

SPEED TECHNOLOGY

SPEED Communication Technology Limited

Approval sheet of Compal QAQ00-WLAN/A Internal Antenna

Customer/Project	ZTE/ MF29A	Frequency Band	GSM850/900/1800/1900, WCDMA850/900/1900/2100		
SCT P/N		Version	R: A		
Date	2012-1-04				
SPEED					
Checked by	RF		Design	RF	Bin Yu
	ME		by	ME	Zhao Ke
	QC		Remark		
Customer					
Date					
Confirmed by	RF				
	ME				

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1 General Information

1.1 Specification

- This approval sheet supports for MF29A antenna
- Antenna shape size: Meet the requirement of ZTE MF29A
- Antenna band: GSM850/900/1800/1900,WCDMA850/900/1900/2100
- Antenna material: Antenna material meet the requirement of ZTE MF29A
- Antenna performance meet the spec below:

	Band	Frequency(MHz)	Return Loss(dB)		Band	Frequency(MHz)	Return Loss(dB)
Tx Frequency	WCDMA band I	1922.4-1977.6	<-5	Rx Frequency	WCDMA band I	2112.4-2167.6	<-5
	WCDMA band II	1852.4-1907.6	<-5		WCDMA band II	1932.4-1987.6	<-5
	WCDMA band V	826.4-846.6	<-5		WCDMA band V	871.4-891.6	<-5
	WCDMA band VIII	882.6-912.4	<-5		WCDMA band VIII	927.6-957.4	<-5
	GSM850	824.2-848.8	<-5		GSM850	869.2-893.8	<-5
	E-GSM	880.2-914.8	<-5		E-GSM	924.8-958.8	<-5
	DCS	1710.2-1784.8	<-5		DCS	1805.2-1879.8	<-5
	PCS	1850.2-1909.8	<-5		PCS	1930.2-1989.8	<-5

1.2 The Whole Fixture



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2 Test Equipment of Antenna

2.1 Passive Test Equipment of Antenna

VSWR & Return Loss Measurement: Agilent E5071C;

Efficiency & Gain Measurement: Satimo S24 anechoic chamber Agilent E5071C

2.2 Active Test Equipment of Antenna

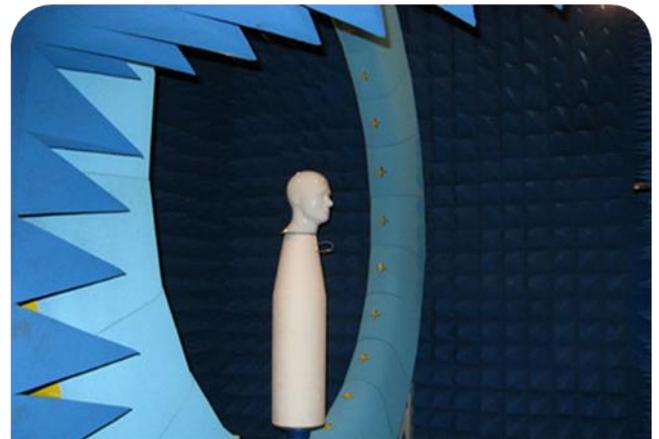
TRP & EIRP Measurement: Satimo SG24 anechoic chamber , Agilent 8960;

Satimo SG24 anechoic chamber:

The TRP and Peak EIRP of the antenna were measured in the Speed Communication Technology anechoic chamber, Satimo SG24 measurement system. The chamber provides less than -40 dB reflectivity from 450 MHz through 6 GHz and 25cm diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.



Agilent E5071C& Agilent 8960



Satimo SG24 anocnoic chamber

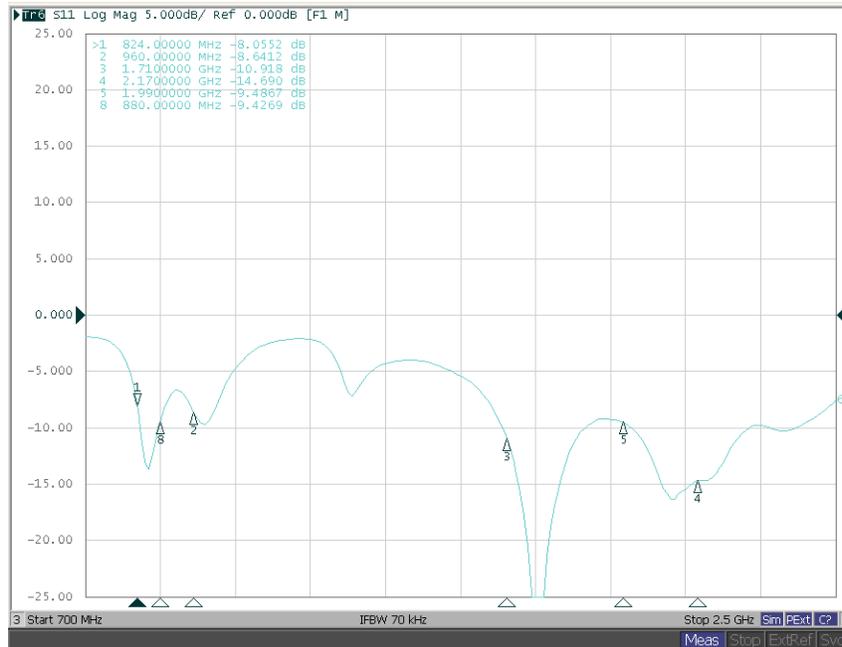
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3 Measurement information

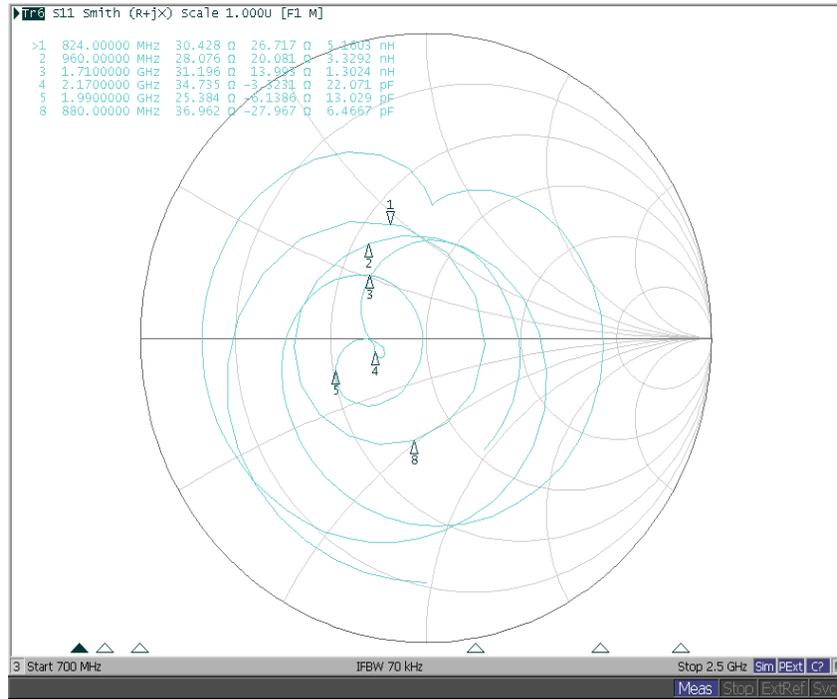
3.1 Return loss & Smith chart

Frequency(MHz)	S11(dB)
824	-8.05
880	-9.42
960	-8.64
1710	-10.91
1990	-9.48
2170	-14.69

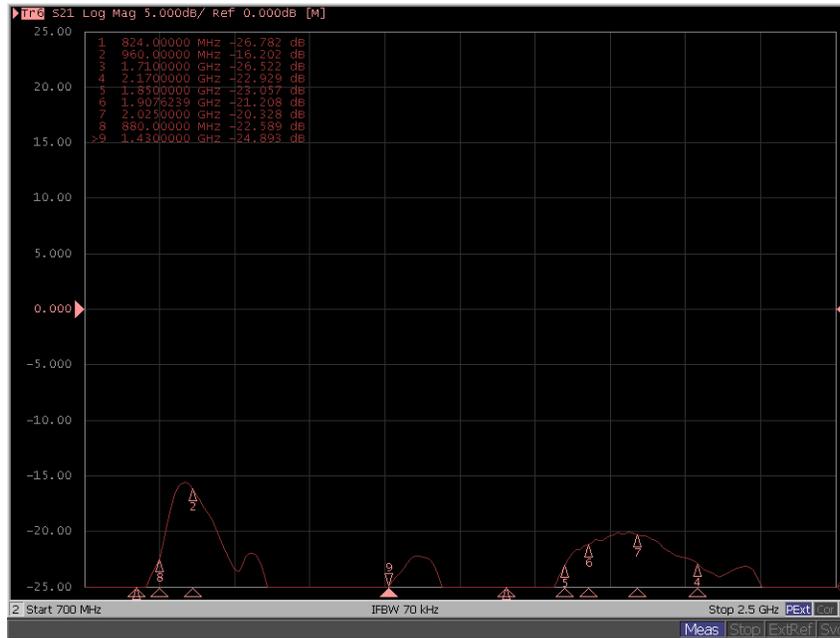


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3.2 Isolation



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3.3 Efficiency & Max Gain

The Gain & Efficiency are tested in speed's Satimo stargate anechoic chamber

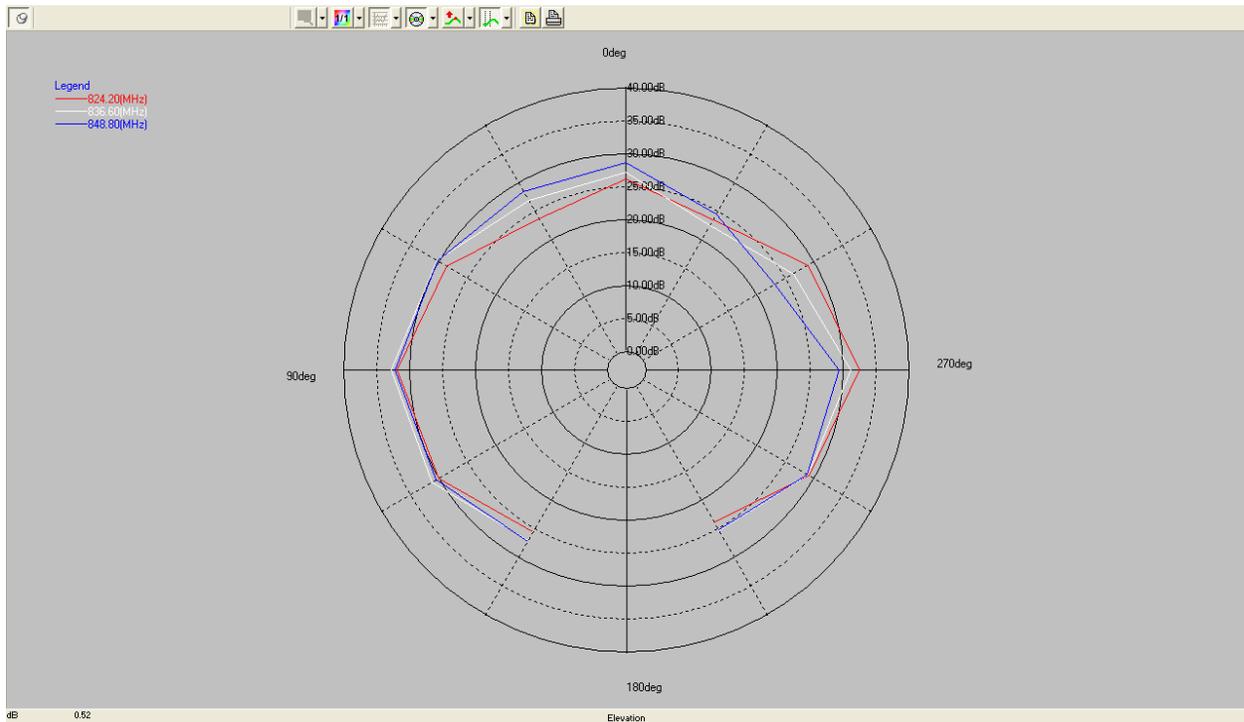
Frequency (MHz)	Efficiency (%)	Gain (dB)	Frequency (MHz)	Efficiency (%)	Gain (dB)
824	33.7	2.28	1710	60.7	2.08
849	43.6	1.58	1785	47.5	2.68
869	56.3	2.13	1830	52.2	1.89
894	53.4	1.89	1880	57.8	2.76
915	47.5	1.99	1910	52.6	1.98
925	40.4	2.27	1950	54.9	2.31
960	39.6	2.04	1990	48.3	2.4
			2010	55.2	2.5
			2040	51.1	2.55
			2060	54.8	2.28
			2080	62.7	2.51
			2100	61.6	2.74
			2130	56.9	2.95
			2150	54	2.66
			2170	62.4	2.29

3.4 Radiation Pattern

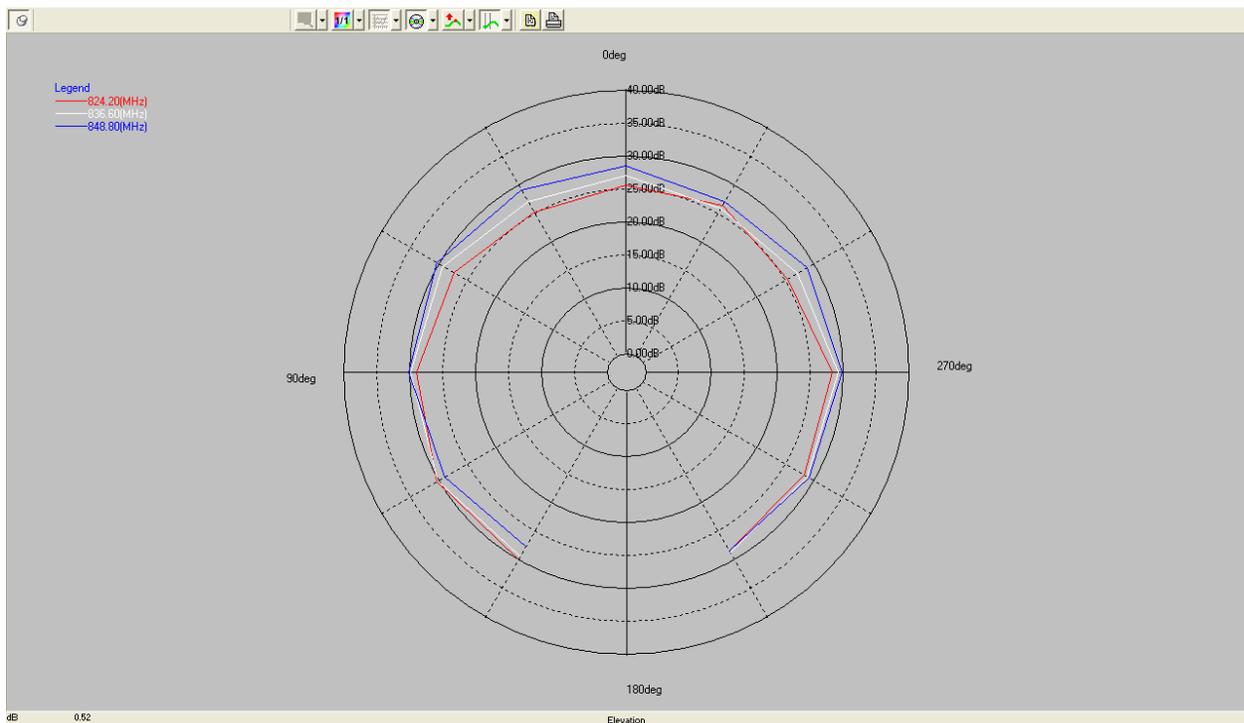
GSM850:
E1-PLANE

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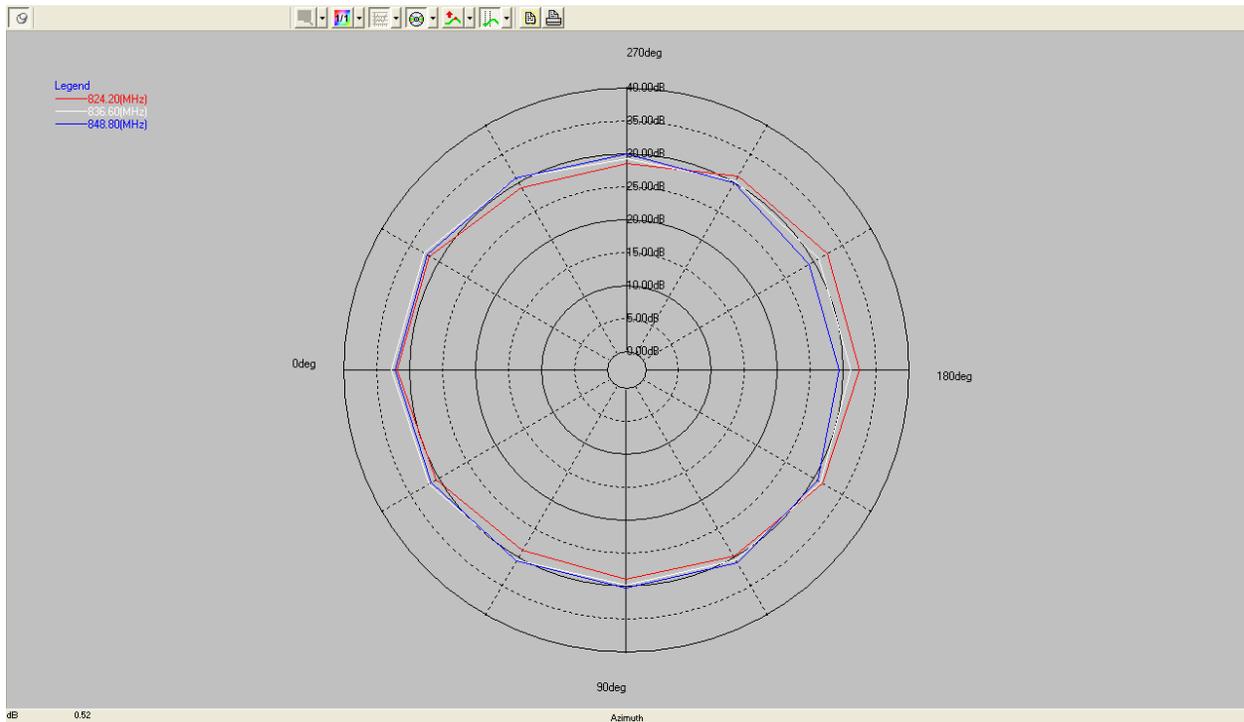
E2-PLANE



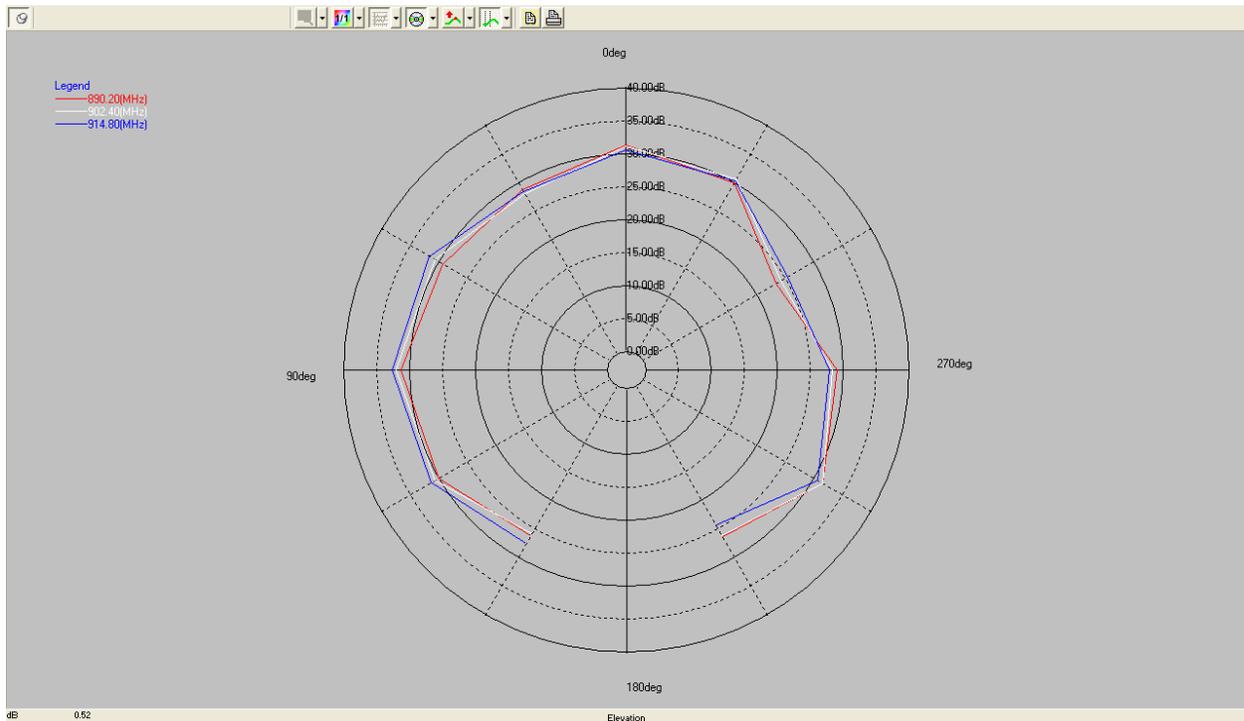
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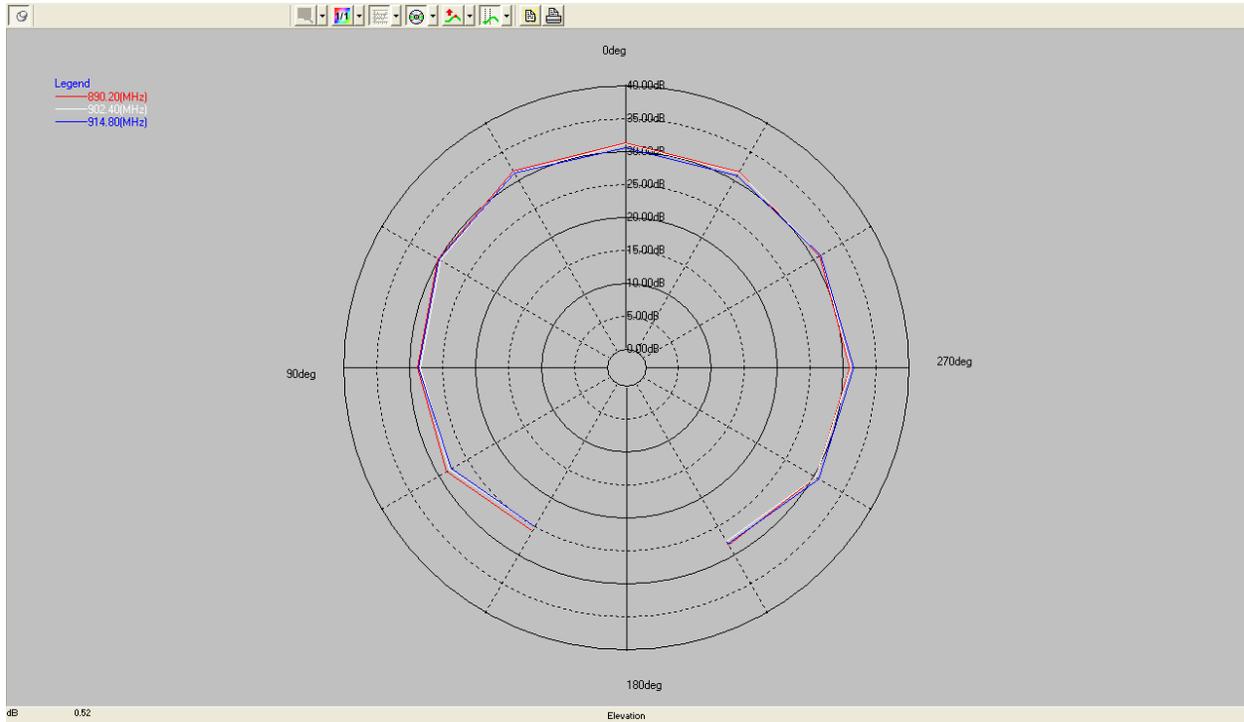
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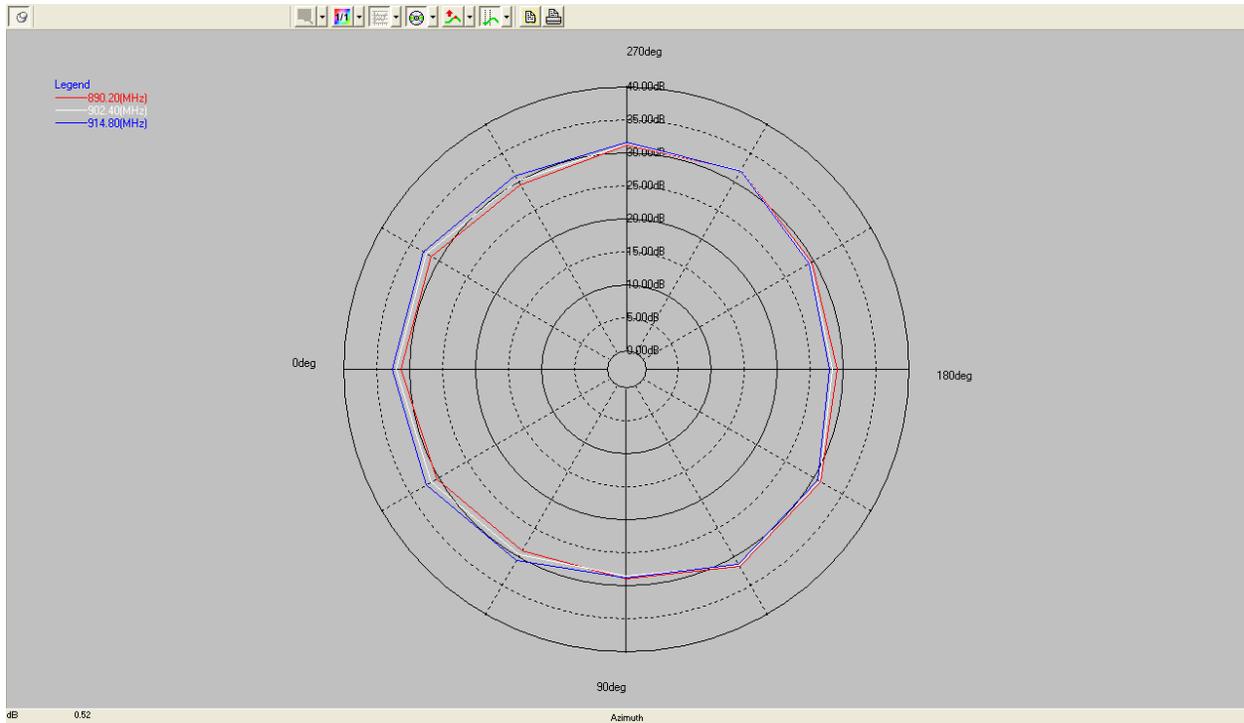
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E2-PLANE



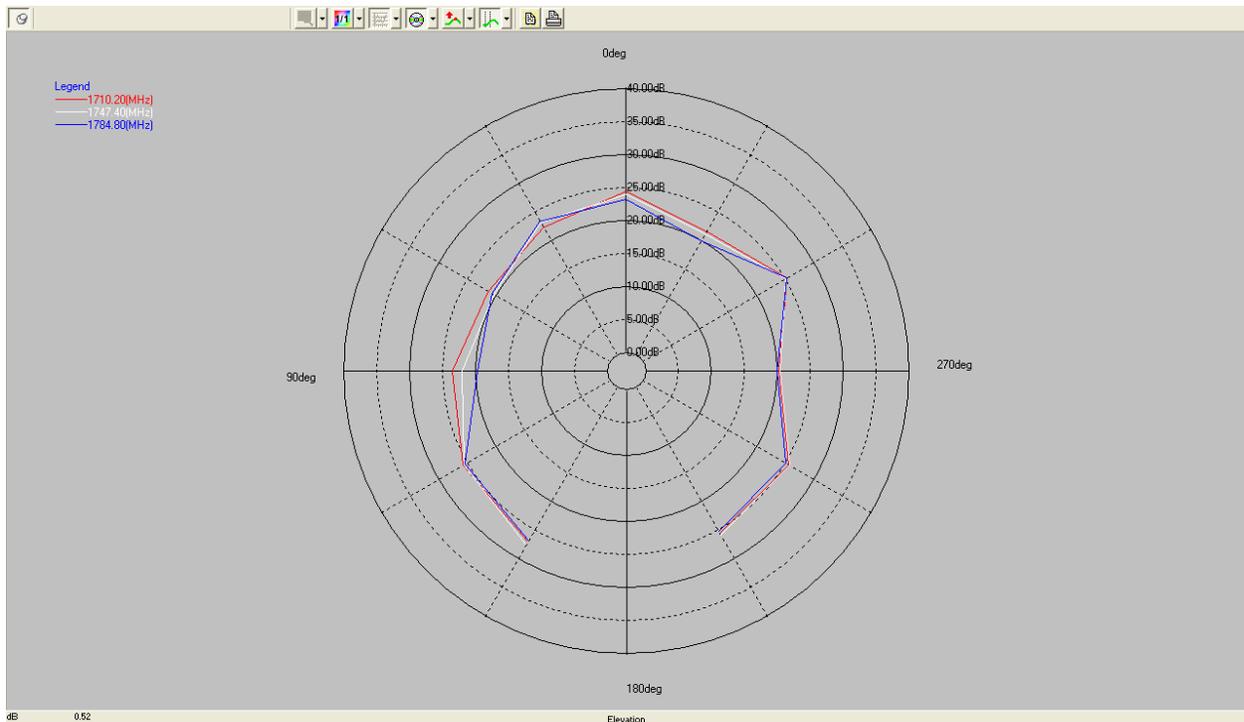
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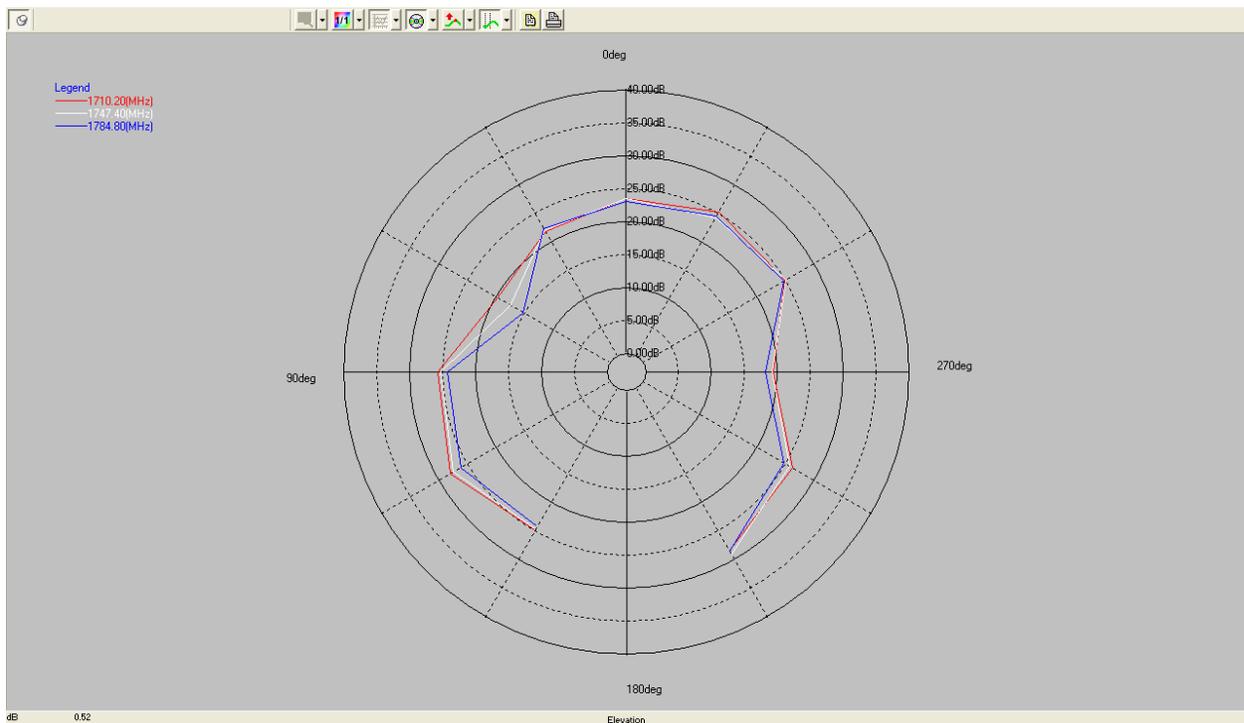
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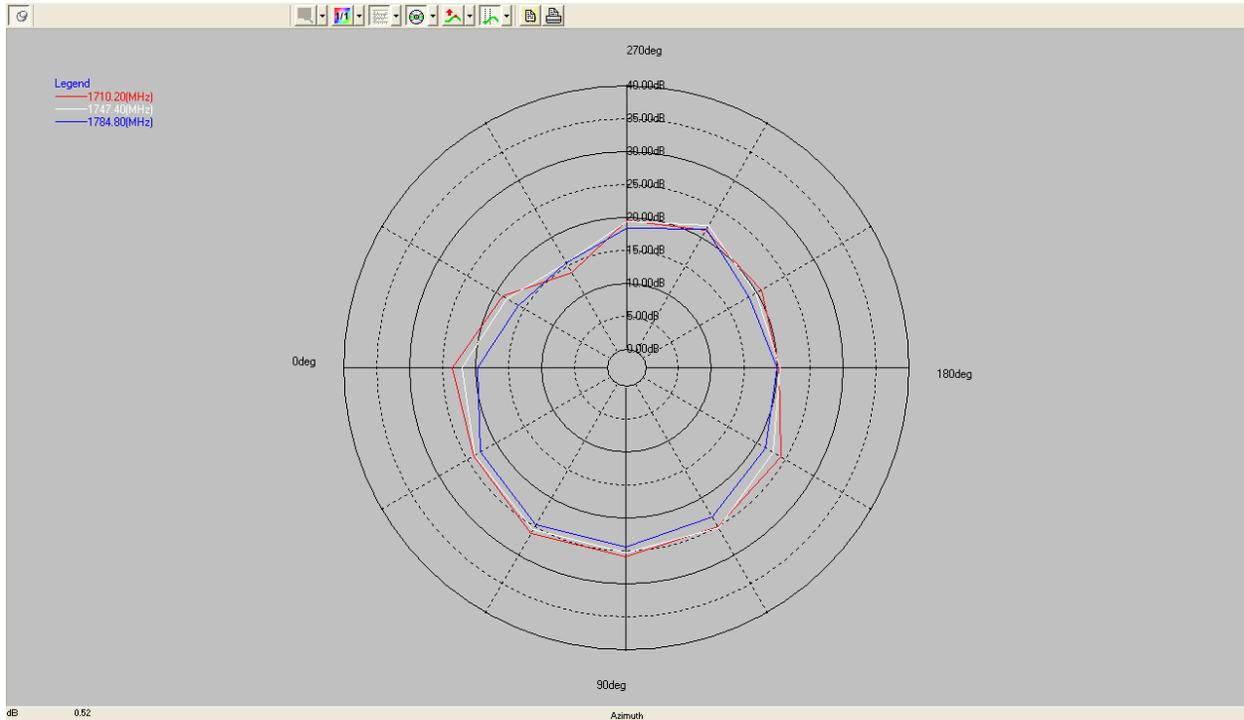
E2-PLANE



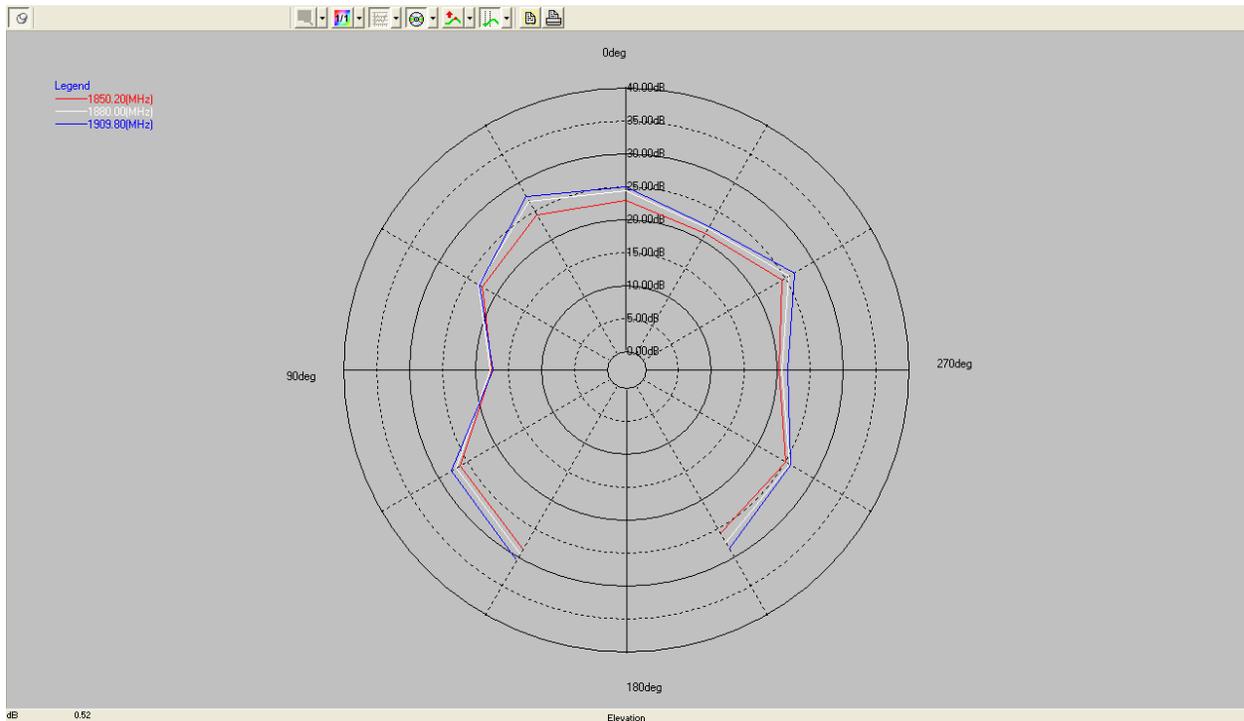
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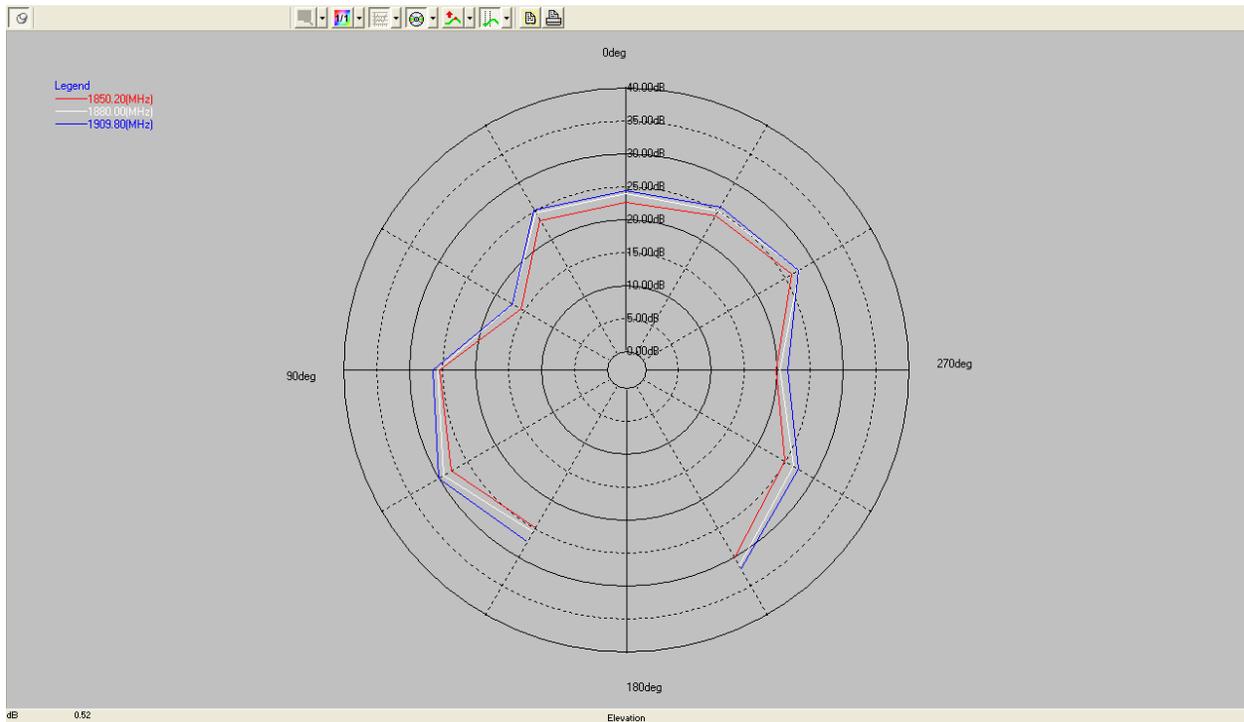
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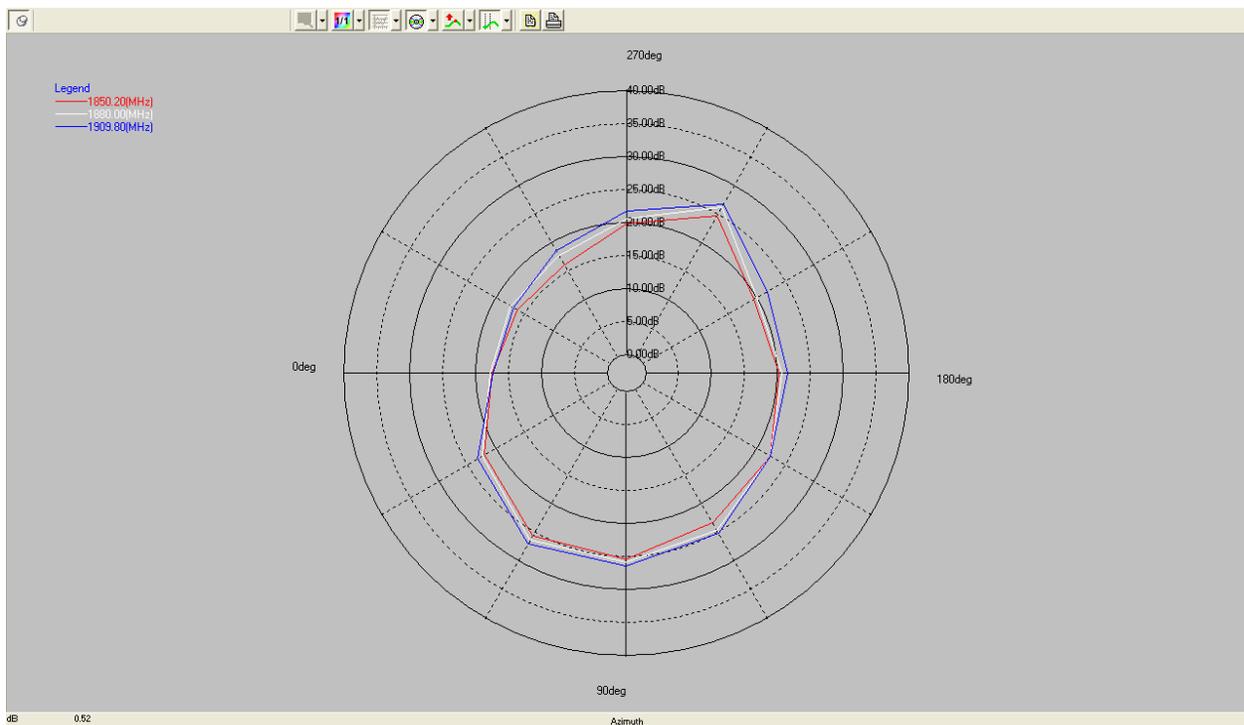
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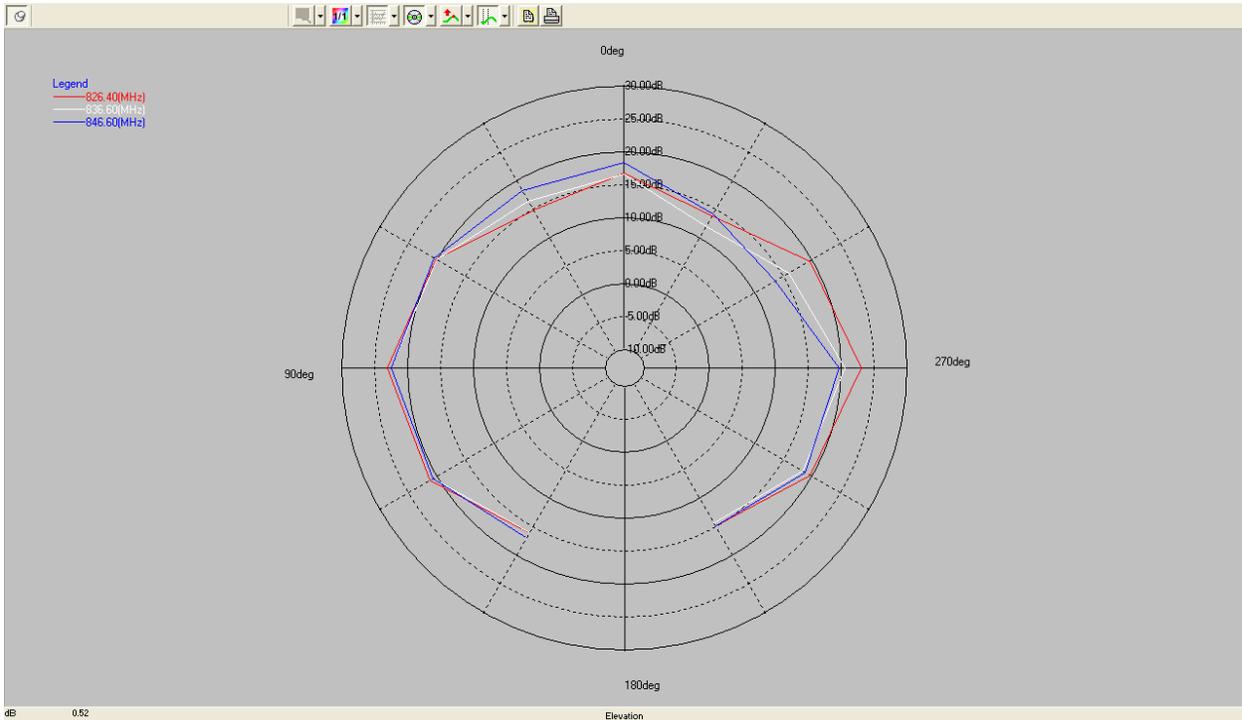


WCDMA850:

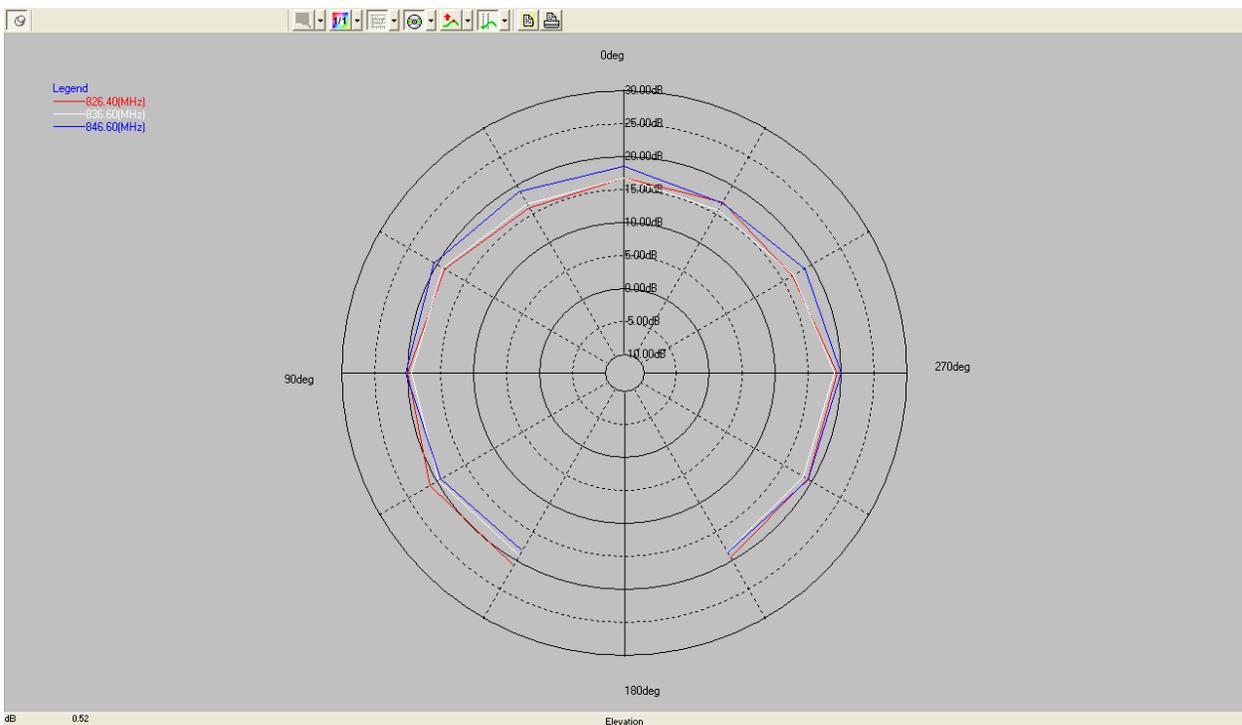
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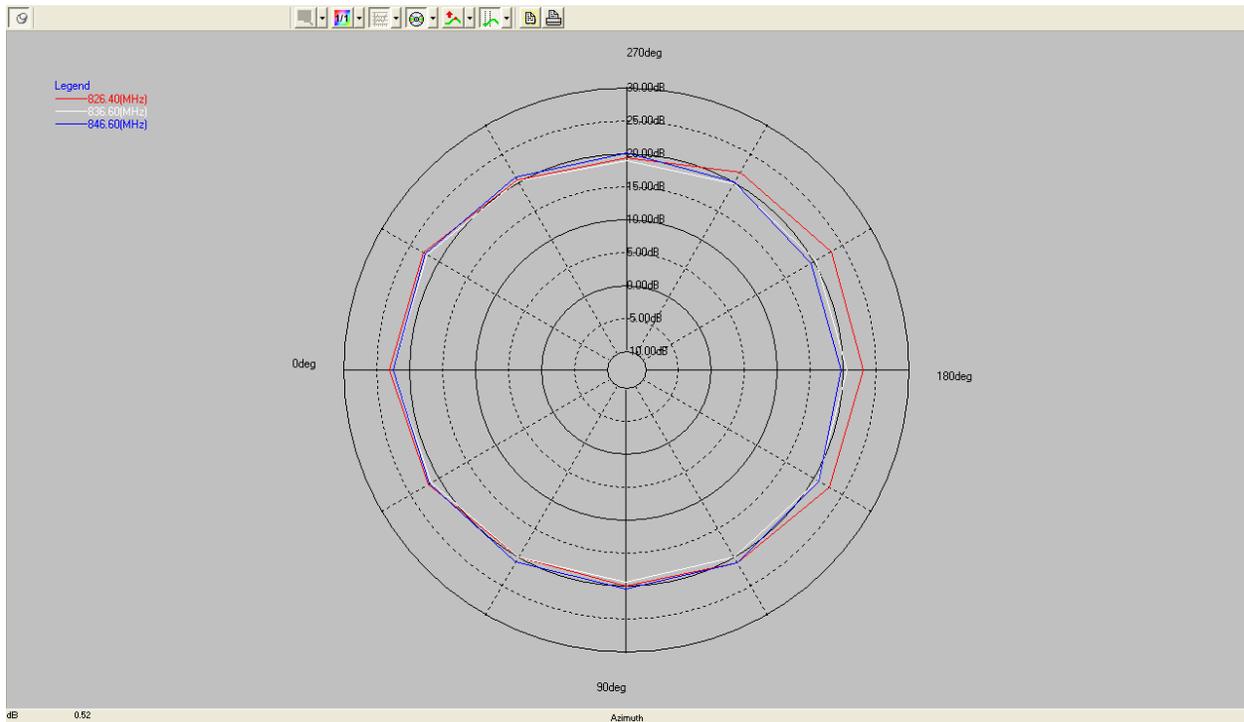
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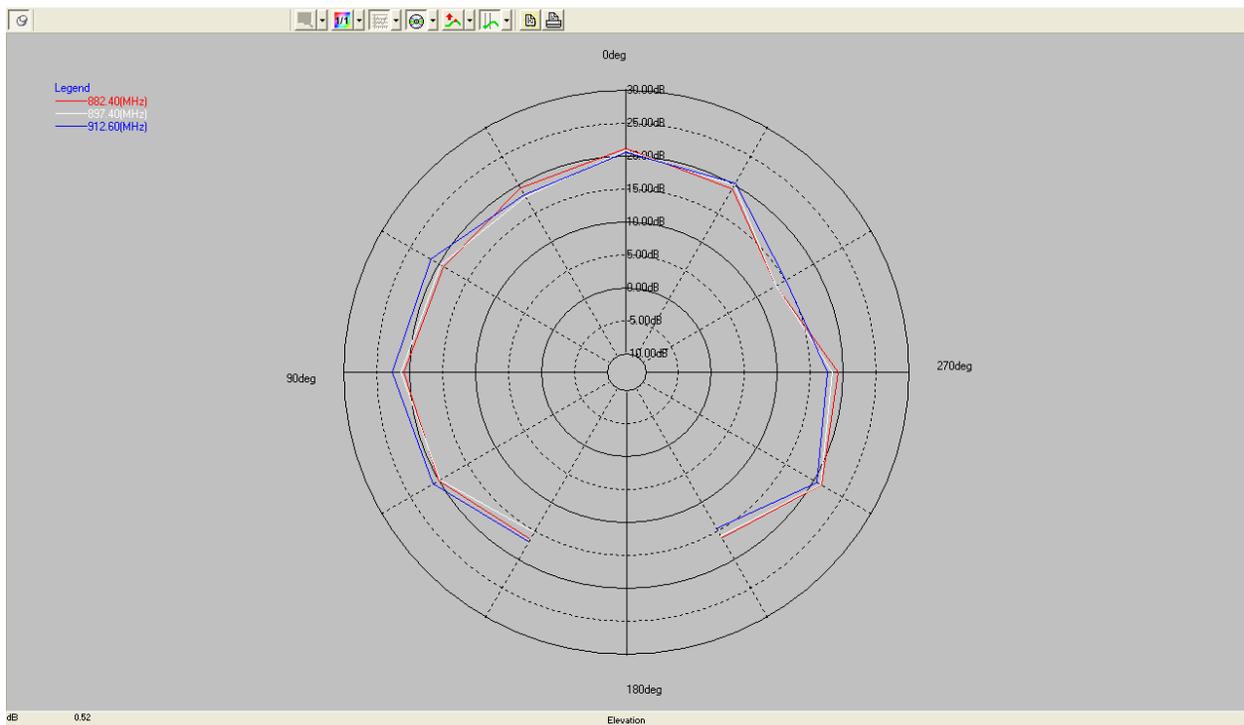
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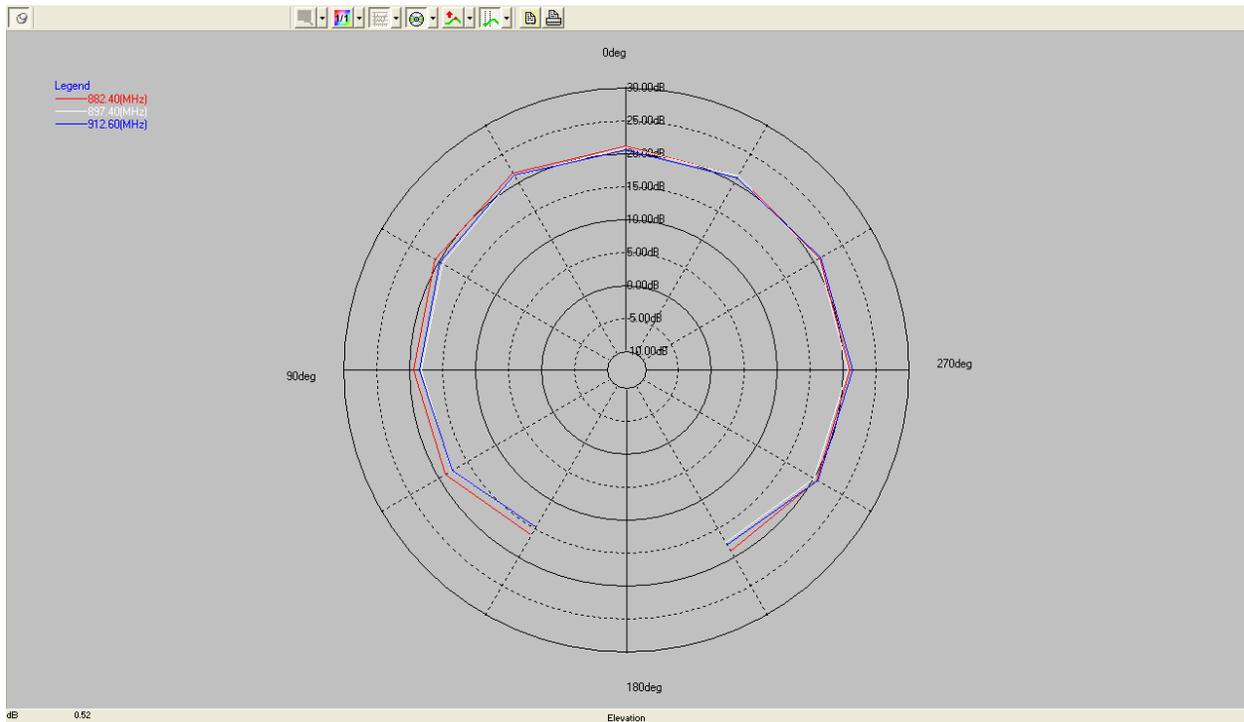
WCDMA900:
E1-PLANE



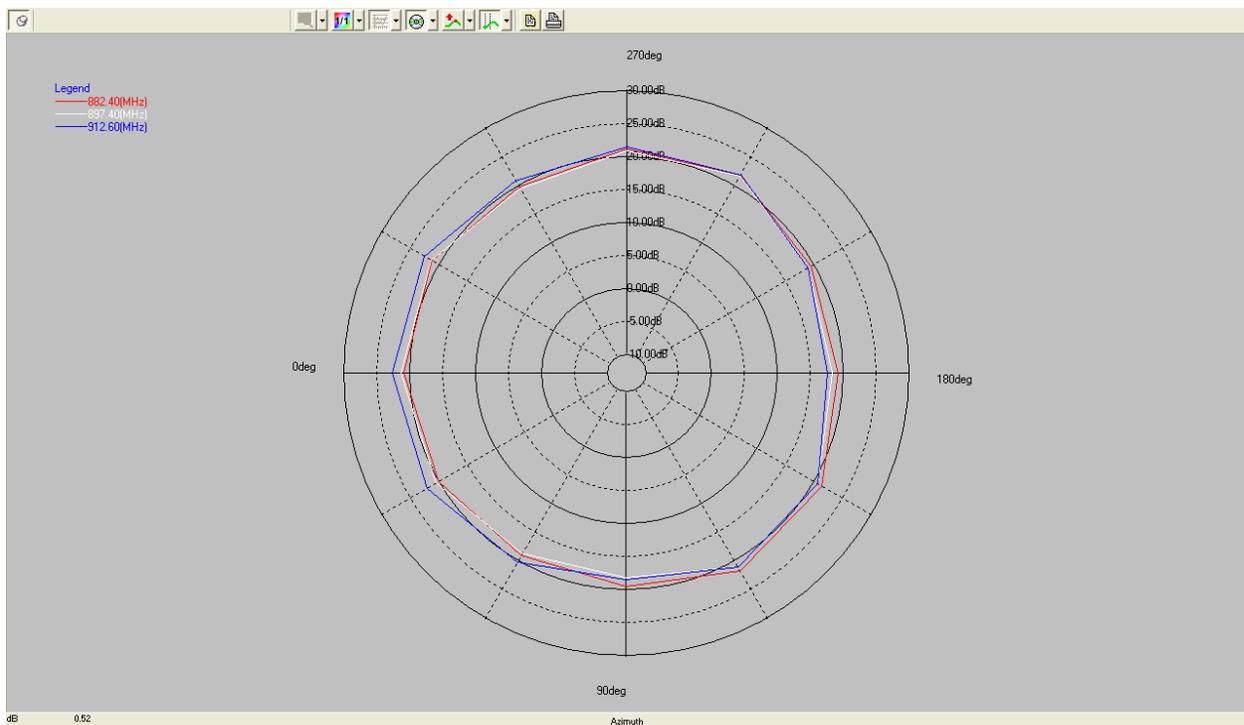
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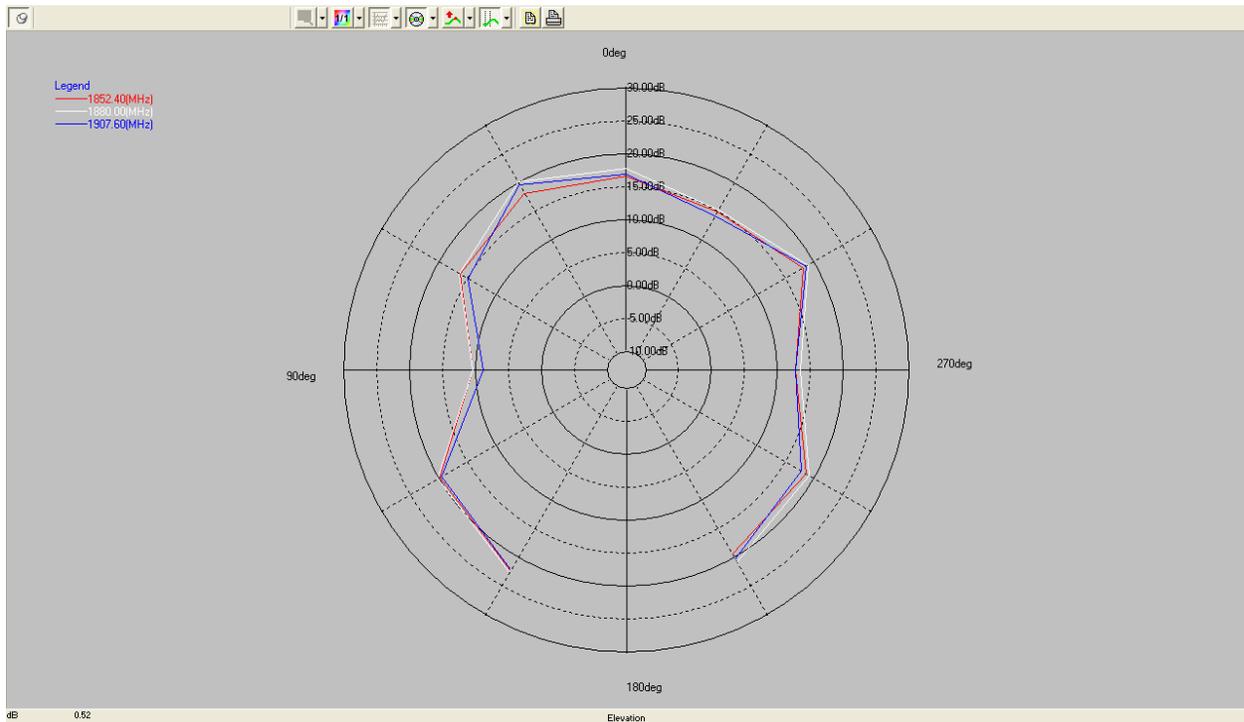


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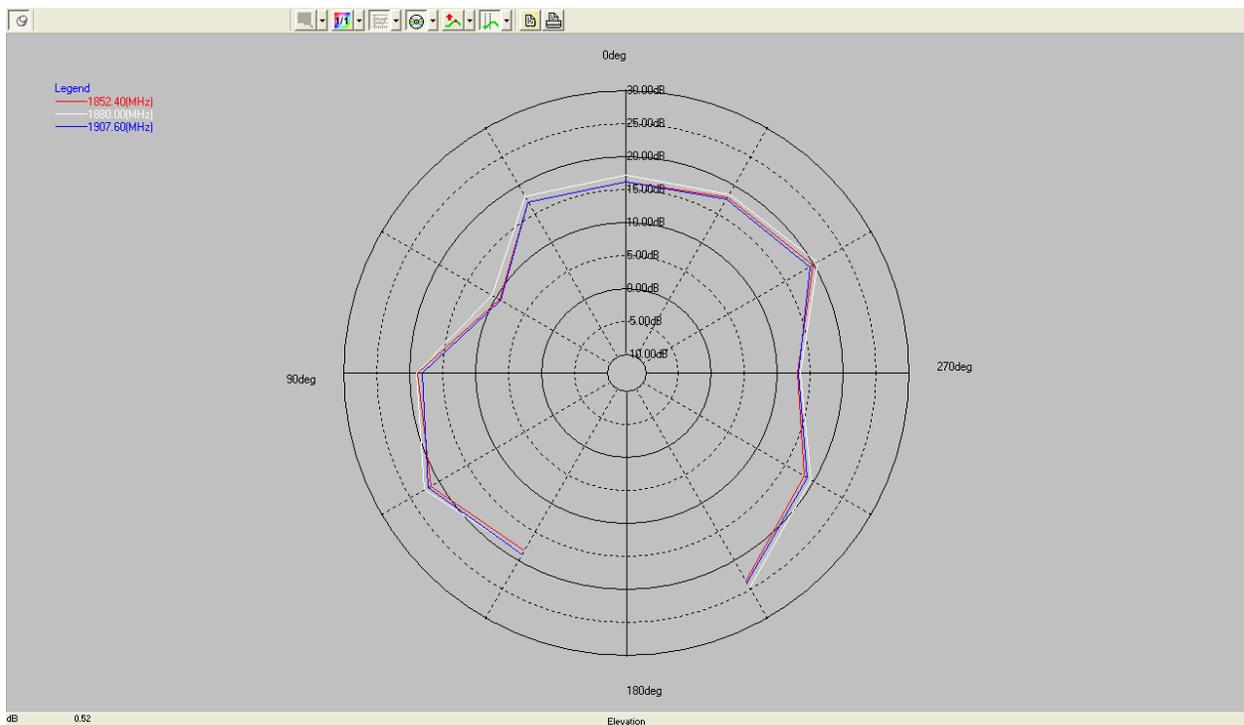
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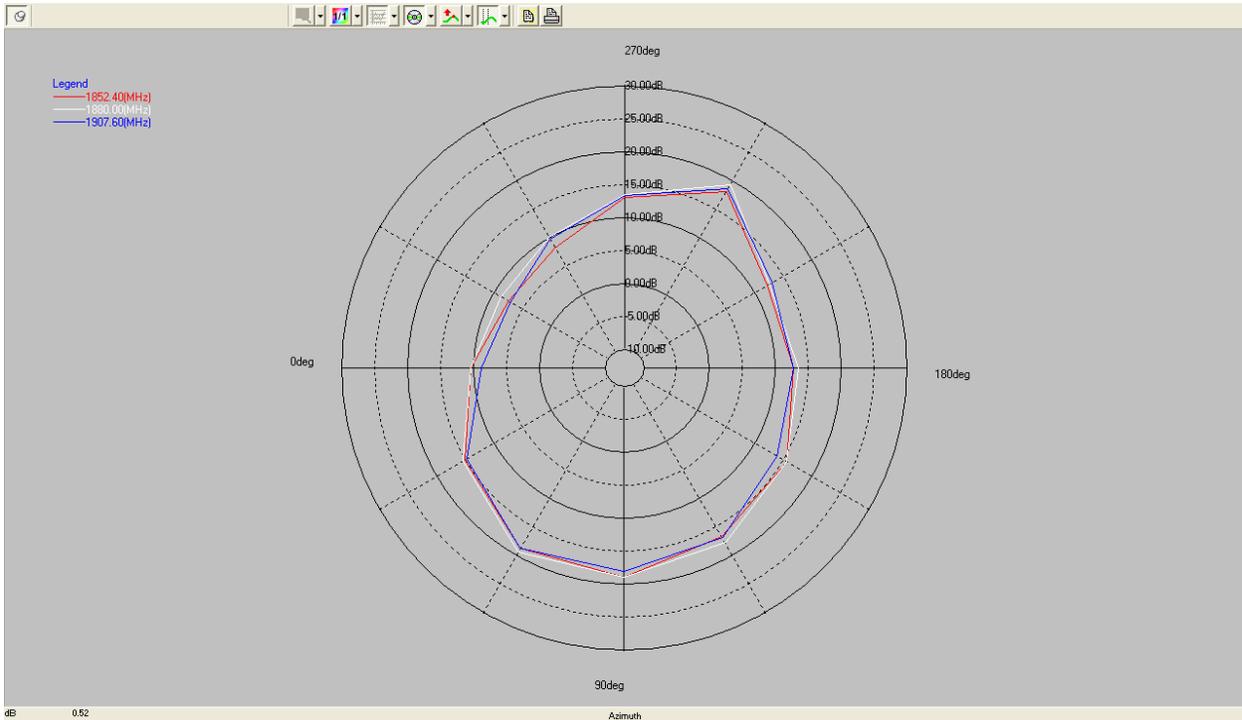
E2-PLANE



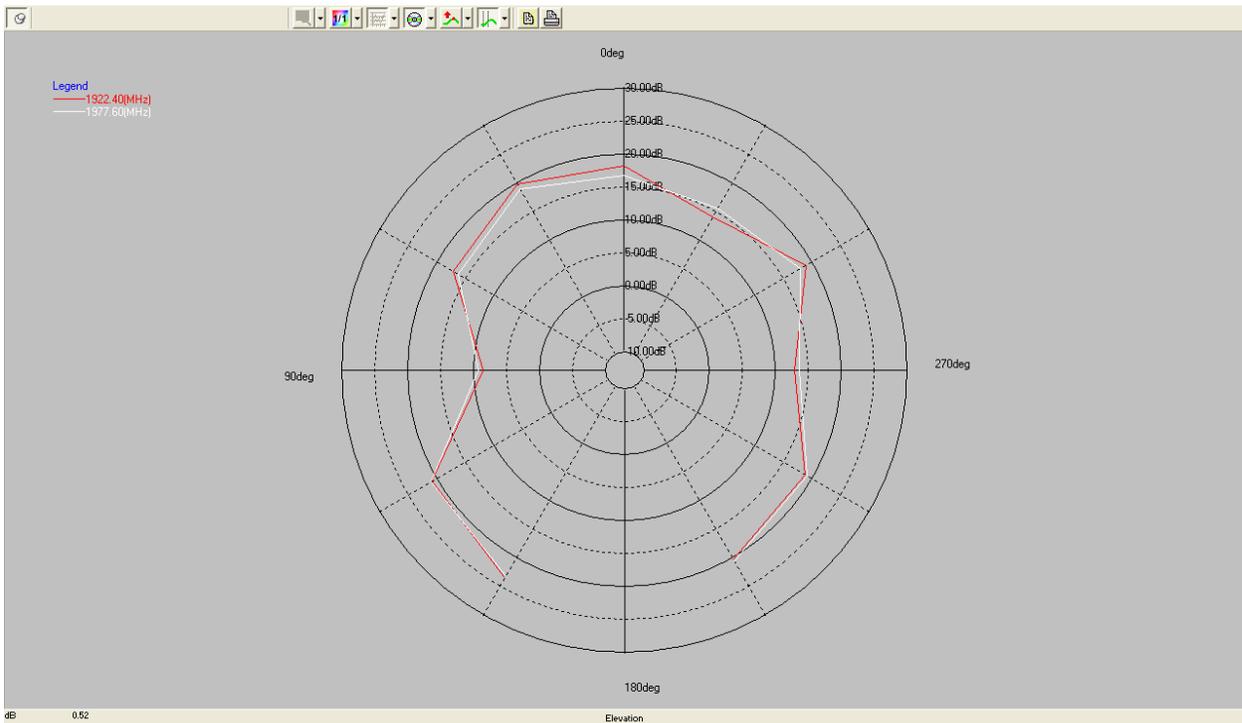
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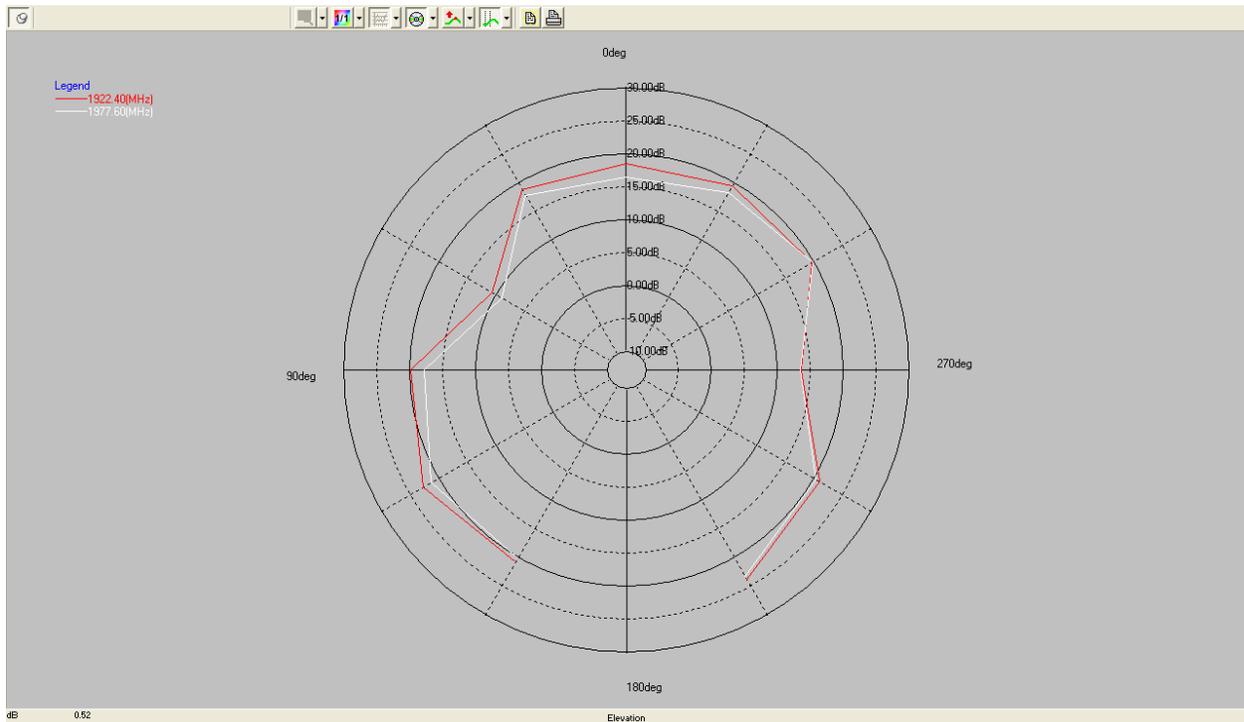
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E1-PLANE



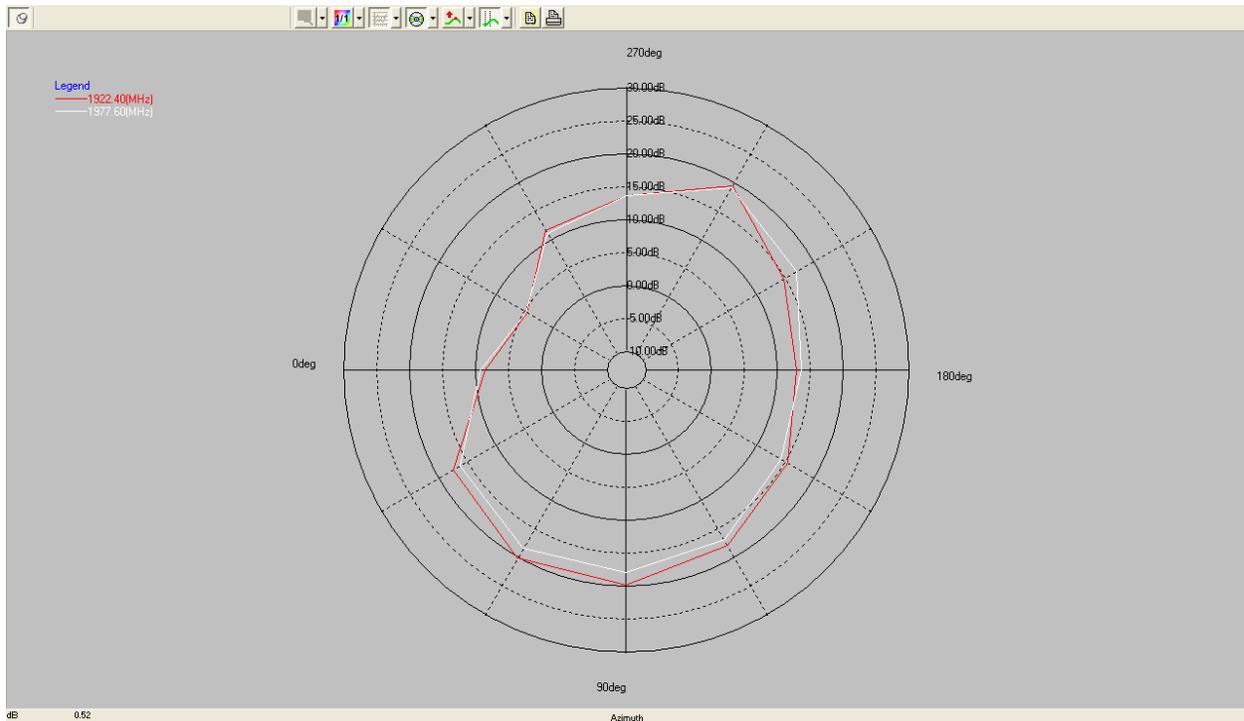
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