

APPROVAL

产品承认书

客 户 浙江鸿泉电子科技有限公司
CUSTOMER: Zhejiang hongquan electronic technology co., ltd

品 名 钥匙端 LORA 天线
DESCRIPTION: Key end LORA antenna

型 号 ZDXV-0.81 黑色*33MM/FPC/31*9.1MM/LORA/尾部 IPEX 一代
MODEL NO: ZDXV-0.81 Black *33MM/FPC/31*9.1MM/LORA/ Tail IPEX Generation

客 户 料 号 X521000002
CUS PART NO:

日 期 2023.10.10
D A T E:

正大信维呈样签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT
李倩楠	杨东东	丁志强

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

Manufacturer's name: Shenzhen Zhengda Xinwei Communication Equipment Co., LTD

The company address: No.486, Zhangbei Road, Zhangbei Community, Longcheng Street, Longgang District, Shenzhen

The company web site: www.zdxwtx.com Contact phone number: 0755-28839286

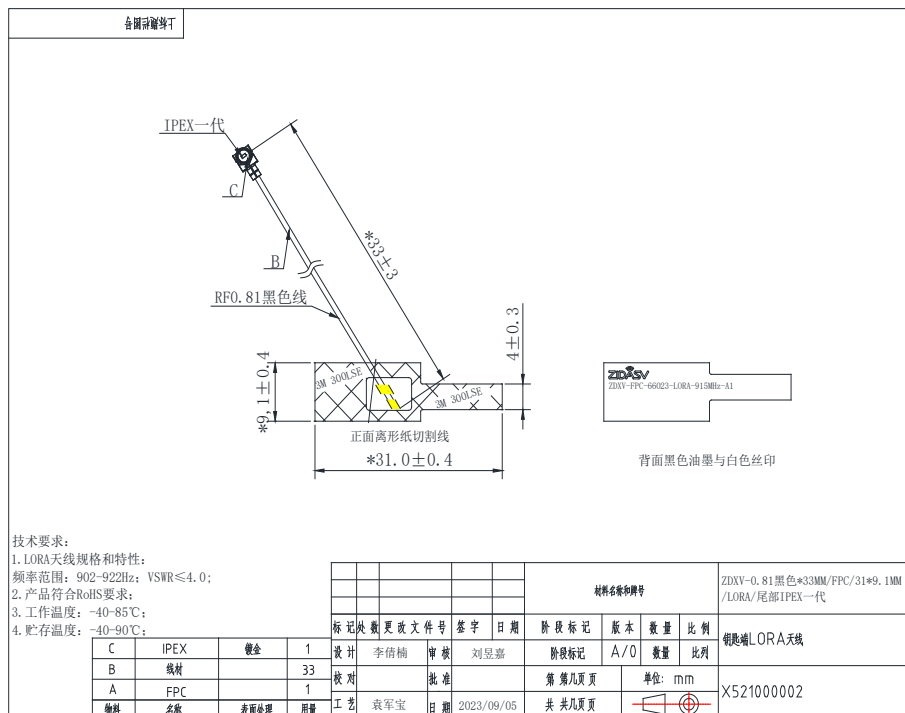
fax: 0755-89909291

email: yangwenjing@zidasv.net

Description Record

[illegible]

1. Product size



板号	块数	更改履历	签字	日期	版本升至
■	6	X			
		X			
		X			
		X			
板号	块数	更改履历	签字	日期	版本升至
△	X	X			
		X			
		X			
		X			
板号	块数	更改履历	签字	日期	版本升至
▲	X	X			
		X			
		X			
		X			
板号	块数	更改履历	签字	日期	版本升至
※	X	X			
		X			
		X			
		X			
板号	块数	更改履历	签字	日期	版本升至
□	X	X			
		X			
		X			
		X			
板号	块数	更改履历	签字	日期	版本升至

2. Electrical Specification :

型号	LORA 天线	Model	LORA Antenna
主要技术参数		Main Technical Specifications	
频率范围 (MHz)	902-922MHz	Frequency Range (MHz)	902-922MHz
电压驻波比	≤4.0	VSWR	≤4.0
增益 (dBi)	-7.04	Gain (dBi)	-7.04
输入阻抗 (Ω)	50	Input Impedance (Ω)	50
极化形式	线极化	Polarization Type	linear
接口形式	IPEX	Connector Type	IPEX
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
储存温度	-40℃~+90℃	Storage Temperature	-40℃~+90℃

2-1. Frequency Band:

Frequency Band	MHz
LORA	902-922MHz

2-2. Impedance

2-3. VSWR

2-3-1.Measurement frequency points and VSWR value

50 ohm nominal

Frequency (Unit MHz)	902	915	921.5	922
VSWR	1.33	2.22	3.36	3.48

2-3-2. VSWR

Frequency Band(MHz)	902	915	921.5	922															
2-3-3. Typical Value:	≤4.0	≤4.0	≤4.0	≤4.0															
2-3-4 Measuring Method	1. A 50Ωcoaxial cable is connected to the Antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm																		
2-3-5 Picture	1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State Span 100 MHz S11 SWR 1.000/ Ref 1.000 [F1] <table><tr><td>1</td><td>915.00000 MHz</td><td>2.2290</td></tr><tr><td>2</td><td>900.00000 MHz</td><td>1.5215</td></tr><tr><td>3</td><td>902.00000 MHz</td><td>1.3319</td></tr><tr><td>4</td><td>921.50000 MHz</td><td>3.3674</td></tr><tr><td>5</td><td>922.00000 MHz</td><td>3.4812</td></tr></table> Stimulus Start 865.00 MHz Stop 965.00 MHz Center 915.00 MHz Span 100.00 MHz Return 1 Center 915 MHz IFBW 70 kHz Span 100 MHz				1	915.00000 MHz	2.2290	2	900.00000 MHz	1.5215	3	902.00000 MHz	1.3319	4	921.50000 MHz	3.3674	5	922.00000 MHz	3.4812
1	915.00000 MHz	2.2290																	
2	900.00000 MHz	1.5215																	
3	902.00000 MHz	1.3319																	
4	921.50000 MHz	3.3674																	
5	922.00000 MHz	3.4812																	

2-4. Efficiency and Gain

- **Measuring Instrument:** Microwave darkroom, network analyzer, standard antenna.

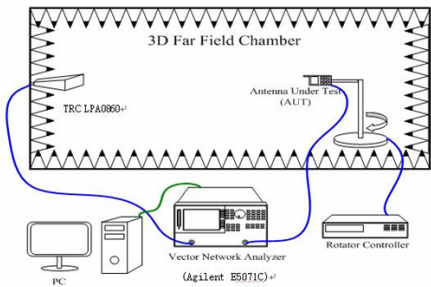


图 1. 微波暗室内部仪器设置

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

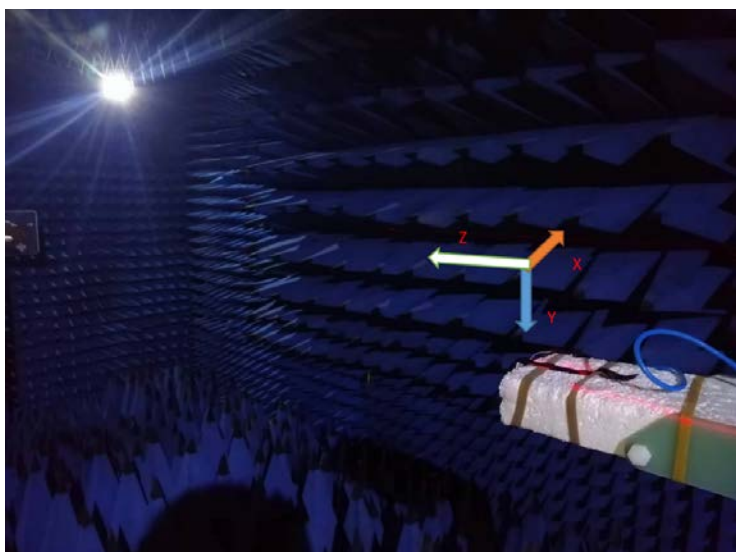
P_{AUT} : Measured Power of AUT

P_{stand} : Measured Power of Standard Gain Antenna

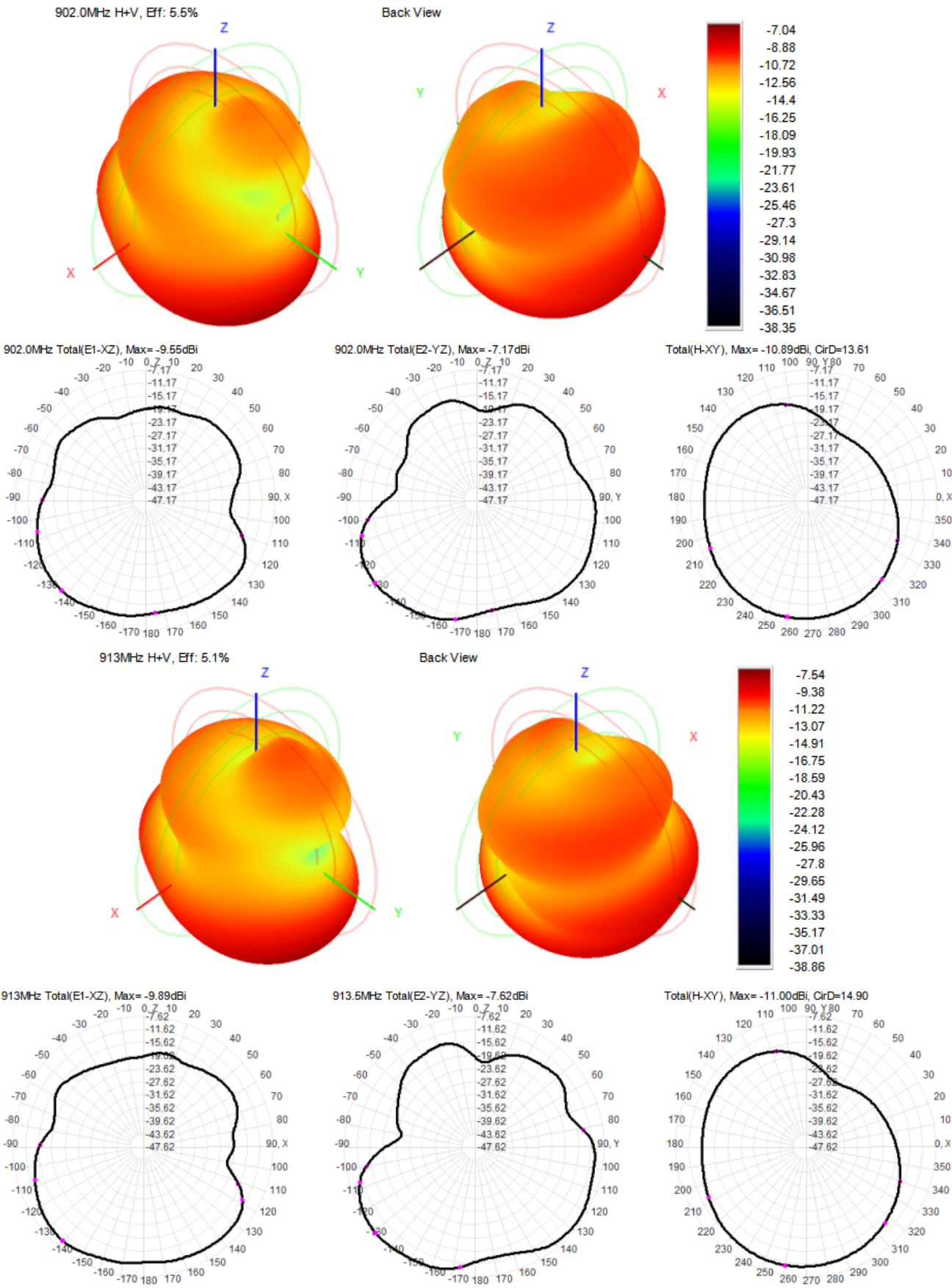
2-4-1 Efficiency and Gain

Frequency(MHz)	Efficiency (%)	Peak GAIN (dBi)
902	5.55	-7.04
913	5.09	-7.54
915	4.63	-7.95
916	4.47	-8.11
921.5	4.19	-8.35
922	4.19	-8.33

3. Test environment

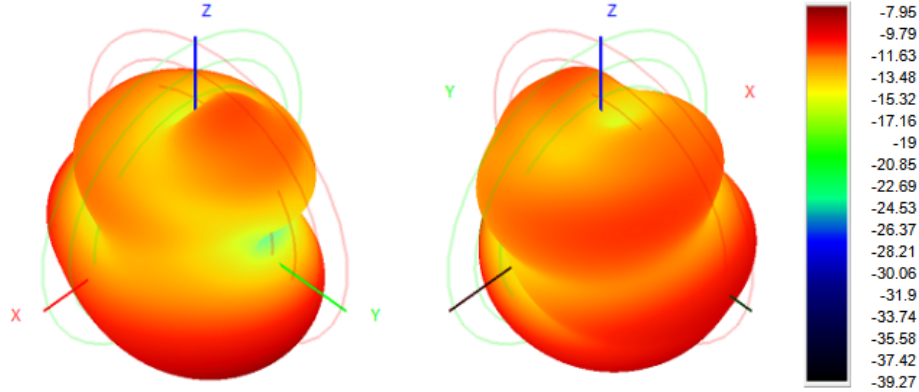


4. Directional diagram/ 方向图

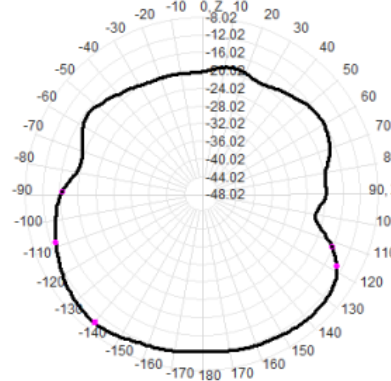


915MHz H+V, Eff: 4.6%

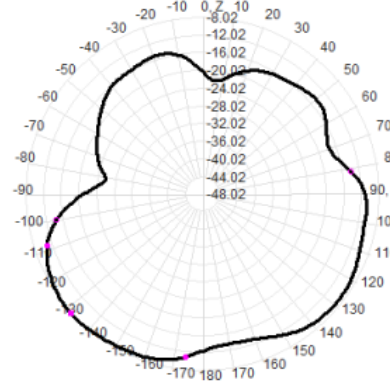
Back View



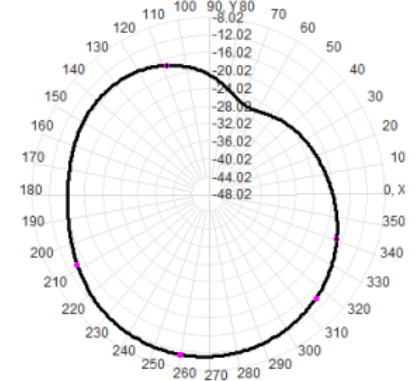
915MHz Total(E1-XZ), Max=-10.29dBi



915.5MHz Total(E2-YZ), Max=-8.02dBi

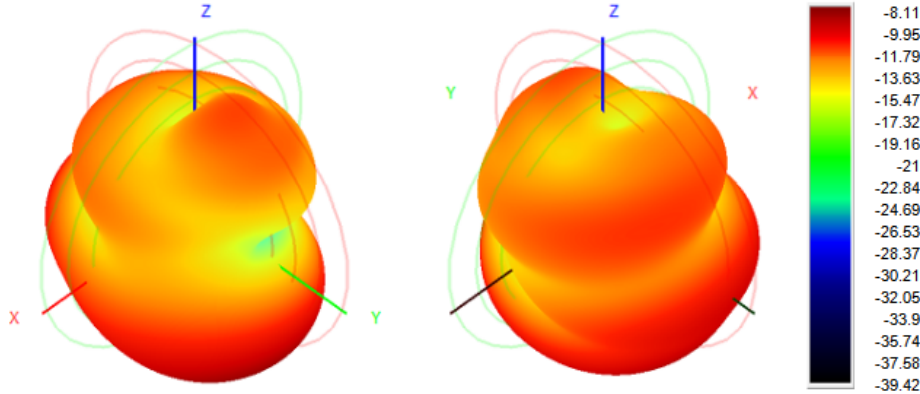


Total(H-XY), Max=-11.36dBi, CirD=15.09

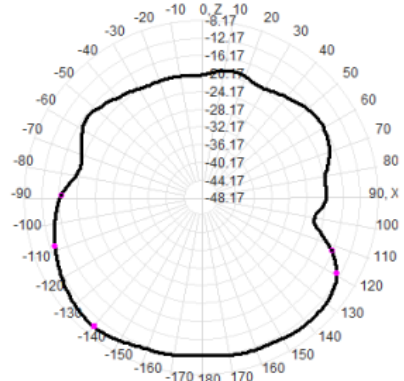


916MHz H+V, Eff: 4.5%

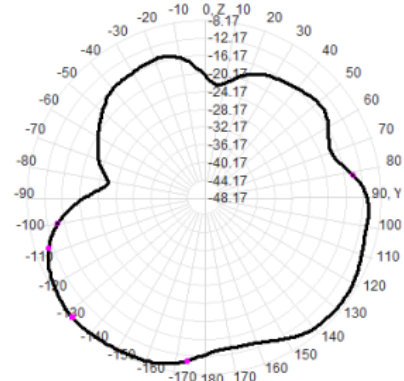
Back View



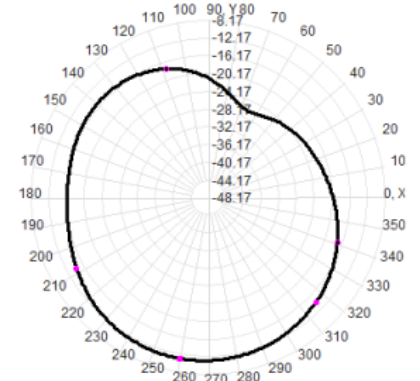
916MHz Total(E1-XZ), Max=-10.44dBi



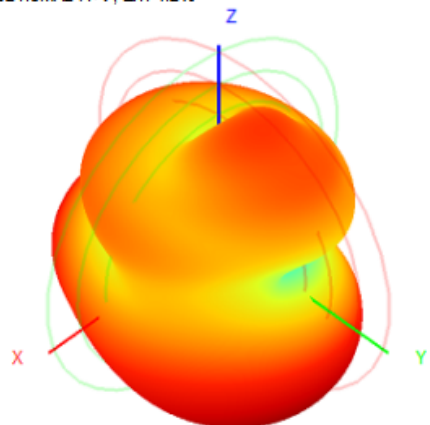
916.5MHz Total(E2-YZ), Max=-8.17dBi



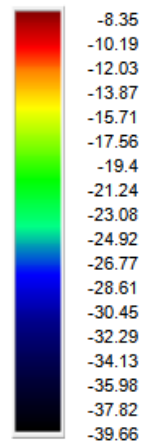
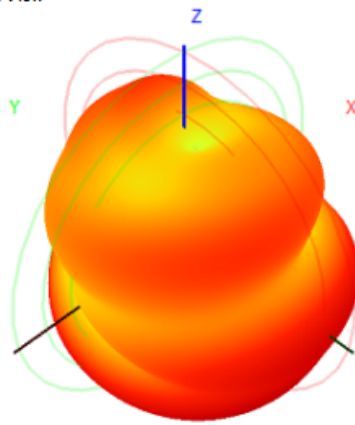
Total(H-XY), Max=-11.49dBi, CirD=15.16



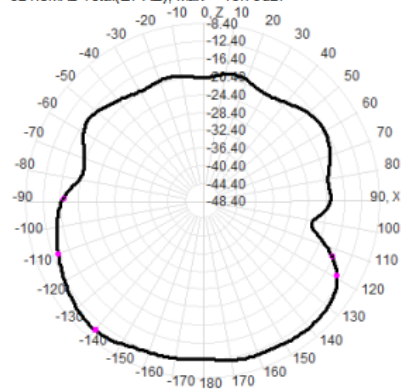
921.5MHz H+V, Eff: 4.2%



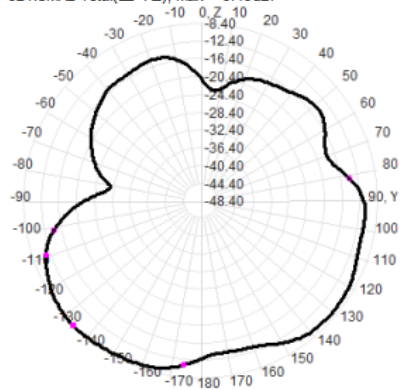
Back View



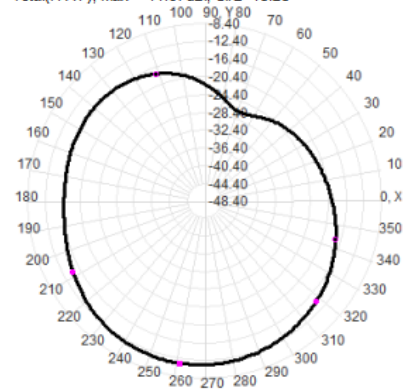
921.5MHz Total(E1-XZ), Max= -10.70dBi



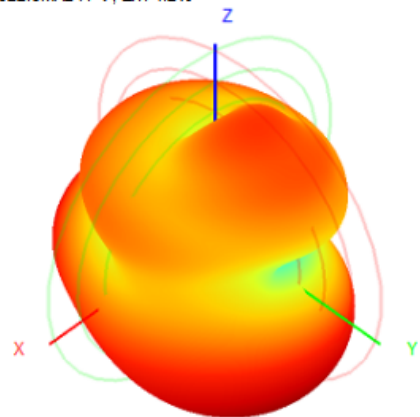
921.5MHz Total(E2-YZ), Max= -8.40dBi



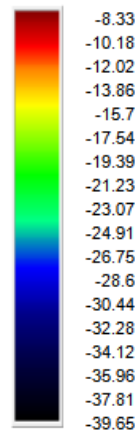
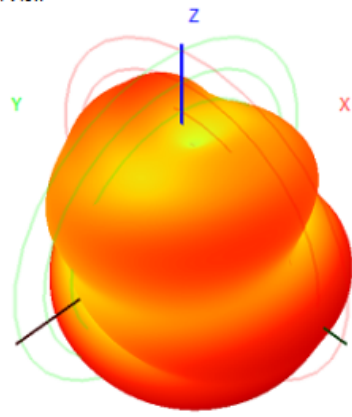
Total(H-XY), Max= -11.67dBi, CirD=15.23



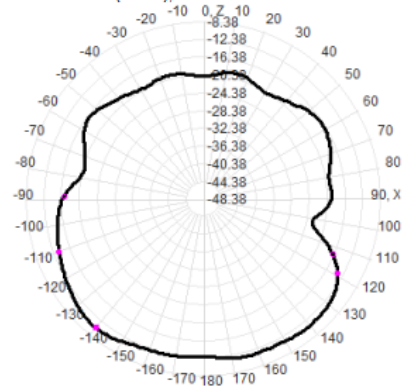
922.0MHz H+V, Eff: 4.2%



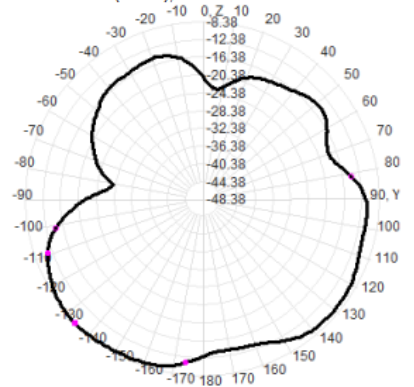
Back View



922.0MHz Total(E1-XZ), Max= -10.69dBi



922.0MHz Total(E2-YZ), Max= -8.38dBi



Total(H-XY), Max= -11.65dBi, CirD=15.21

