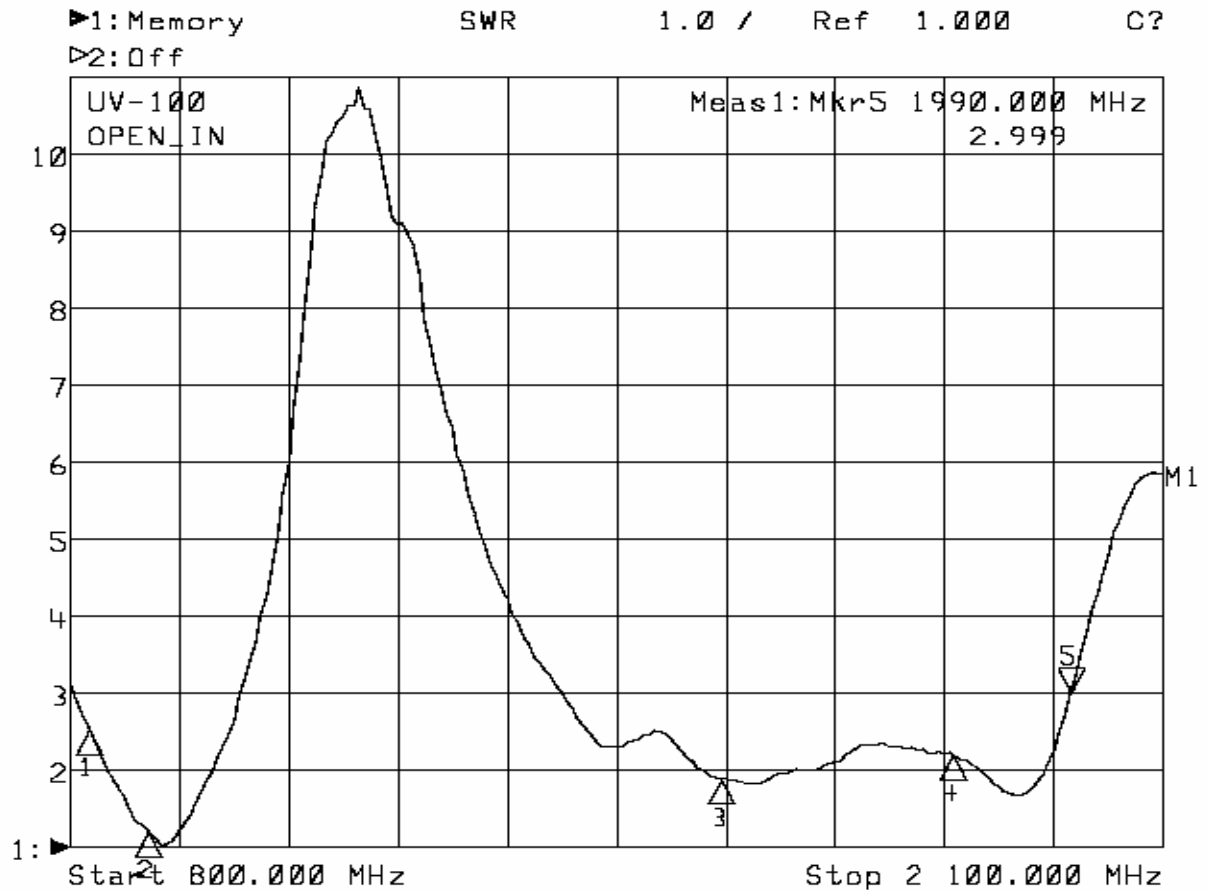
CLOSE IN



1: Mkr (MHz)	2: Mkr (MHz)	Ohm	Ohm
1: 824.0000	4.365		
2: 894.0000	2.138		
3: 1575.0000	3.408		
4: 1850.0000	1.957		
5> 1990.0000	2.923		

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	8 / 37

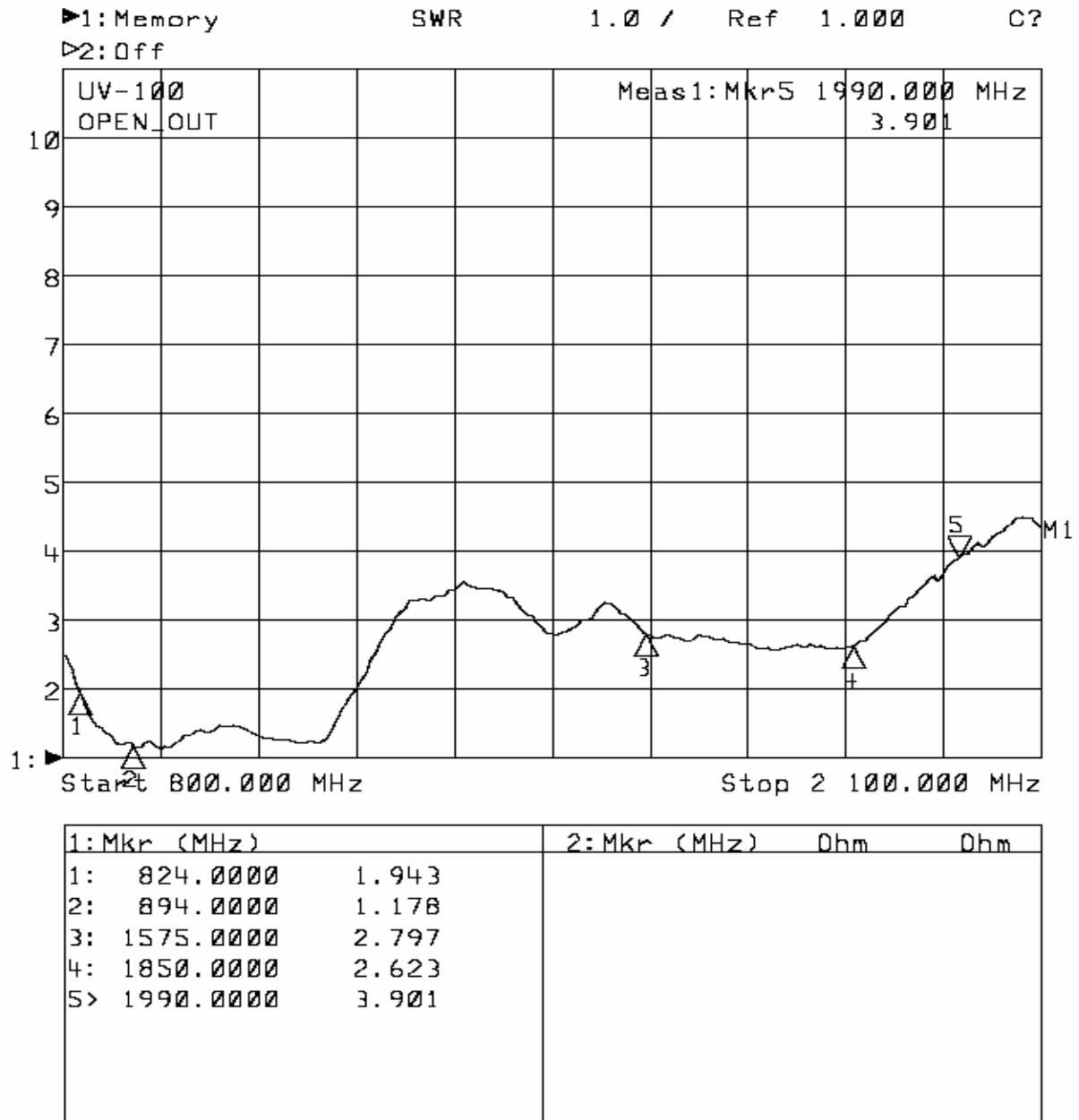
OPEN IN



1: Mkr (MHz)		2: Mkr (MHz)	Ohm	Ohm
1: 824.0000	2.526			
2: 894.0000	1.200			
3: 1575.0000	1.886			
4: 1850.0000	2.202			
5: 1990.0000	2.999			

ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	9 / 37

OPEN OUT

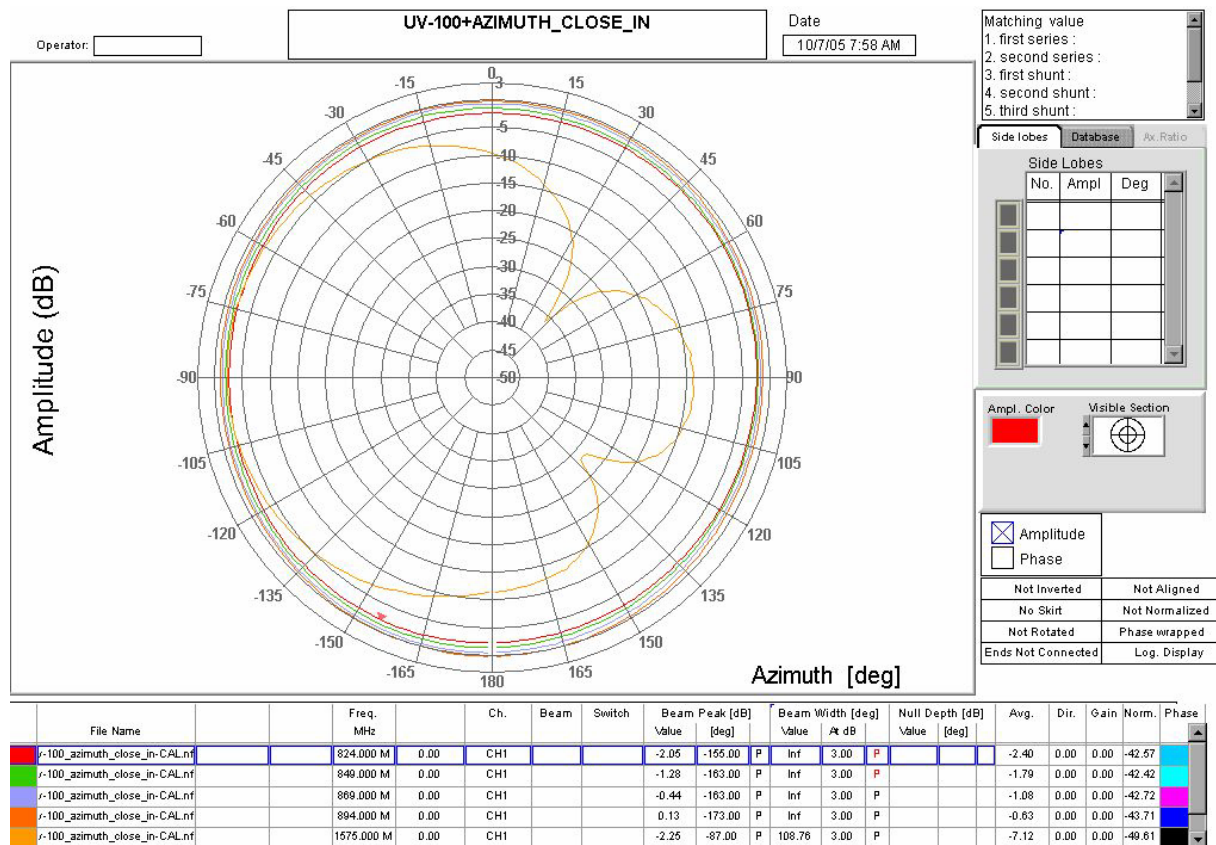


ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	10 / 37

3.2 Radiation Pattern

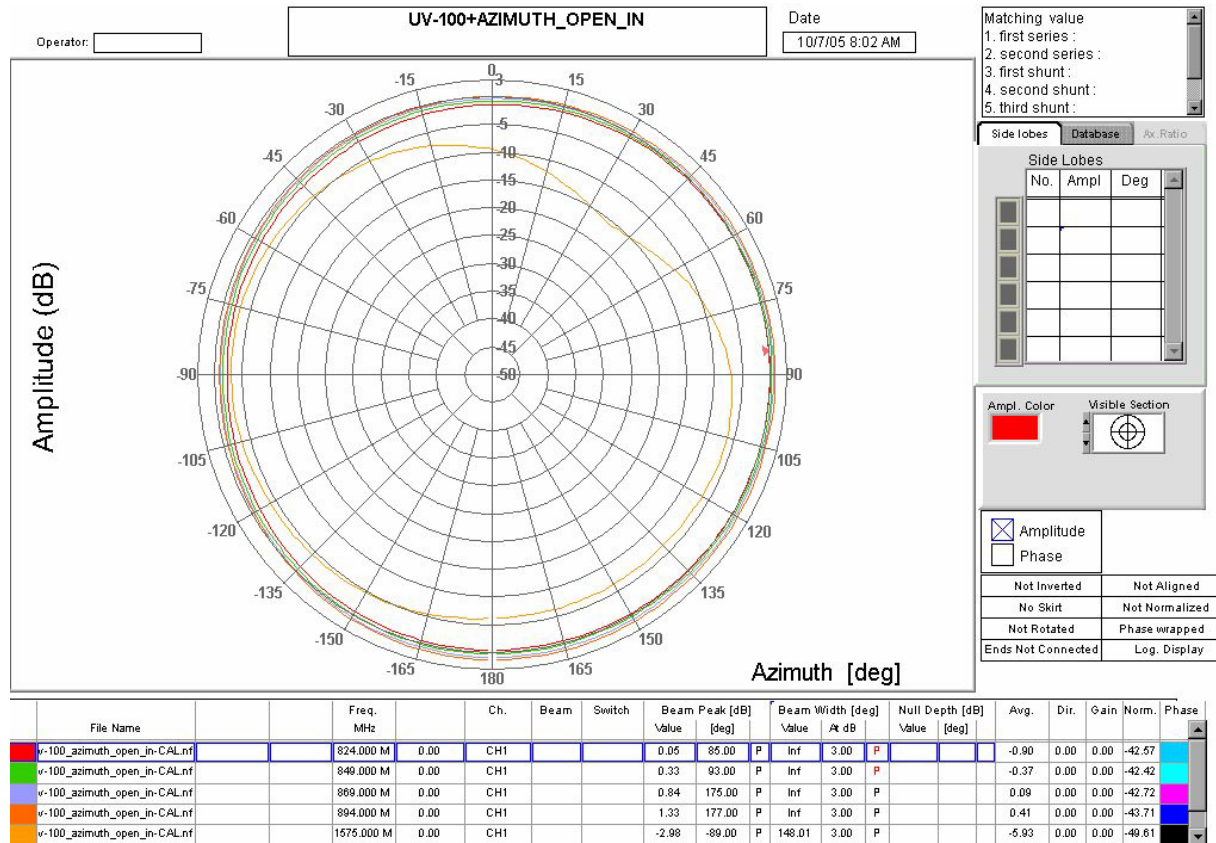
The radiation pattern of this antenna shall be omni-directional for the horizontal plane and bi-directional for the vertical plane in both position of extended and retracted.

CELLULAR / GPS AZIMUTH, CLOSE IN



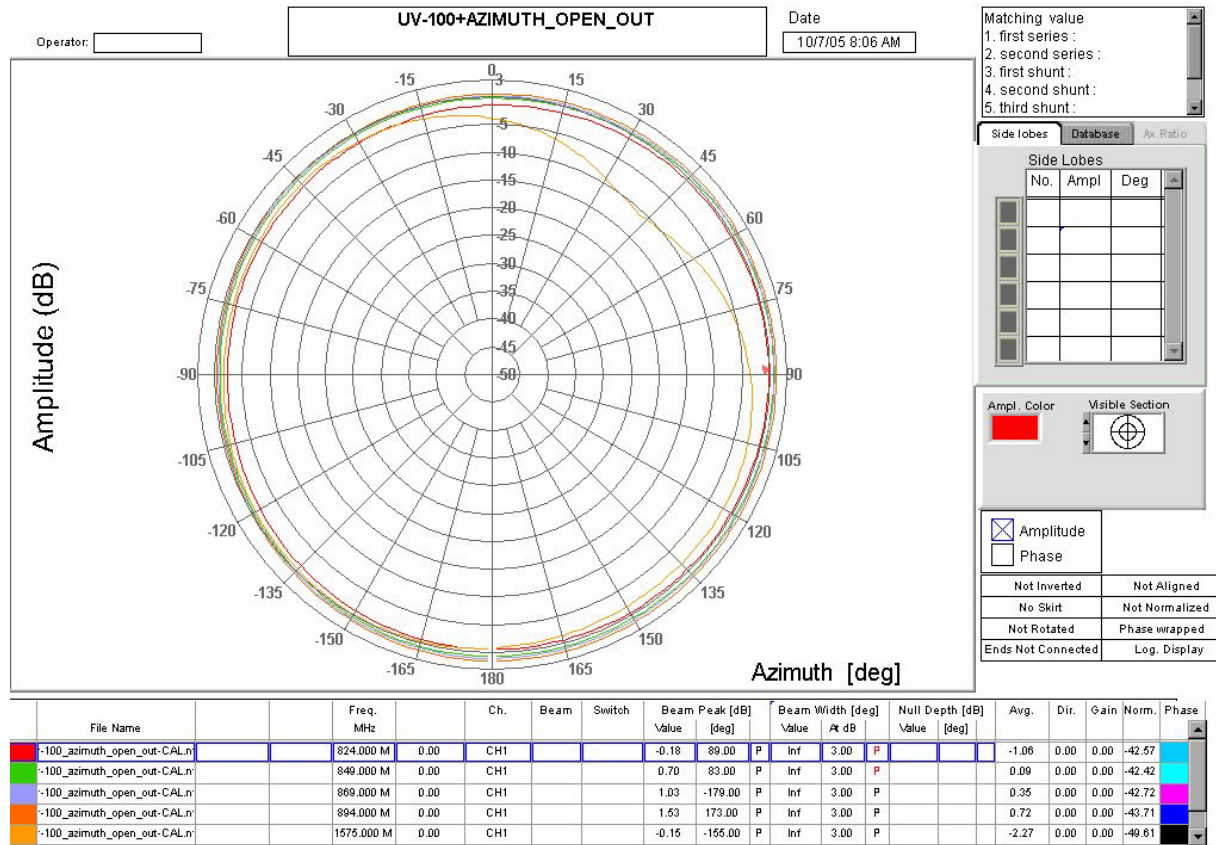
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	11 / 37

CELLULAR / GPS AZIMUTH, OPEN IN



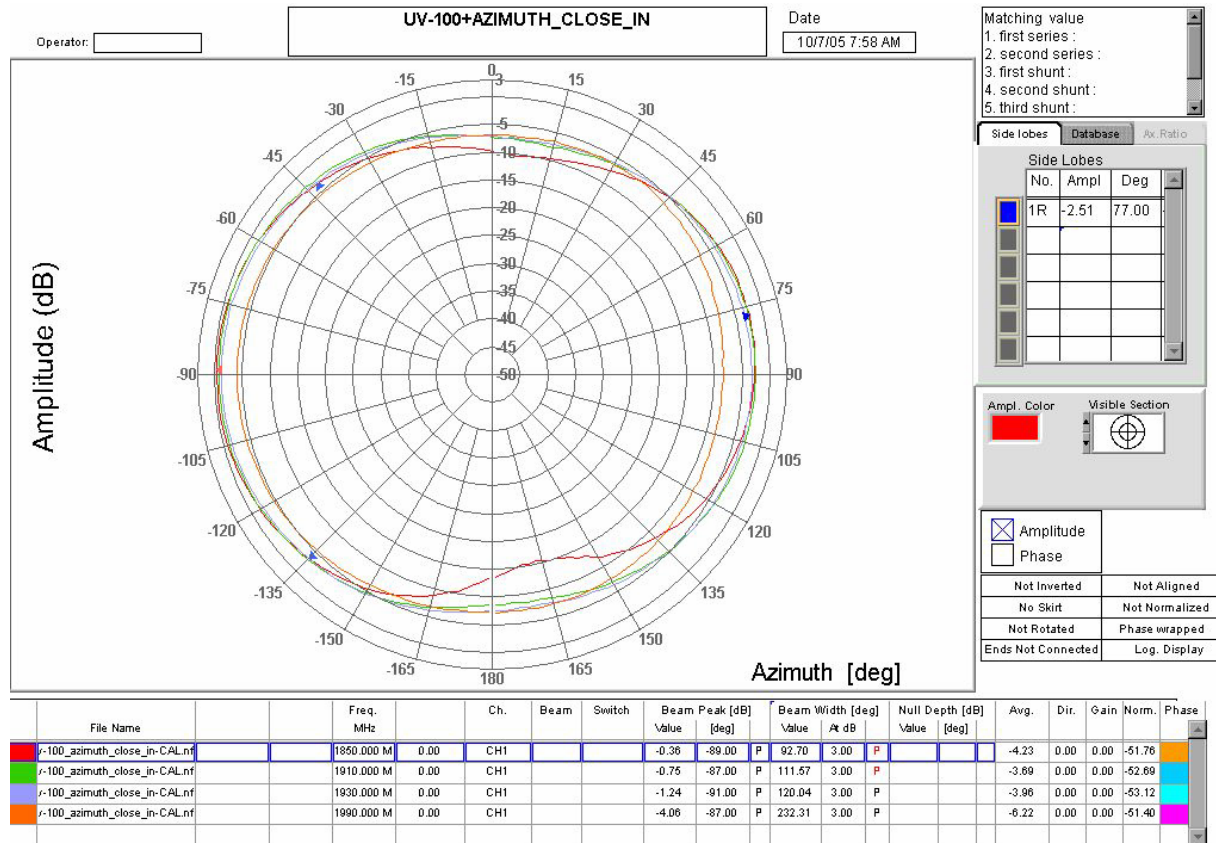
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	12 / 37

CELLULAR / GPS AZIMUTH, OPEN OUT



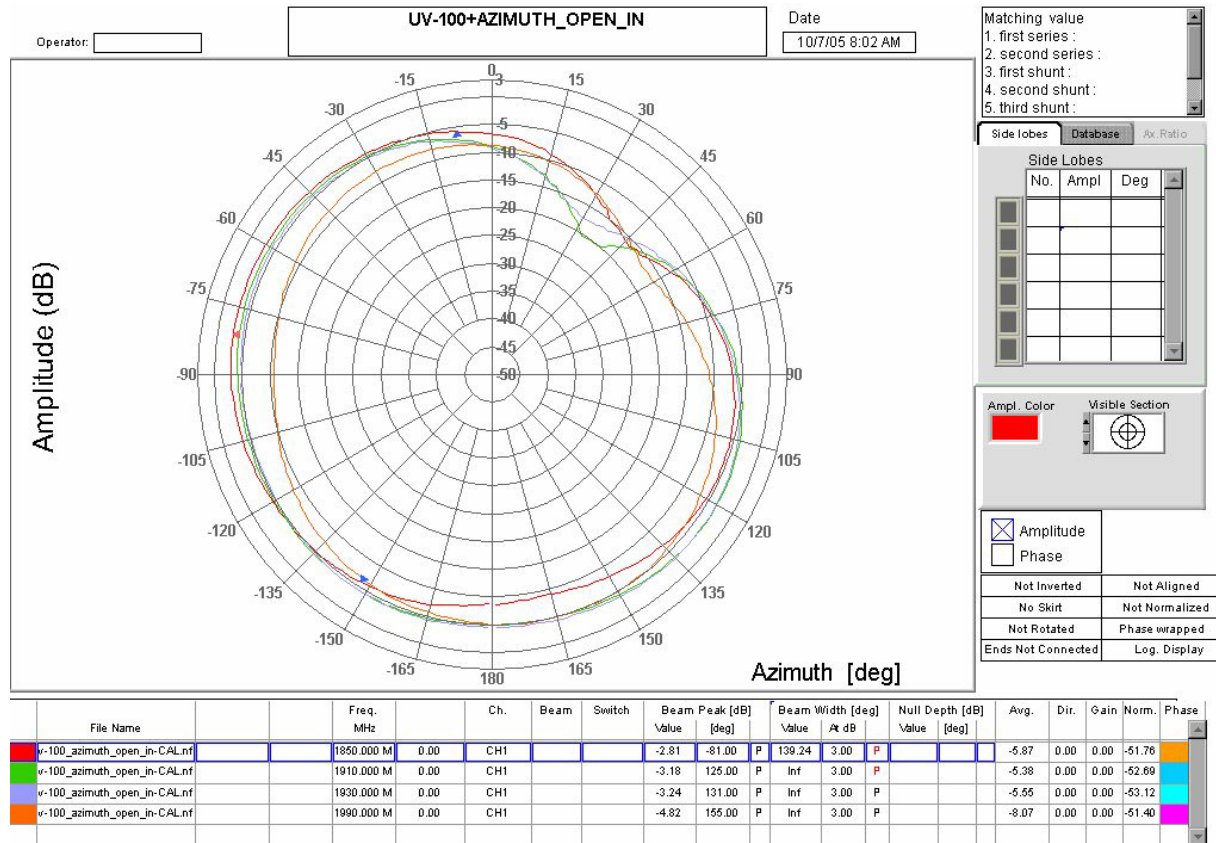
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	13 / 37

US-PCS AZIMUTH, CLOSE IN



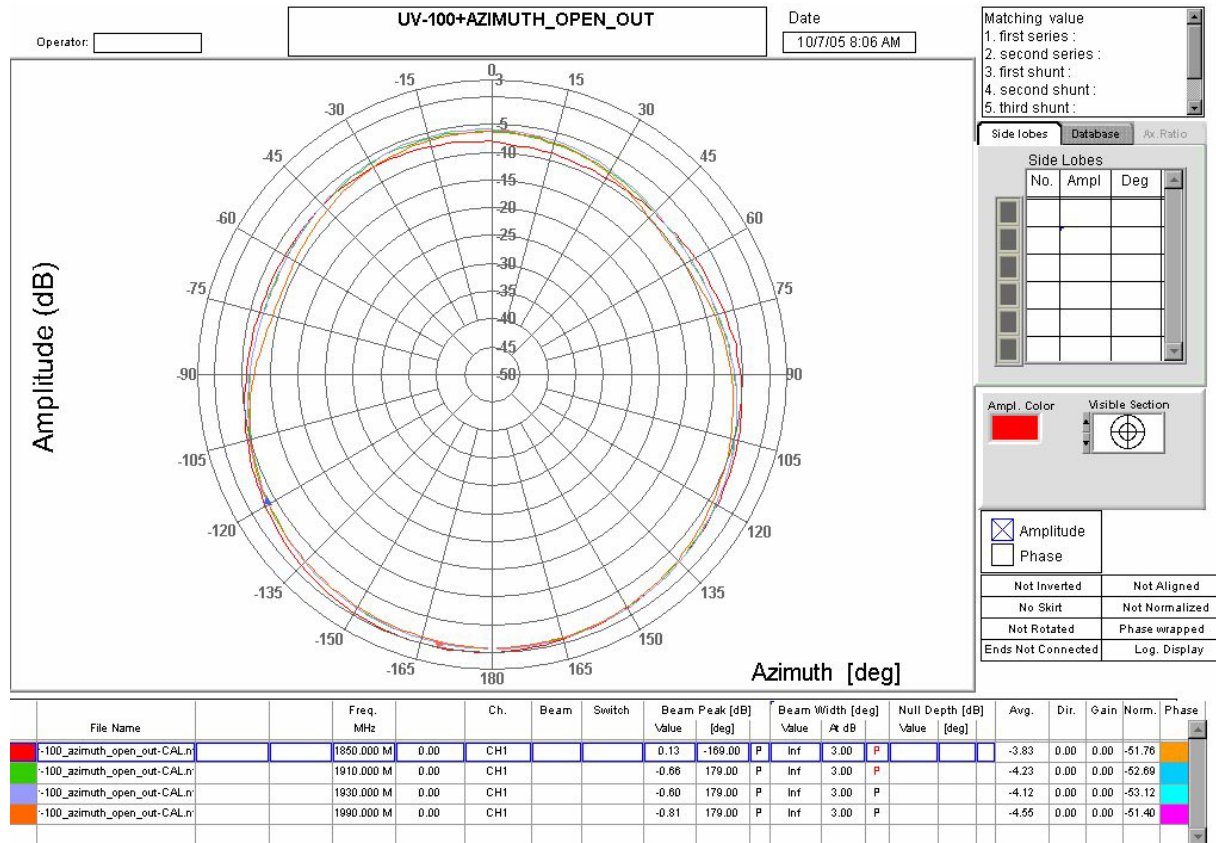
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	14 / 37

US-PCS AZIMUTH, OPEN IN



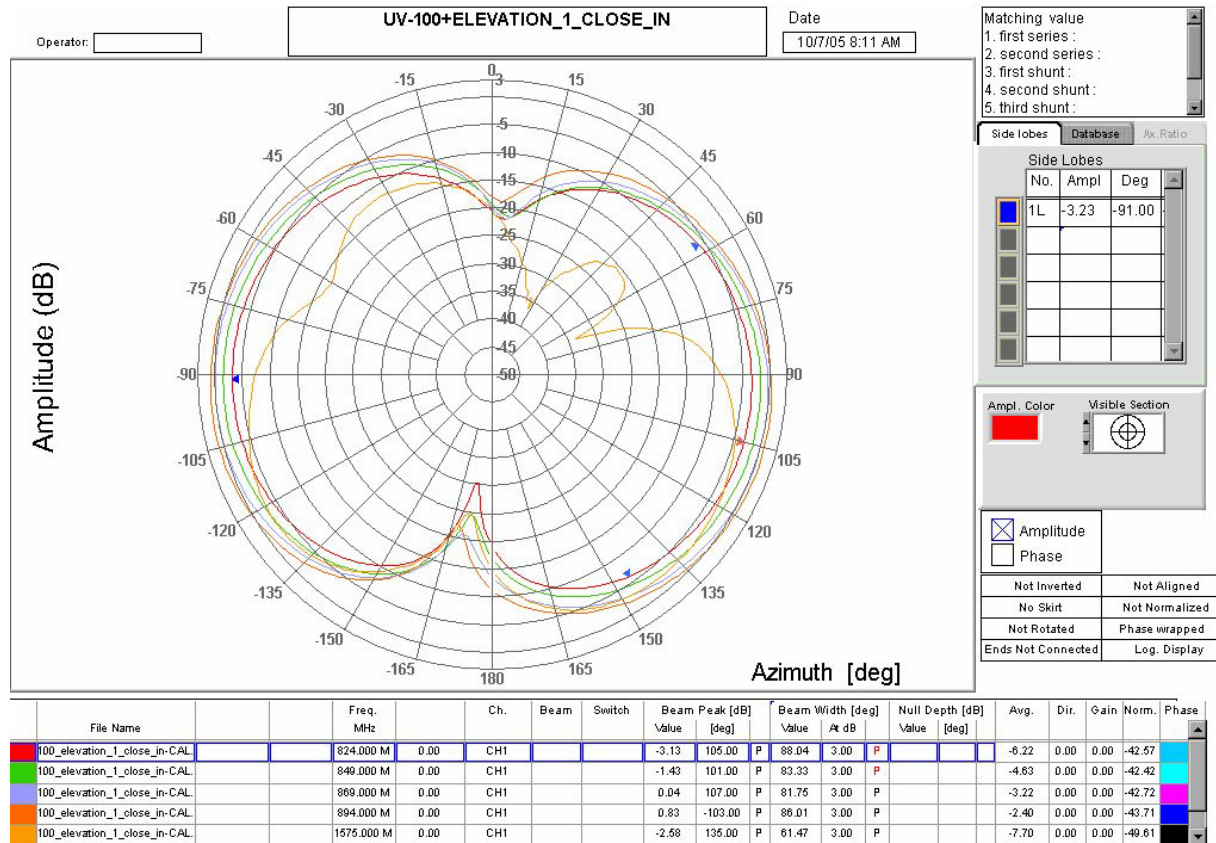
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	15 / 37

US-PCS AZIMUTH, OPEN OUT



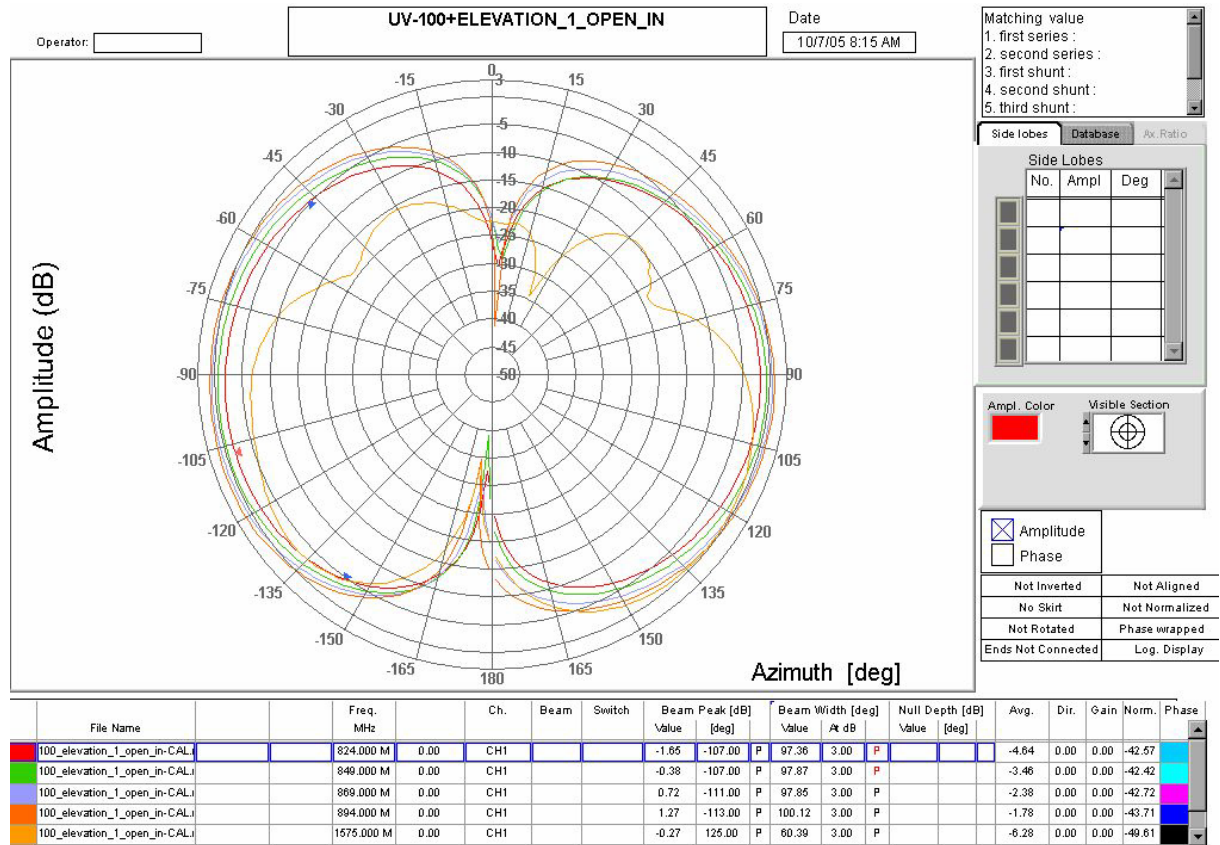
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	16 / 37

CELLULAR / GPS ELEVATION-1, CLOSE IN



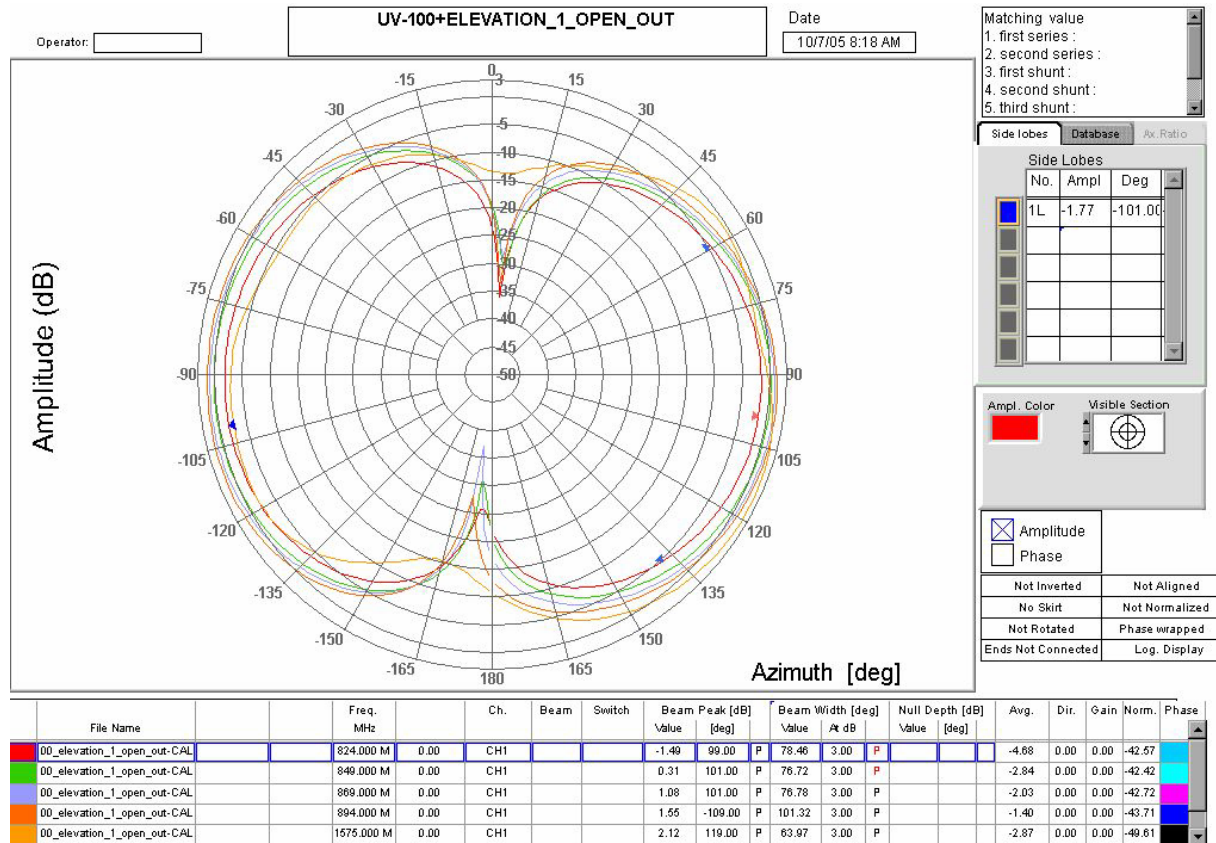
ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	17 / 37

CELLULAR / GPS ELEVATION-1, OPEN IN



ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	18 / 37

CELLULAR / GPS ELEVATION-1, OPEN OUT



ANTENNA SPECIFICATION		DATE	2005-10-07	Rev.	IR
MODEL	UV-100	TYPE	Retractable	PAGE	19 / 37

US-PCS ELEVATION-1, CLOSE IN

