

Antenna Test Report

2023/08/15

Test date : 2023/08/15

QUICK REFERENCE DATA :

product type	ANTENNA
DESCRIPTION	VALUE
Frequency Range	2400-2500 MHZ 5150-5850 MHZ
V.S.W.R	Max:2.0以下
Impedance	50Ω
Gain	2.4GHz 2dBi 5GHz 4.4dBi
Radiation	Omni-directional
Radiating element	1/4 Wave Helical
Polarization	linear Vertical
Admitted power	1W
Connector	SMA Plug
Operating temp	-20°C ~+60°C

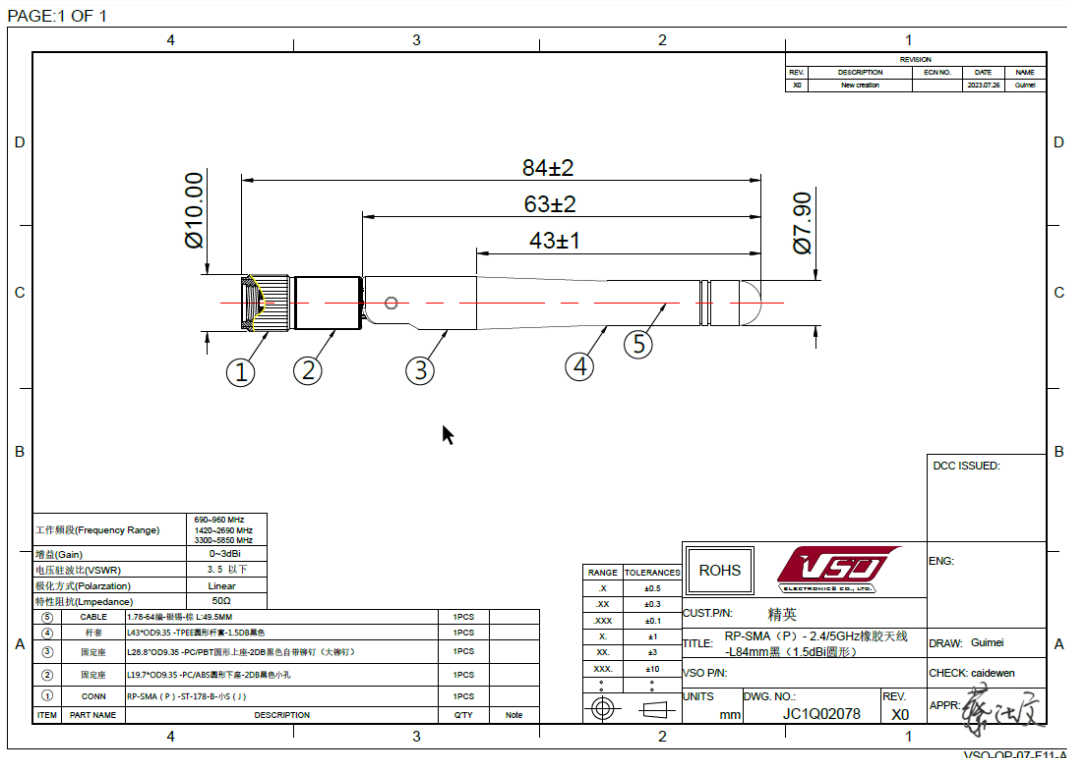
Test date : 2023/08/15

Project No. :	Customer : ECS	Model Name : LIVA X3A	PART No. :
Project Name : VSO Antenna Test Report Reference			VSO P/No. : JC1Q02078

Antenna test environment photos :



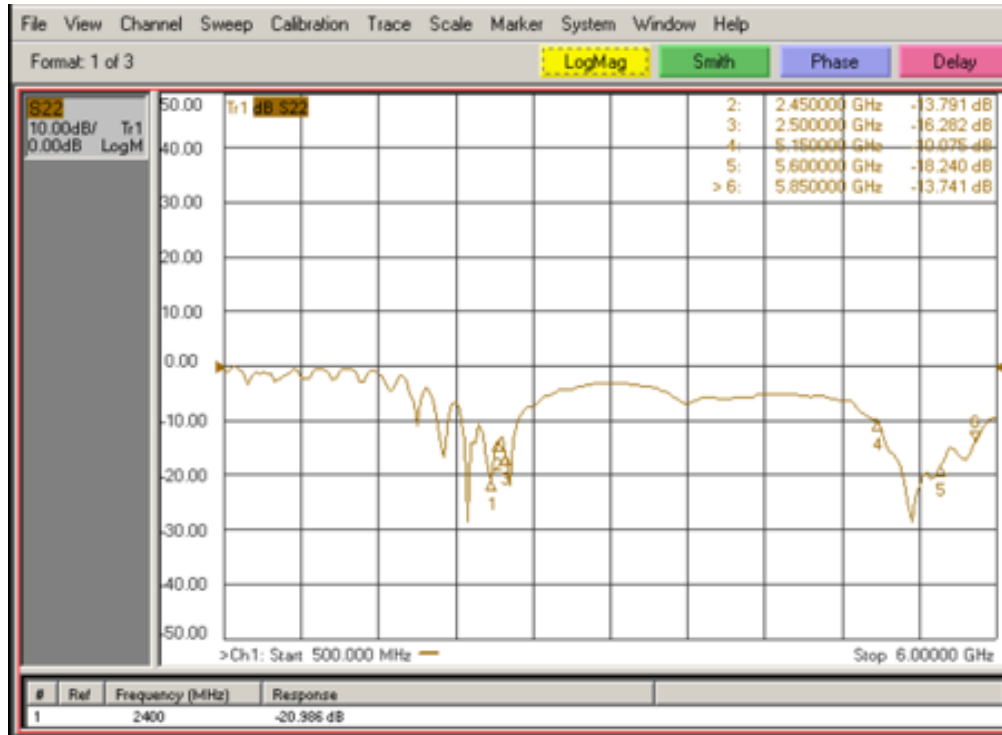
Antenna drawing :



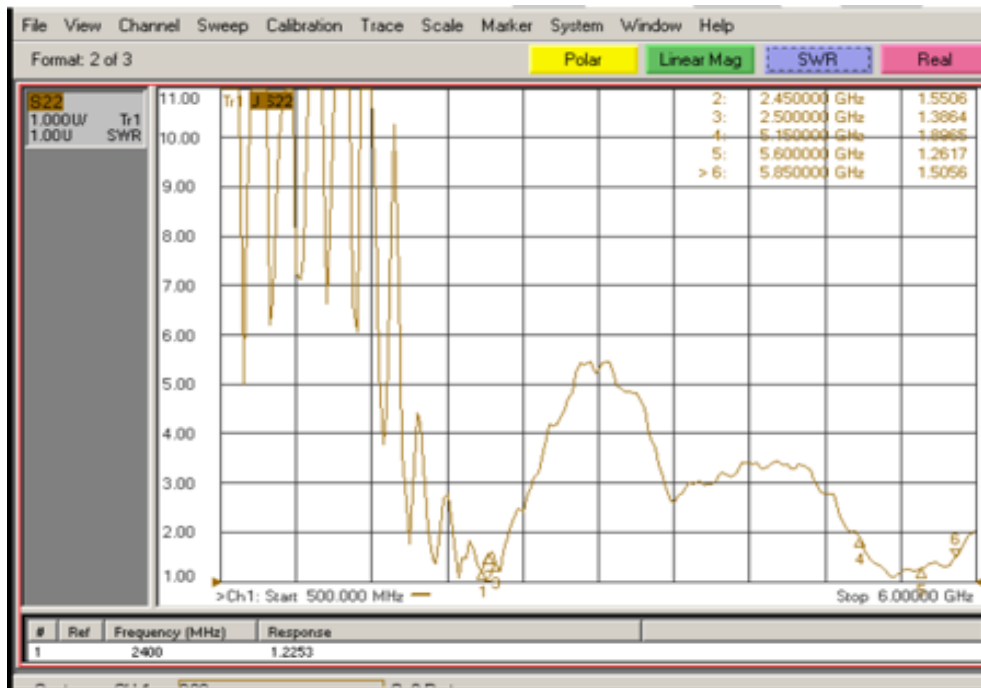
Test date : 2023/08/15

Project No. :	Customer : ECS	Model Name : LIVA X3A	PART No. :
Project Name : VSO Antenna Test Report Reference			VSO P/No. : JC1Q02078

Antenna Return Loss



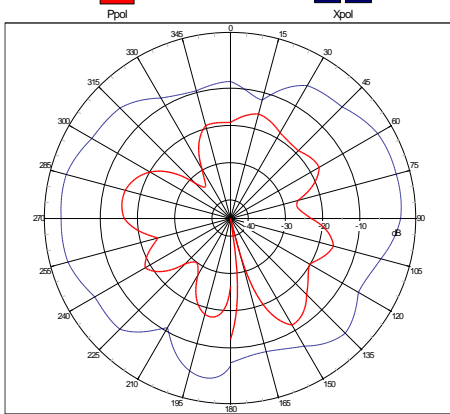
Antenna V.S.W.R.



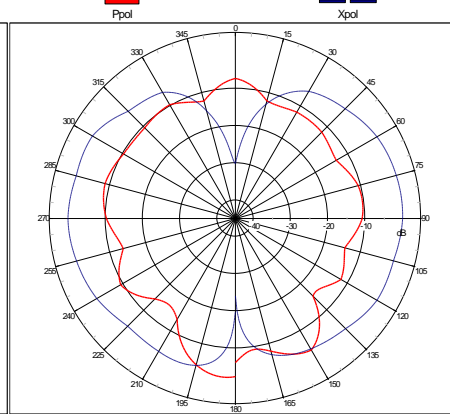
Project No. :	Customer : ECS	Model Name : LIVA X3A	Test date : 2023/08/15
Project Name : VSO Antenna Test Report Reference			PART No. :
			VSO P/No. : JC1Q02078

Frequency : 2400 MHz

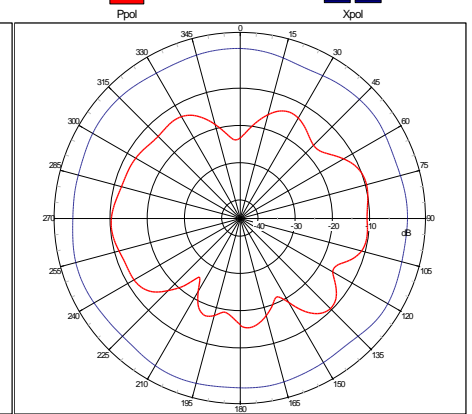
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg/(X-Z Plane-Cut)
Plot PeakGain(H-Pol): -12.0 dB; Plot PeakGain(V-Pol): 1.1dB @ Freq: 2.4000 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg/(Y-Z Plane-Cut)
Plot PeakGain(H-Pol): -2.2 dB; Plot PeakGain(V-Pol): 0.0dB @ Freq: 2.4000 GHz

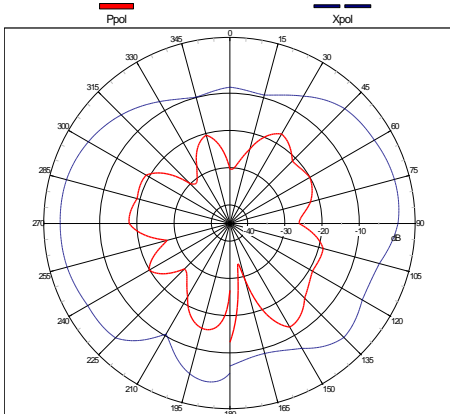


Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg/(X-Y Plane-Cut)
Plot PeakGain(H-Pol): -9.9 dB; Plot PeakGain(V-Pol): 1.0dB @ Freq: 2.4000 GHz

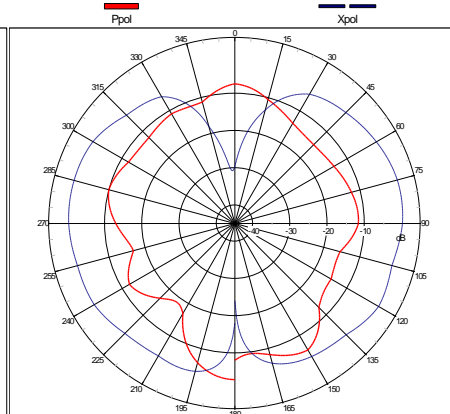


Frequency : 2450 MHz

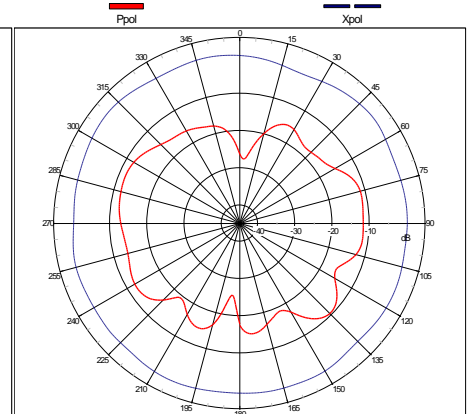
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg/(X-Z Plane-Cut)
Plot PeakGain(H-Pol): -12.9 dB; Plot PeakGain(V-Pol): 0.8dB @ Freq: 2.4500 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg/(Y-Z Plane-Cut)
Plot PeakGain(H-Pol): -3.1 dB; Plot PeakGain(V-Pol): 0.2dB @ Freq: 2.4500 GHz



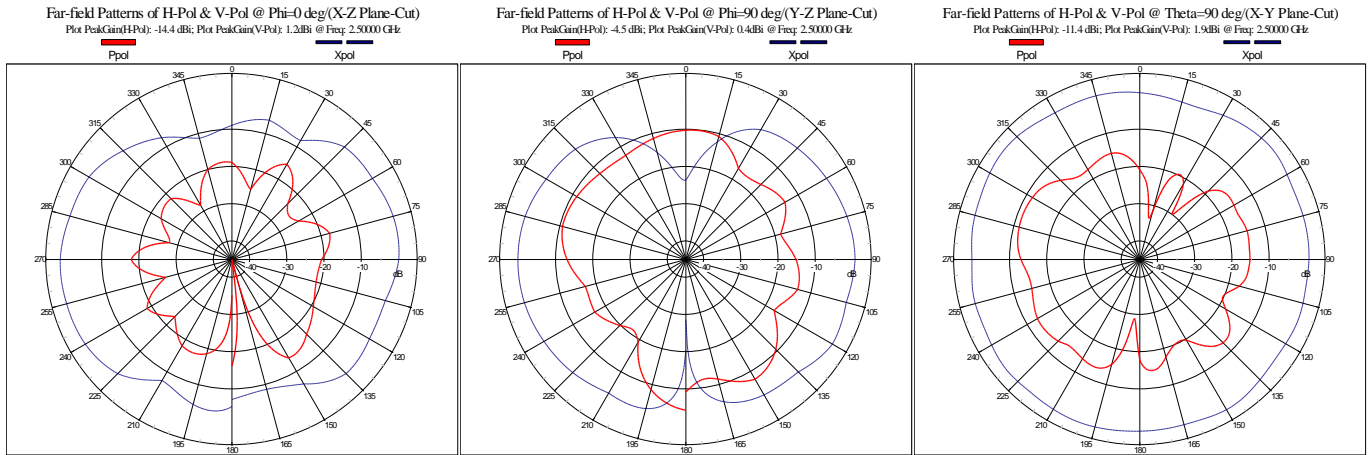
Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg/(X-Y Plane-Cut)
Plot PeakGain(H-Pol): -10.8 dB; Plot PeakGain(V-Pol): 1.3dB @ Freq: 2.4500 GHz



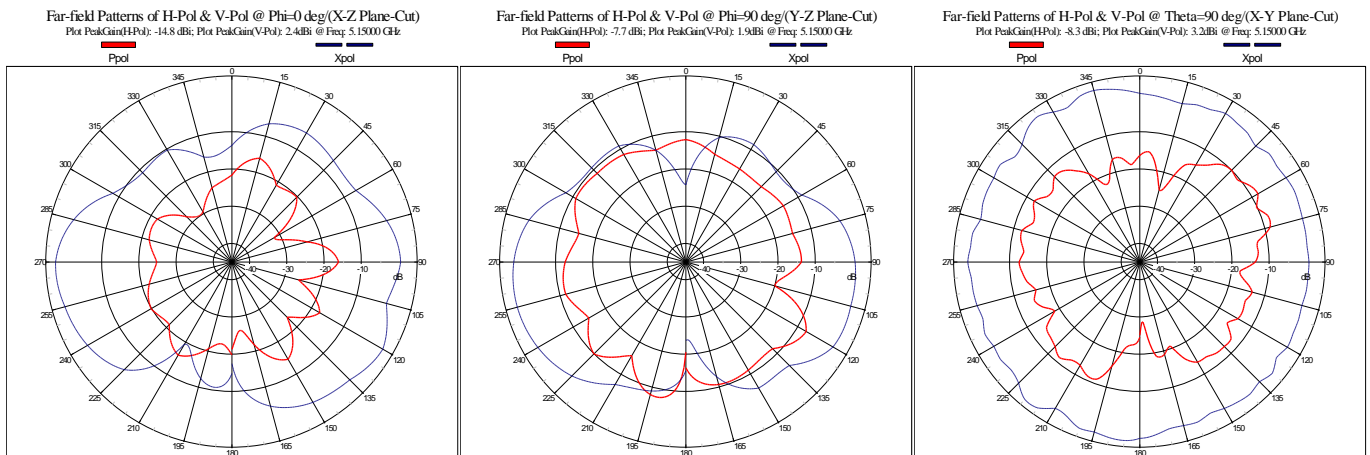
✳️The maximum outer circle of the field pattern is 5 dB

Project No. :	Customer : ECS	Model Name : LIVA X3A	Test date : 2023/08/15
Project Name : VSO Antenna Test Report Reference			PART No. : VSO P/No. : JC1Q02078

Frequency : 2500 MHz



Frequency : 5150 MHz



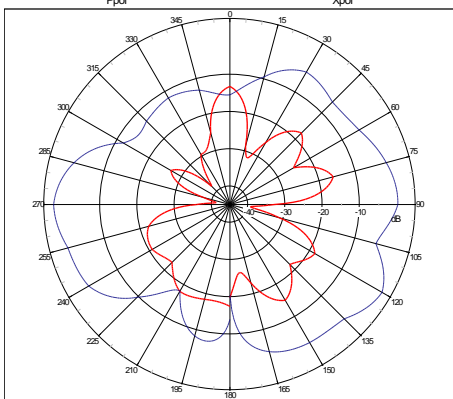
✳The maximum outer circle of the field pattern is 5 dB

Test date : 2023/08/15

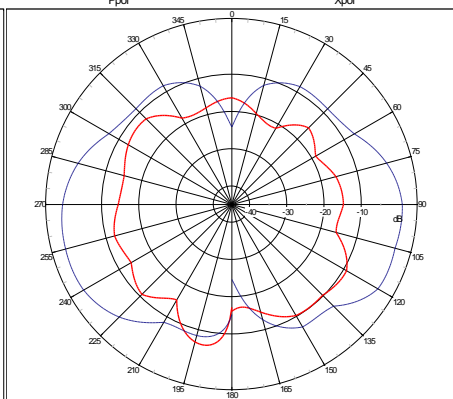
Project No. :	Customer : ECS	Model Name : LIVA X3A	PART No. :
Project Name : VSO Antenna Test Report Reference			VSO P/No. : JC1Q02078

Frequency : 5250 MHz

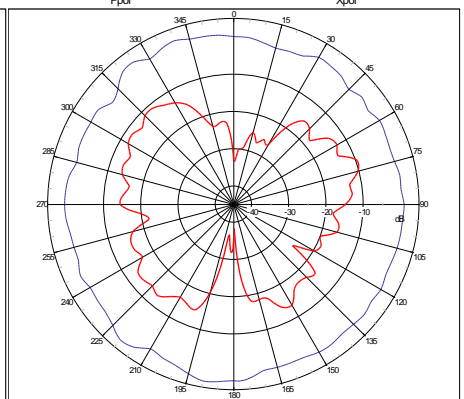
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
Plot PeakGain(HPol): -13.3 dB; Plot PeakGain(VPol): 2.3dB @ Freq: 5.2500 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
Plot PeakGain(HPol): -6.5 dB; Plot PeakGain(VPol): 1.3dB @ Freq: 5.2500 GHz

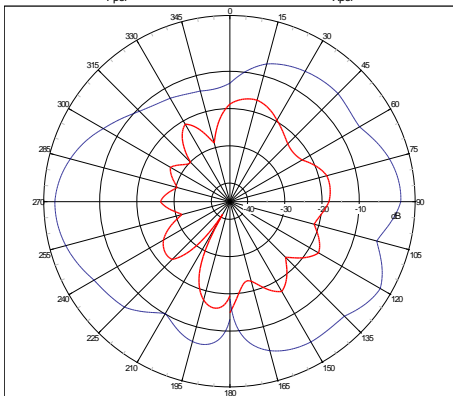


Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
Plot PeakGain(HPol): -9.7 dB; Plot PeakGain(VPol): 3.1dB @ Freq: 5.2500 GHz

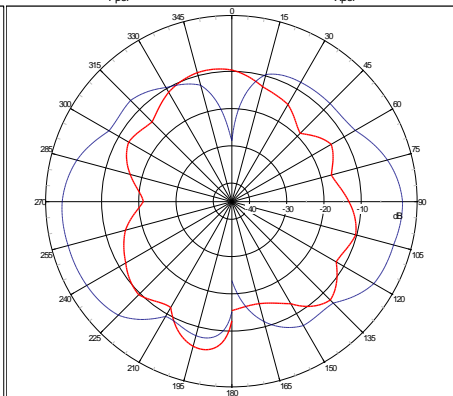


Frequency : 5350 MHz

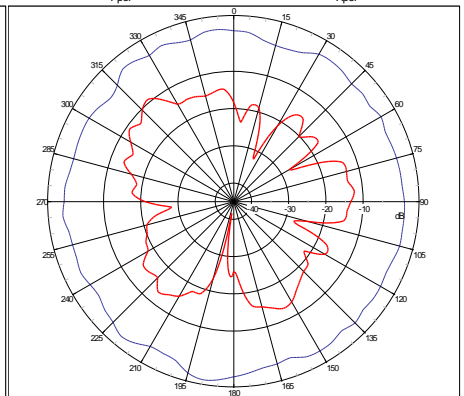
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
Plot PeakGain(HPol): -15.2 dB; Plot PeakGain(VPol): 2.0dB @ Freq: 5.3500 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
Plot PeakGain(HPol): -4.5 dB; Plot PeakGain(VPol): 0.8dB @ Freq: 5.3500 GHz



Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
Plot PeakGain(HPol): -9.1 dB; Plot PeakGain(VPol): 3.6dB @ Freq: 5.3500 GHz



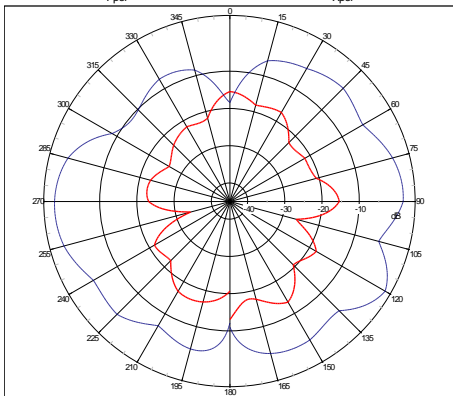
✳️The maximum outer circle of the field pattern is 5 dB

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VSO P/No. : JC1Q02078

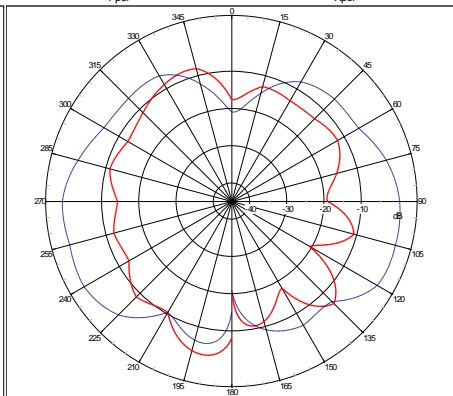
Project No. :	Customer : ECS	Model Name : LIVA X3A
Project Name : VSO Antenna Test Report Reference		

Frequency : 5470 MHz

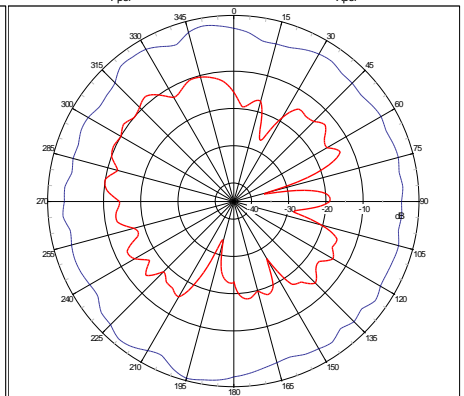
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
 Plot PeakGain(HPol): -13.3 dB; Plot PeakGain(VPol): 3.2dB @ Freq: 5.47000 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
 Plot PeakGain(HPol): -3.1 dB; Plot PeakGain(VPol): 0.8dB @ Freq: 5.47000 GHz

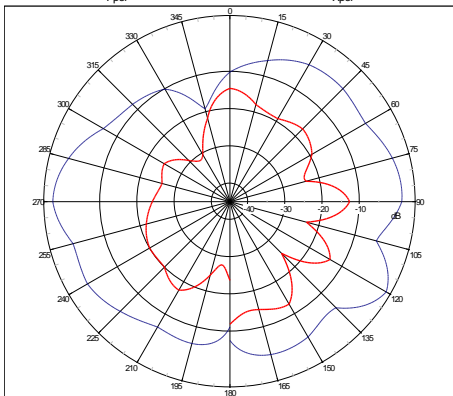


Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
 Plot PeakGain(HPol): -8.1 dB; Plot PeakGain(VPol): 4.1dB @ Freq: 5.47000 GHz

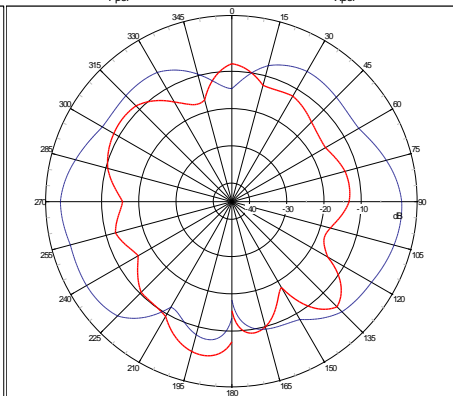


Frequency : 5600 MHz

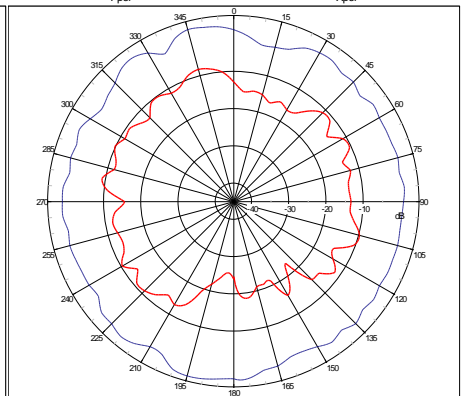
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
 Plot PeakGain(HPol): -12.1 dB; Plot PeakGain(VPol): 3.5dB @ Freq: 5.60000 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
 Plot PeakGain(HPol): -3.0 dB; Plot PeakGain(VPol): 1.0dB @ Freq: 5.60000 GHz



Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
 Plot PeakGain(HPol): -8.2 dB; Plot PeakGain(VPol): 3.5dB @ Freq: 5.60000 GHz

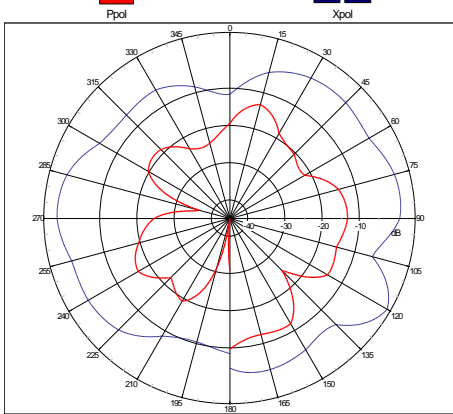


✳️The maximum outer circle of the field pattern is 5 dB

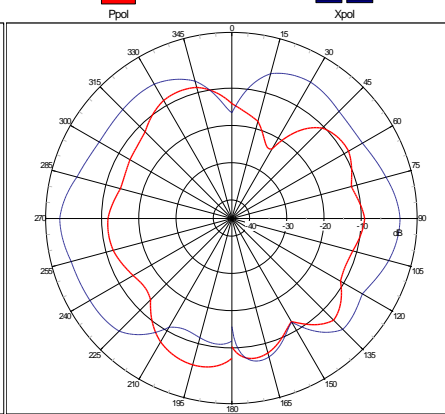
Project No. :	Customer : ECS	Model Name : LIVA X3A	Test date : 2023/08/15
Project Name : VSO Antenna Test Report Reference			PART No. :
			VSO P/No. : JC1Q02078

Frequency : 5725 MHz

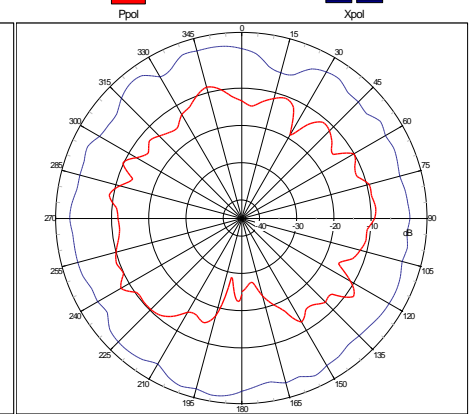
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
Plot PeakGain(H-Pol): -9.9 dB; Plot PeakGain(V-Pol): 3.8dB @ Freq: 5.72500 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
Plot PeakGain(H-Pol): -4.3 dB; Plot PeakGain(V-Pol): 1.2dB @ Freq: 5.72500 GHz

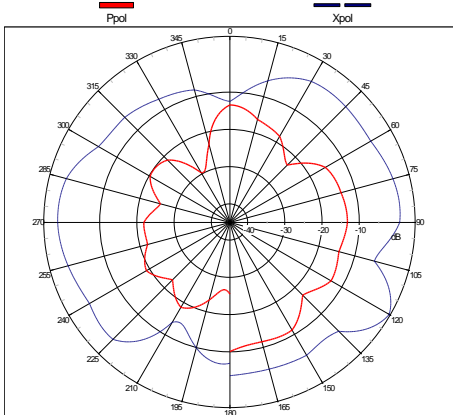


Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
Plot PeakGain(H-Pol): -7.5 dB; Plot PeakGain(V-Pol): 3.1dB @ Freq: 5.72500 GHz

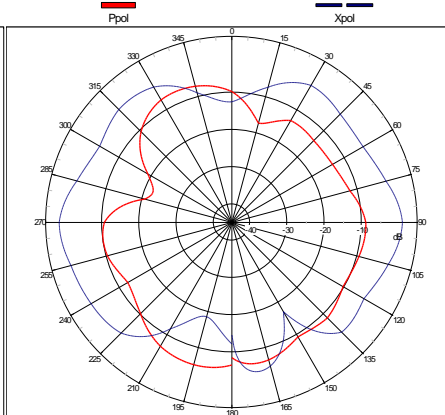


Frequency : 5785 MHz

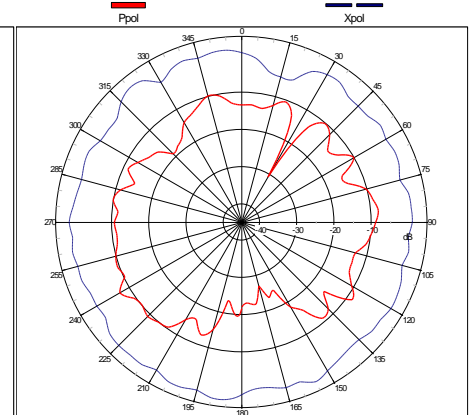
Far-field Patterns of H-Pol & V-Pol @ Phi=0 deg(X-Z Plane-Cut)
Plot PeakGain(H-Pol): -10.3 dB; Plot PeakGain(V-Pol): 4.4dB @ Freq: 5.78500 GHz



Far-field Patterns of H-Pol & V-Pol @ Phi=90 deg(Y-Z Plane-Cut)
Plot PeakGain(H-Pol): -5.4 dB; Plot PeakGain(V-Pol): 1.4dB @ Freq: 5.78500 GHz



Far-field Patterns of H-Pol & V-Pol @ Theta=90 deg(X-Y Plane-Cut)
Plot PeakGain(H-Pol): -7.2 dB; Plot PeakGain(V-Pol): 2.9dB @ Freq: 5.78500 GHz

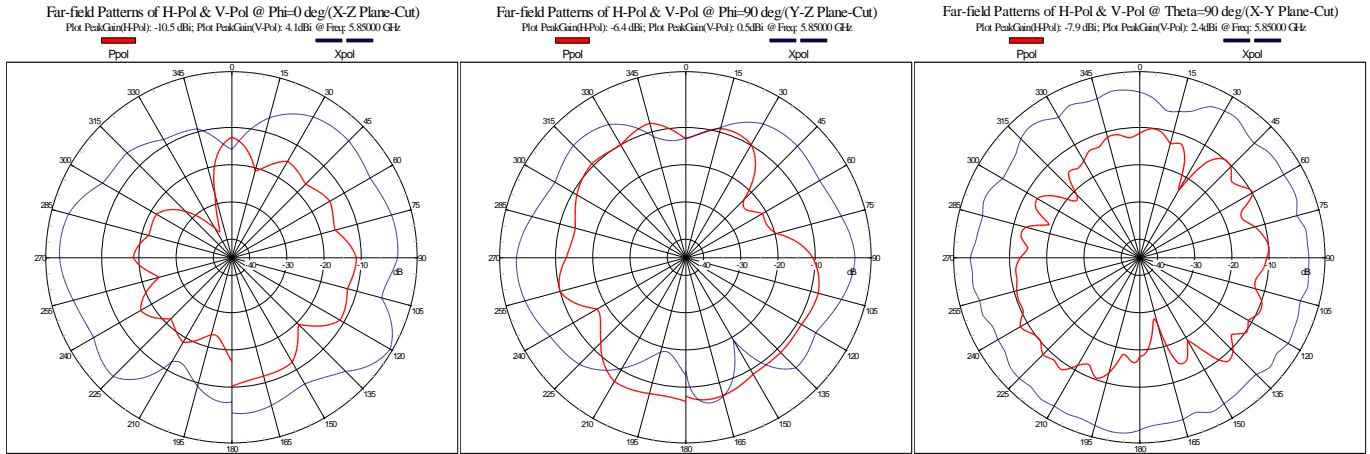


✳The maximum outer circle of the field pattern is 5 dB

Test date : 2023/08/15

Project No. :	Customer : ECS	Model Name : LIVA X3A	PART No. :
Project Name : VSO Antenna Test Report Reference			VSO P/No. : JC1Q02078

Frequency : 5850 MHz



✳The maximum outer circle of the field pattern is 5 dB

Frequency (MHz)	Peak Gain(dBi)	AVG Gain(dBi)	Efficiency (%)
2400	1.1	-1.80	66%
2450	1.4	-1.87	65%
2500	2	-2.08	62%
5150	3.4	-0.60	87%
5250	3.1	-1.74	67%
5350	3.6	-1.80	66%
5470	4.1	-2.29	59%
5600	3.5	-2.15	61%
5750	3.8	-2.08	62%
5785	4.4	-2.08	62%
5850	4.1	-1.55	70%