



UWB antenna and cable datasheet_V2

Version 2.0(2023.01.01)

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DISCLAIMER

YCHIOT has the right to update the product description without informing the customer. Changes in functions and specifications will be published in product errata or new versions of documents as much as possible. It is recommended that customers login to YCHIOT official website www.ychiot.com to download the latest product description documents.

LIFE SUPPORT POLICY

YCHIOT products are not authorized to be used in high safety areas (such as places where there is danger to life), because serious personal injury or death may be caused if the products are operated incorrectly. If a customer uses or sells YCHIOT products to high security areas, the customer needs to bear all the responsibilities; If this product is used in the field of high security, the customer needs to agree that YCHIOT and its agents are completely irresponsible.



Note! Electrostatic sensitive equipment. When using the product, take precautions to prevent permanent damage.

REGULATORY CERTIFICATION

All users who use this module for product development must obtain the approval of the local radio supervision and management department before marketing or selling the product, and the customer must assume all responsibilities for obtaining the approval from the relevant authorities.

1 研创 UWB 系列产品推荐搭配天线

序号	名称	型号	推荐天线
1	UWB 小功率模组	DWM1000-CA	板载陶瓷天线 ACS5200HFAUWB
2	UWB 小功率模组	DWM1000-SMA	UWB-SMA11-C02 或 UWB-WB002 或 定向天线 UWB-DA700 或 玻璃钢天线 UWB-SMA20
3	UWB 大功率模组	MAX2001-CA	板载陶瓷天线 ACS5200HFAUWB
4	UWB 大功率模组	MAX2001-SMA	同序号②
5	UWB 大功率模组	MAX2001-IPEX	IPEX 转 SMA (CB-IPEX-SMA-10) + 序号②
6	UWB 大功率模组	MAX5007-CA	板载陶瓷天线 ACS5200HFAUWB
7	UWB 大功率模组	MAX5007-SMA	同序号②
8	UWB 大功率模组	MAX5007-IPEX	IPEX 转 SMA (CB-IPEX-SMA-10) + UWB-SMA11-C05
9	UWB 开发板-Mini5 系列	Mini5-CA	板载陶瓷天线 ACS5200HFAUWB
10	UWB 开发板-Mini5 系列	Mini5-SMA	同序号②
111	UWB 开发板-Mini3sPlus	Mini3sp-1A	同序号②
12	MAX2001 开发板	Mini4sp-C2-SMA	同序号②
13	MAX2001 开发板	Mini4sp-C2-CA	板载陶瓷天线 ACS5200HFAUWB
14	MAX2001 开发板	Mini4sp-C2-IPEX	IPEX 转 SMA (CB-IPEX-SMA-10) + 序号②
15	MAX5007 开发板	Mini4sp-C5-SMA	UWB-SMA11-C05
16	MAX5007 开发板	Mini4sp-C5-CA	板载陶瓷天线 ACS5200HFAUWB
17	MAX5007 开发板	Mini4sp-C5-IPEX	IPEX 转 SMA (CB-IPEX-SMA-10) + UWB-SMA11-C05
18	UWB 物资标签	ProTag	板载陶瓷天线 ACS5200HFAUWB
19	UWB 工卡标签	ProCard	板载陶瓷天线 ACS5200HFAUWB
20	UWB 大功率基站 (隧道款)	ProAnc-F429-SD	定向天线 UWB-DA700 玻璃钢天线 UWB-SMA20

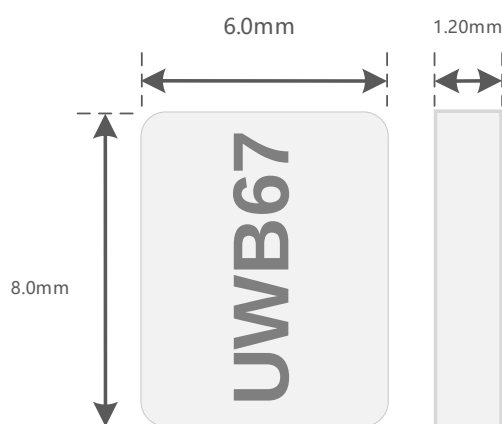
2 UWB 贴片陶瓷天线(ACS5200HFAUWB)

生产商：韩国帕创 Partron

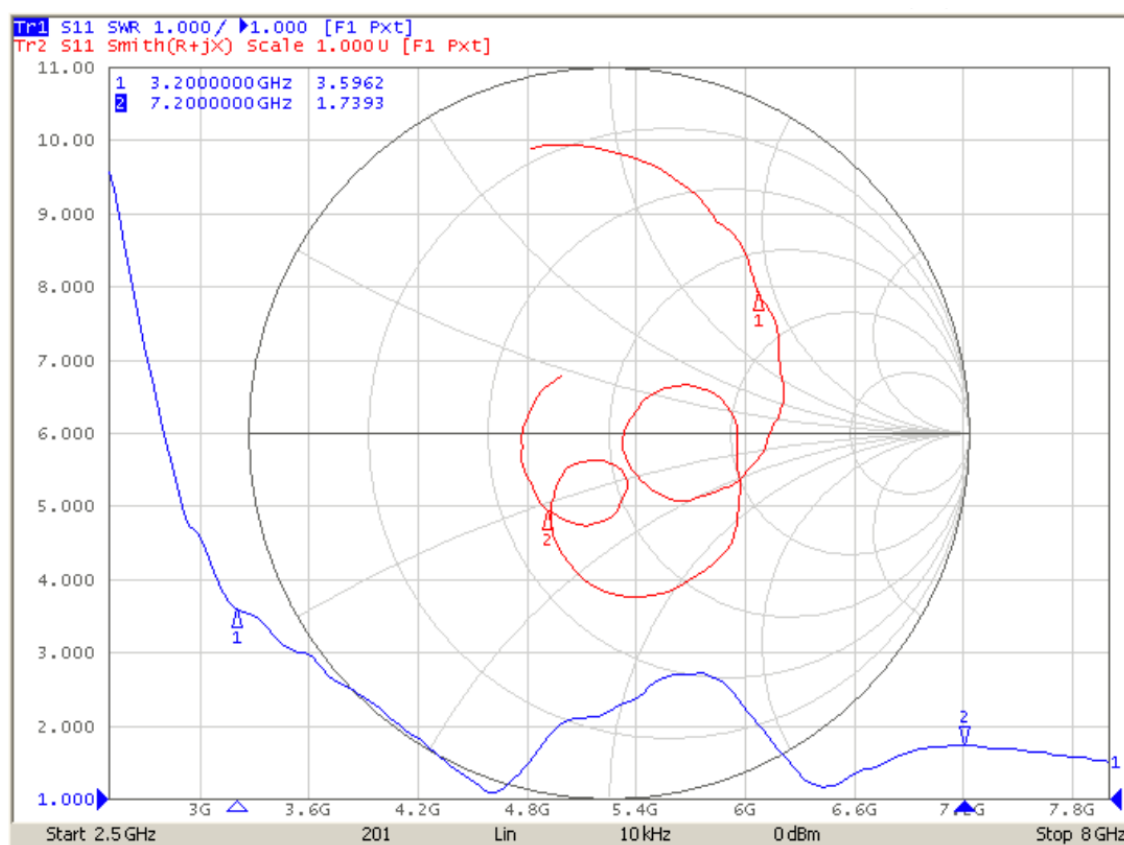
2.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	3200-7200
频带宽度 Bandwidth (MHz)	4000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 3.5
增益 Gain (dBi)	0
机械指标 Mechanical Specifications	
天线长度 Antenna Length	8mm x 6mm
连接器型号 Connect Type	/
工作温度 Working Temp($^{\circ}\text{C}$)	-40~60
储藏温度 Storage Temperature($^{\circ}\text{C}$)	-20~40

2.2 产品规格图 (Product Specification Chart)



2.3 驻波图与史密斯图 (S.W.R. & Smith chart)



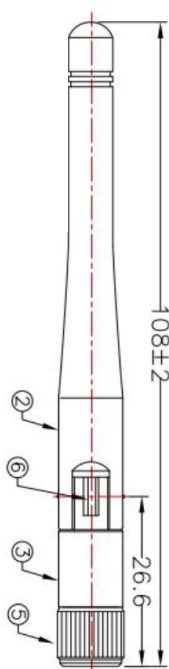
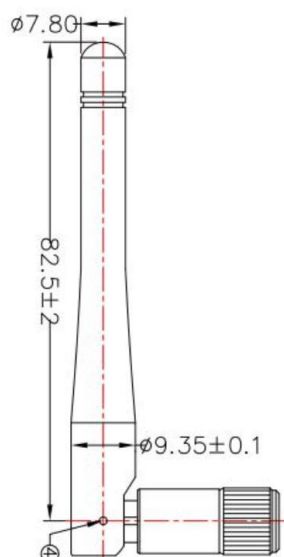
3 UWB 胶棒天线(UWB-SMA11-C02)

生产商：研创物联

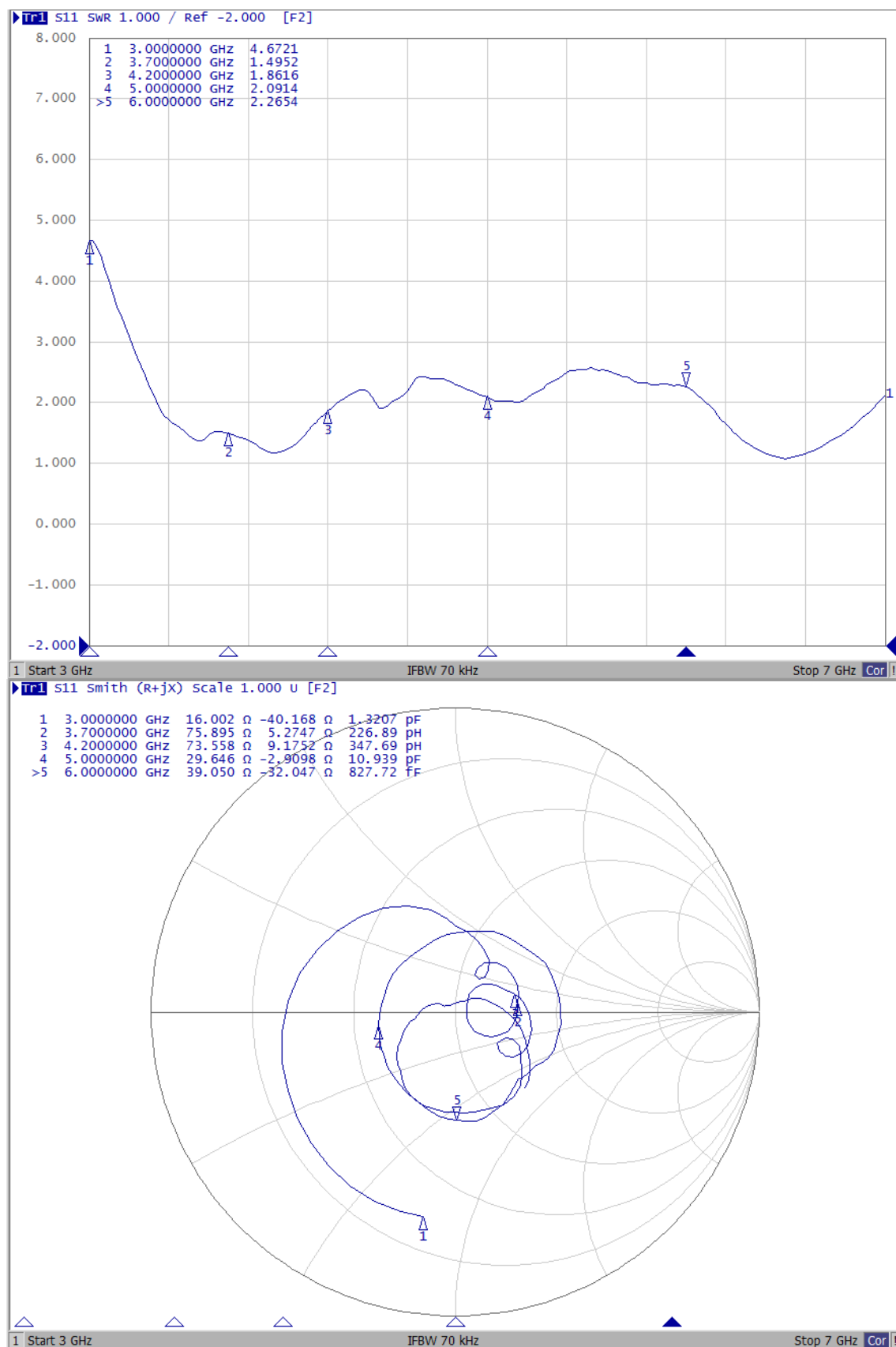
3.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	3200-6500
频带宽度 Bandwidth (MHz)	3300
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 1.9
增益 Gain (dBi)	3
机械指标 Mechanical Specifications	
天线长度 Antenna Length	11cm
连接器型号 Connect Type	SMA
工作温度 Working Temp($^{\circ}\text{C}$)	-40~60
储藏温度 Storage Temperature($^{\circ}\text{C}$)	-20~40

3.2 产品规格图 (Product Specification Chart)



3.3 驻波图与史密斯图 (S.W.R. & Smith chart)



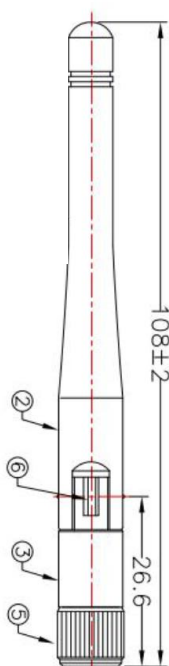
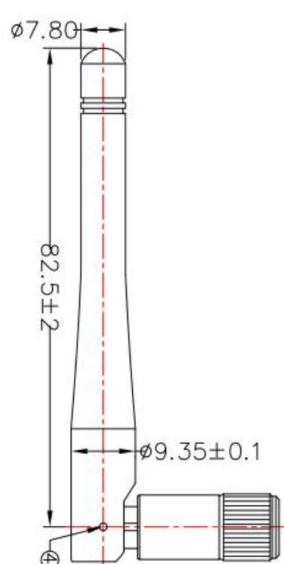
4 UWB 胶棒天线(UWB-SMA11-C05)

生产商：研创物联

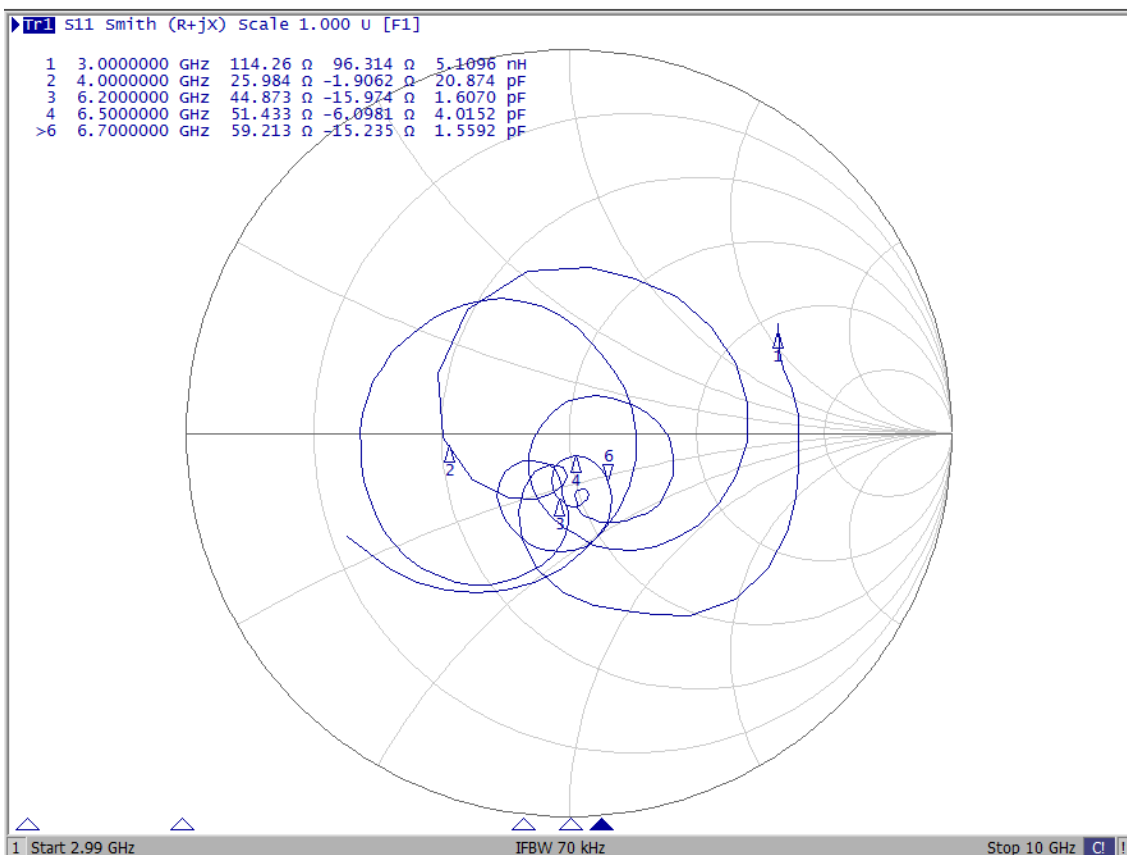
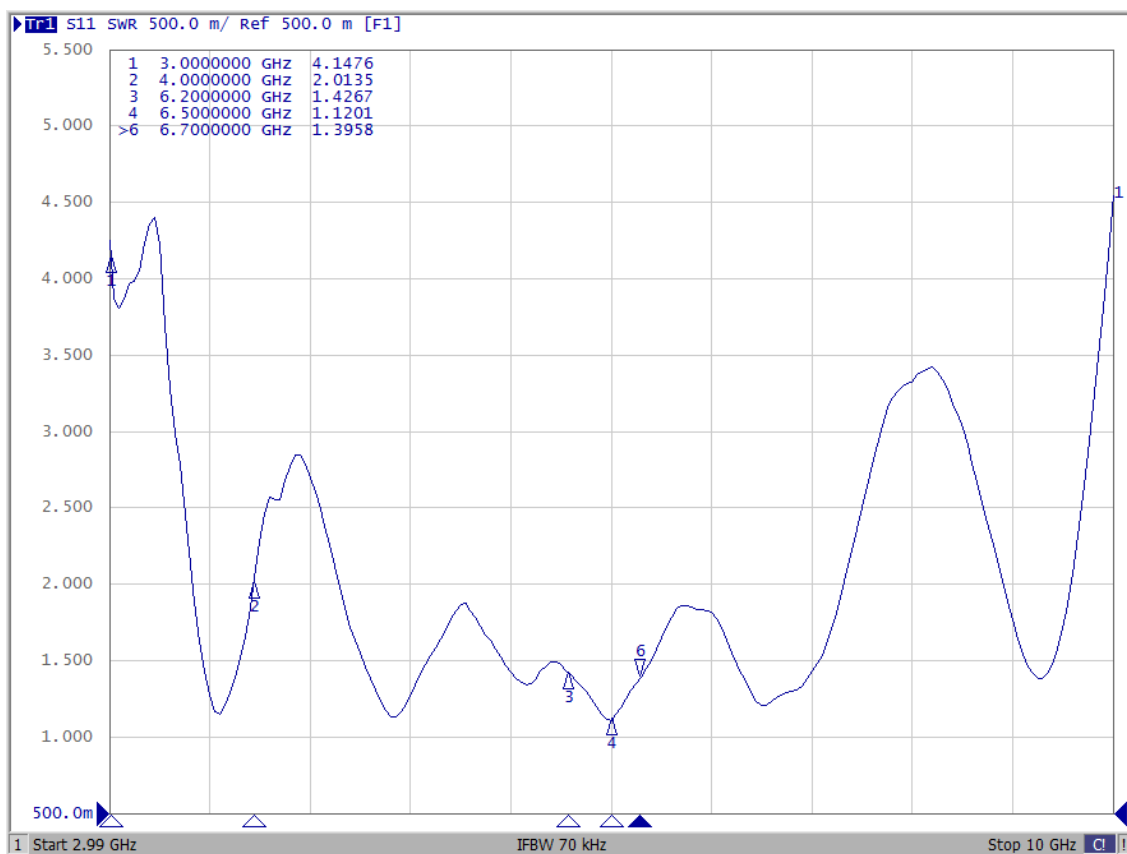
4.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	6000-7000
频带宽度 Bandwidth (MHz)	1000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 1.7
增益 Gain (dBi)	3
机械指标 Mechanical Specifications	
天线长度 Antenna Length	11cm
连接器型号 Connect Type	SMA
工作温度 Working Temp($^{\circ}\text{C}$)	-40~60
储藏温度 Storage Temperature($^{\circ}\text{C}$)	-20~40

4.2 产品规格图 (Product Specification Chart)



4.3 驻波图与史密斯图 (S.W.R. & Smith chart)



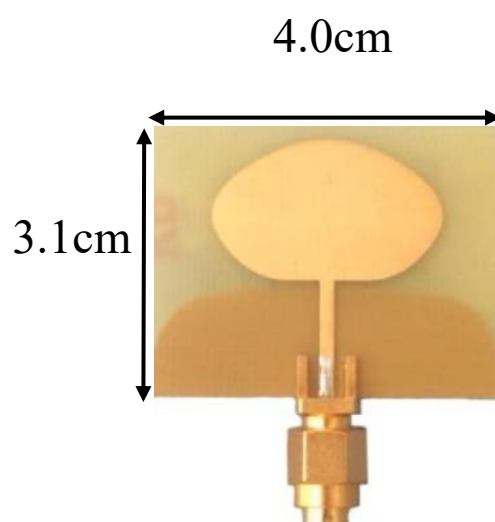
5 UWB PCB 天线(UWB-WB002)

生产商：研创物联

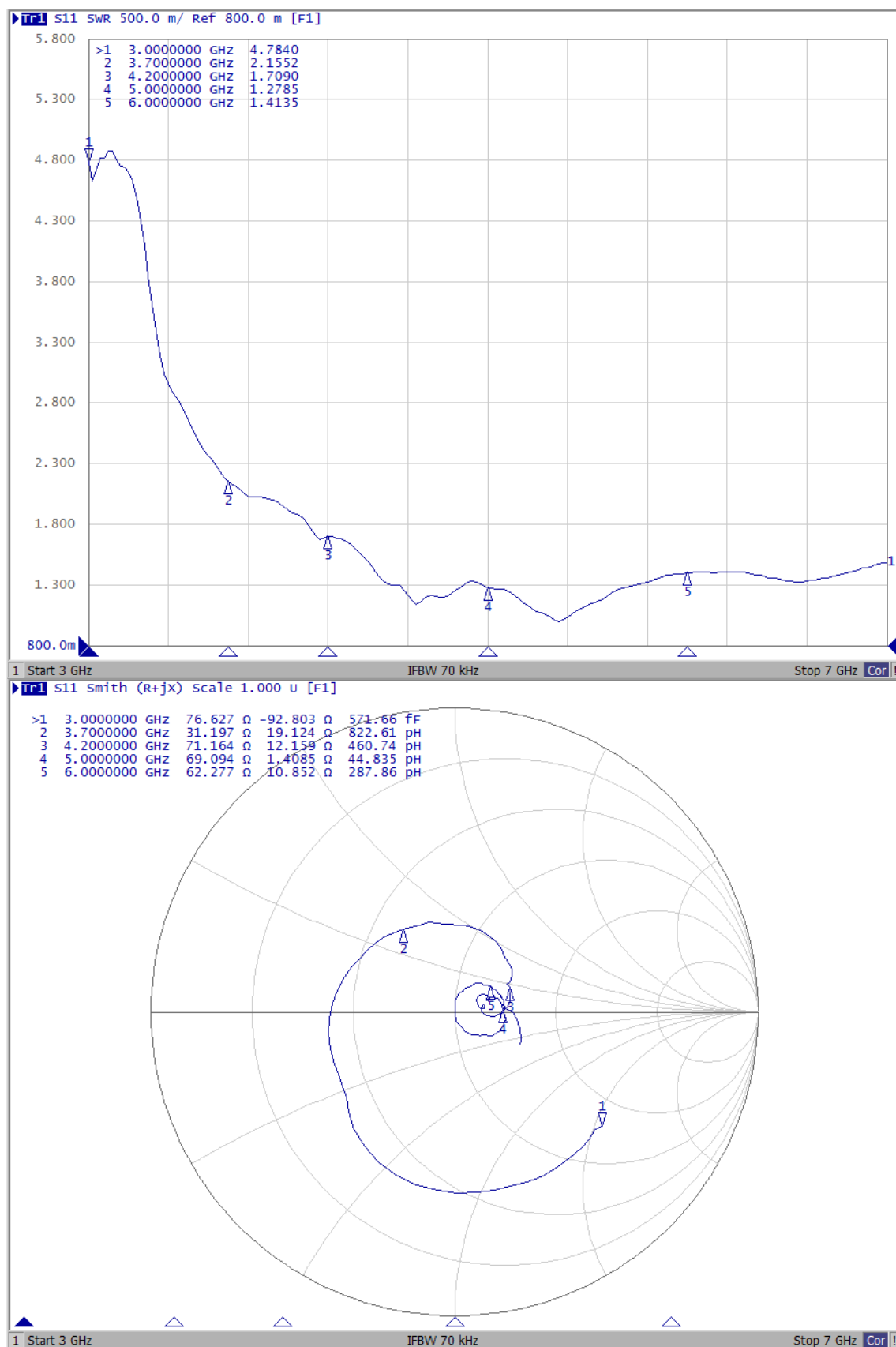
5.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	3200-6500
频带宽度 Bandwidth (MHz)	3300
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 2.1
增益 Gain (dBi)	2
机械指标 Mechanical Specifications	
天线尺寸 Antenna Size	4.0cm x 3.1cm
连接器型号 Connect Type	SMA
工作温度 Working Temp	-40°C~60°C
储藏温度 Storage Temperature	-20°C~40°C

5.2 产品规格图 (Product Specification Chart)



5.3 驻波图与史密斯图 (S.W.R. & Smith chart)



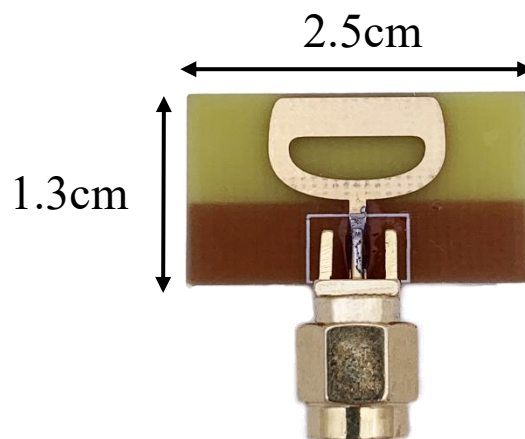
6 UWB PCB 天线(UWB-WB003)

生产商：研创物联

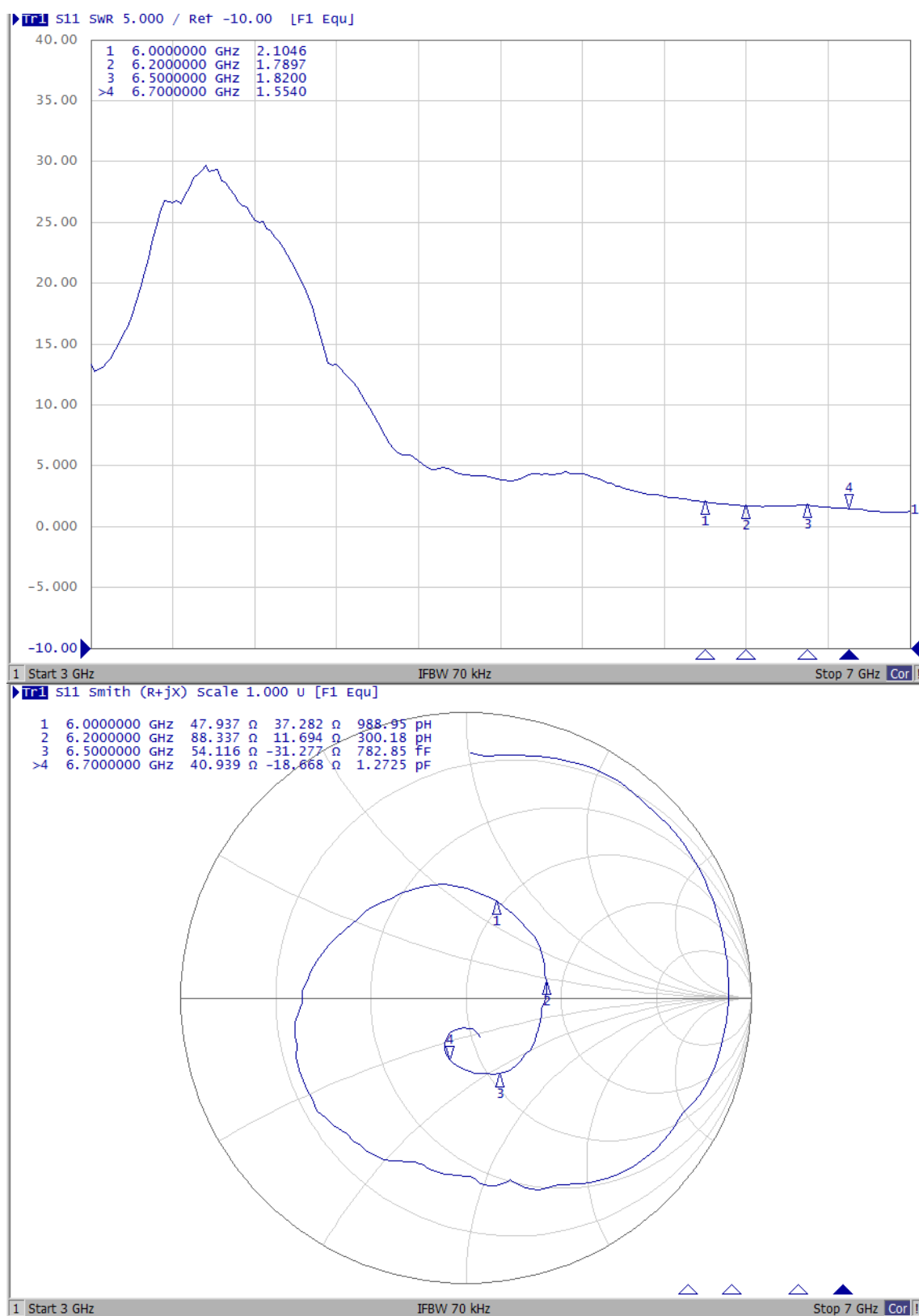
6.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	6000-7000
频带宽度 Bandwidth (MHz)	1000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 2.1
增益 Gain (dBi)	2
机械指标 Mechanical Specifications	
天线尺寸 Antenna Size	2.5cm x 1.5cm
连接器型号 Connect Type	SMA
工作温度 Working Temp	-40°C~60°C
储藏温度 Storage Temperature	-20°C~40°C

6.2 产品规格图 (Product Specification Chart)



6.3 驻波图与史密斯图 (S.W.R. & Smith chart)



7 UWB 定向天线(UWB-DA700)

生产商：研创物联

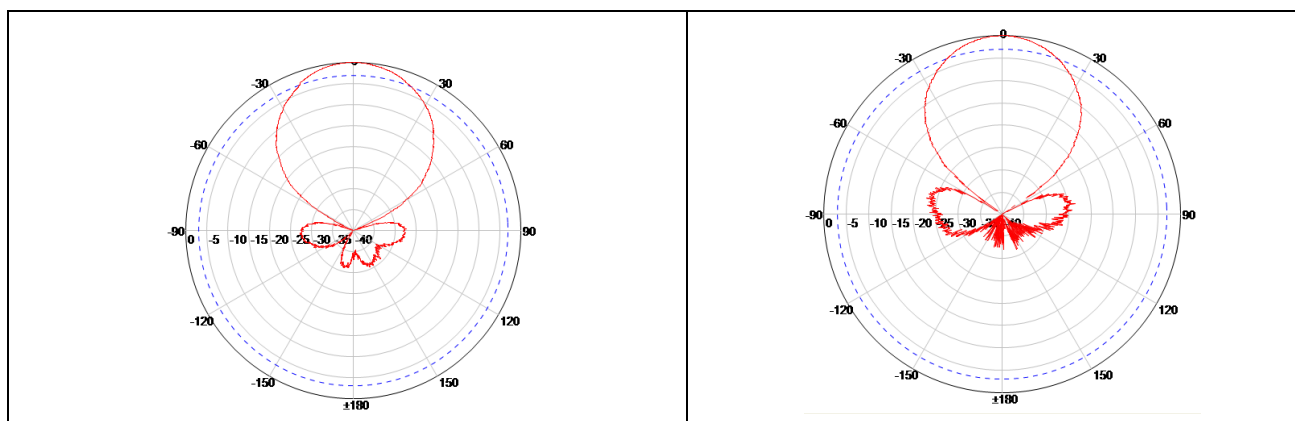
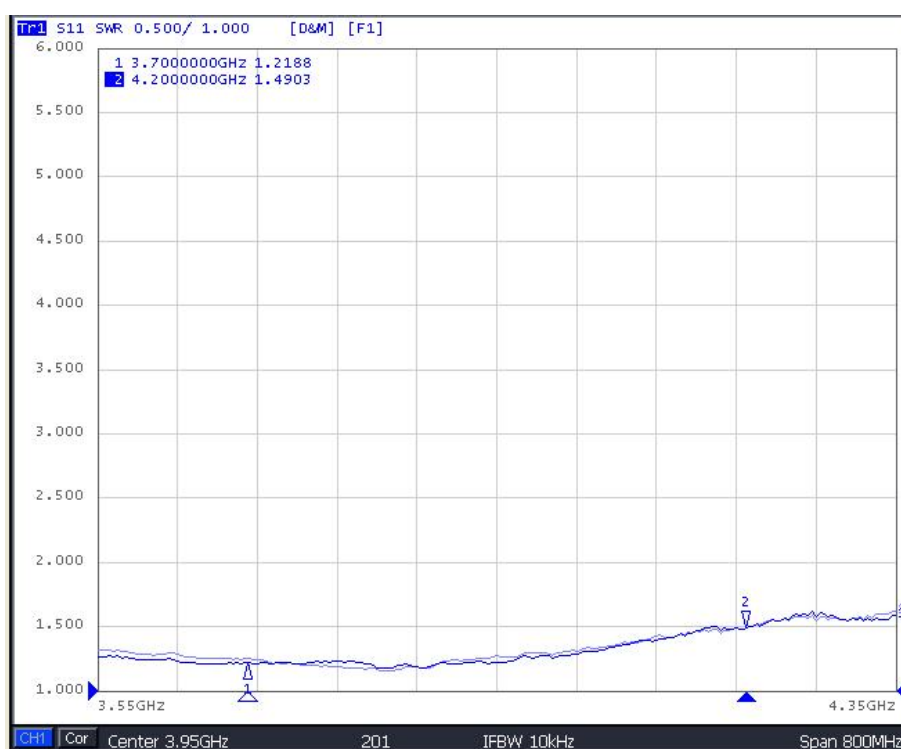
7.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围(FreqRange)	3700-4200MHz
增益(Gain)	13±1dBi
水平波瓣宽度(Horizontal Beamwidth)	45±5°
垂直波瓣宽度(Vertical Beamwidth)	40±8°
驻波比(VSWR)	≤1.8
前后比 (F/B)	≥19
阻抗(Impedance)	50Ω
极化方式(Polarization)	垂直极化
最大功率(Max. Power)	50W
接头型号(Connector)	SMA-J(1M RG141)
防雷保护(Lightning Protection)	直流接地
机械指标 Mechanical Specifications	
尺寸 mm(Dimension)	140*120*25MM
重量 kg (Weight)	0.8kg
抗风强度(Rated Wind Velocity)	36.9 m/s
工作湿度 (Operational Humidity)	< 95%
工作温度(Operating temperature)	-40 ~ 55℃
天线外罩材料 (Radome material)	ABS(白色)

7.2 产品规格图 (Product Specification Chart)



7.3 驻波图与史密斯图 (S.W.R. & Smith chart)



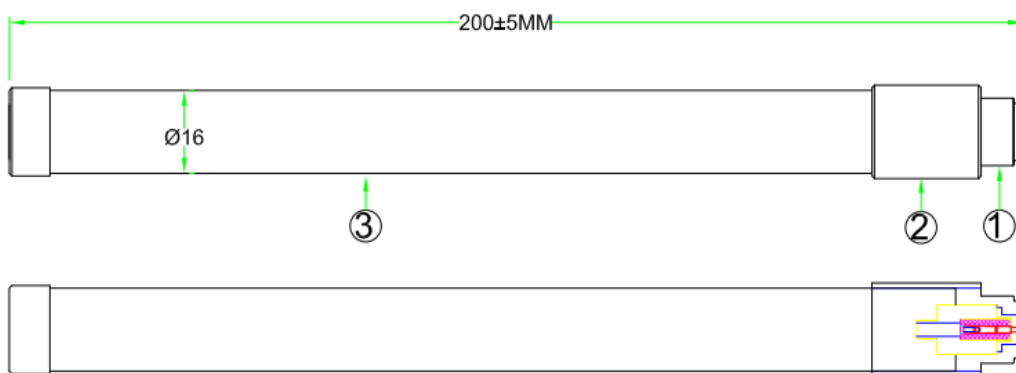
8 UWB 玻璃钢防水天线(UWB-SMA20)

生产商：研创物联

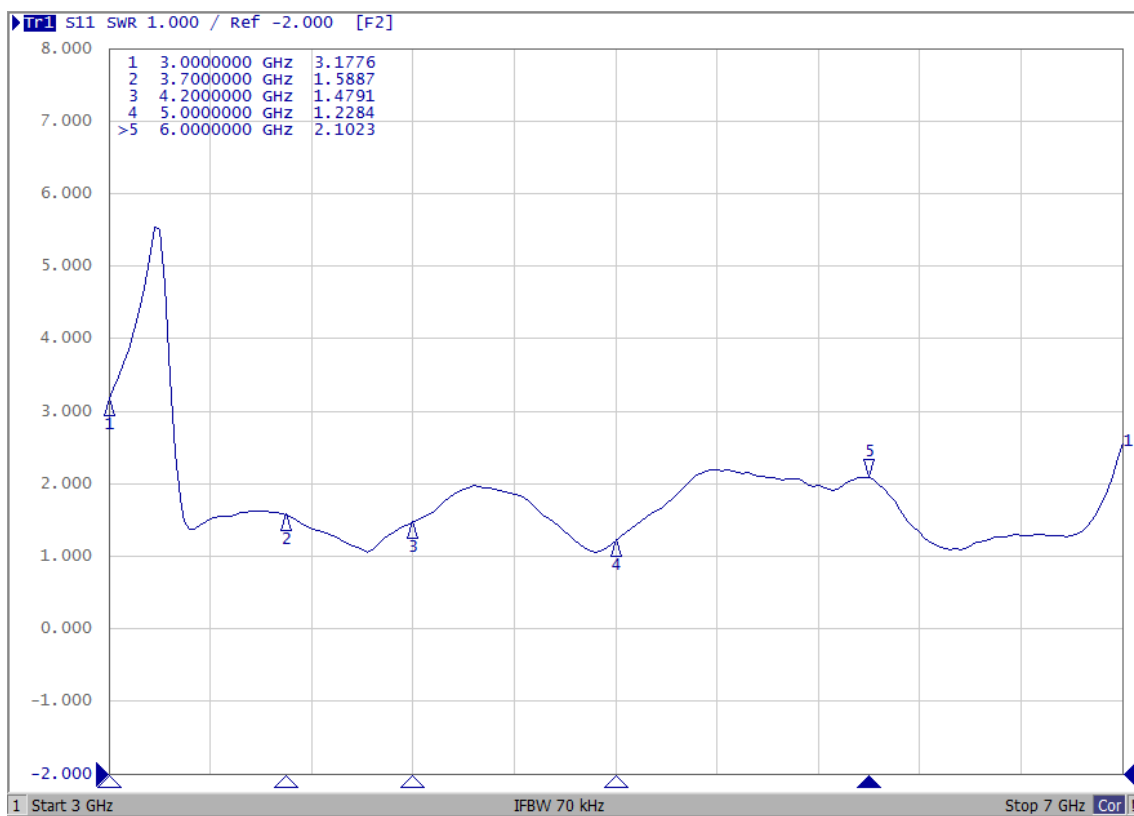
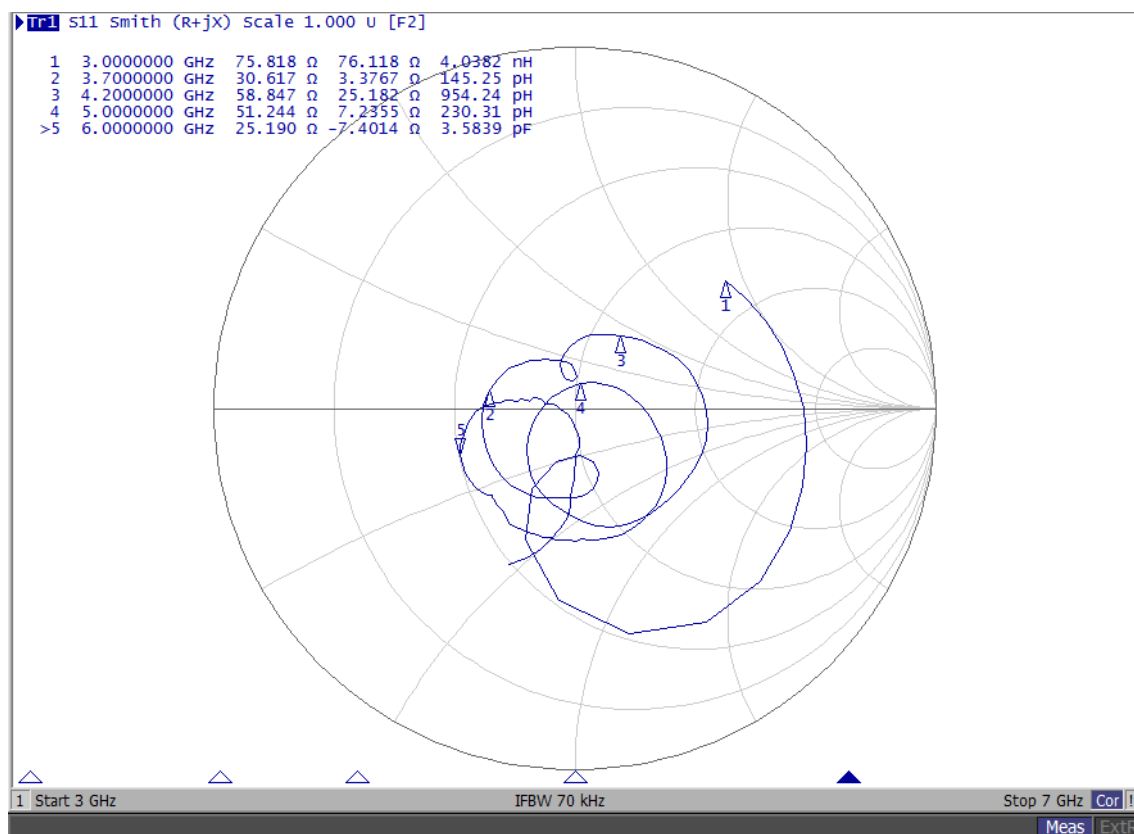
8.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	3200-4200
频带宽度 Bandwidth (MHz)	1000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 1.6
增益 Gain (dBi)	5
机械指标 Mechanical Specifications	
天线长度 Antenna Length	20cm
连接器型号 Connect Type	SMA
工作温度 Working Temp	-45°C~85°C
储藏温度 Storage Temperature	-45°C~85°C

8.2 产品规格图 (Product Specification Chart)



8.3 驻波图与史密斯图 (S.W.R. & Smith chart)



9 UWB 线缆 IPEX 转 SMA (CB-IPEX-SMA-10)

生产商：研创物联

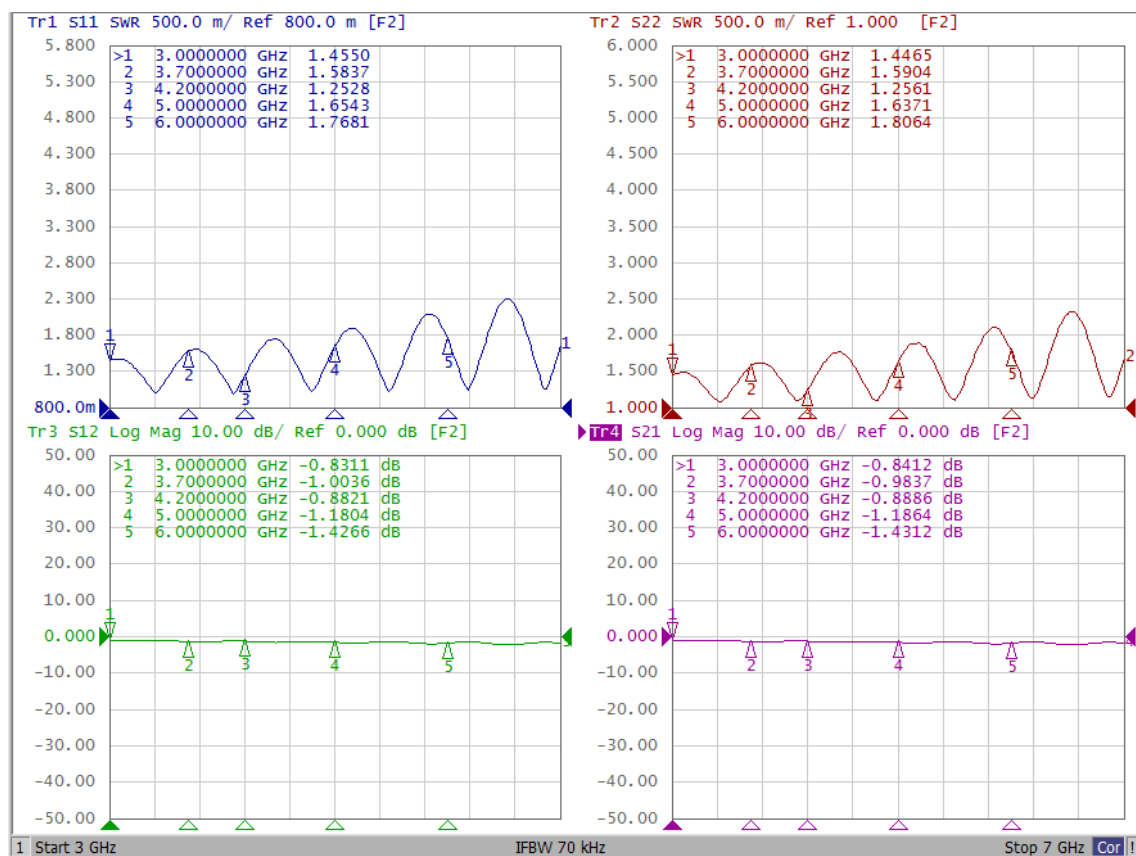
9.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	100-7000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 2.3
机械指标 Mechanical Specifications	
天线长度 Antenna Length	默认 10cm (可定制)
连接器型号 Connect Type	SMA 外螺内孔 IPEX
线材规格 Cable Material	RG1.13
工作温度 Working Temp($^{\circ}\text{C}$)	-45~85
储藏温度 Storage Temperature($^{\circ}\text{C}$)	-45~85

9.2 产品规格图 (Product Specification Chart)



9.3 S 参数图 (S Parameter Chart)



10 UWB 线缆 IPEX 转 SMA(CB-SMA-SMA-10)

生产商：研创物联

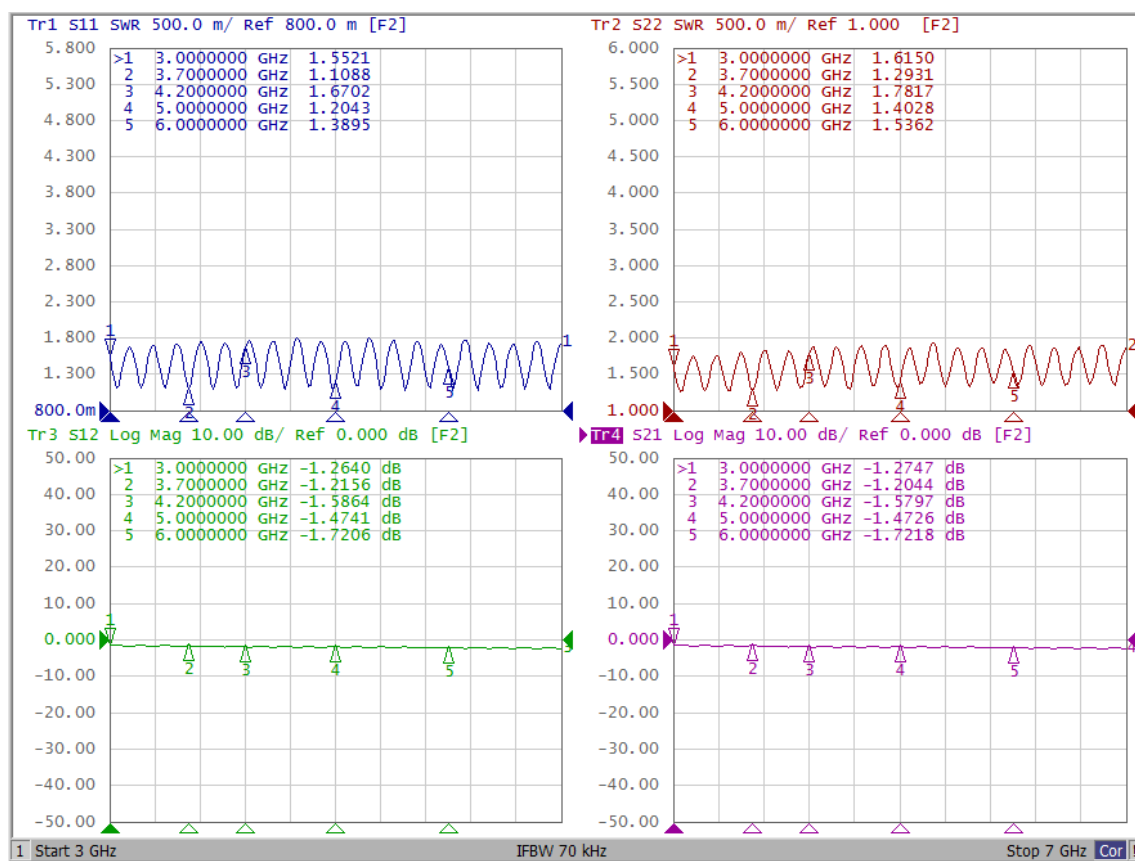
10.1 产品技术指标 (Product Technical Specifications)

电性能指标 Electrical Characteristics	
频率范围 Frequency Range (MHz)	100-7000
输入阻抗 Input Impedence (Ω)	50
电压驻波比 V.S.W.R	≤ 2.3
机械指标 Mechanical Specifications	
天线长度 Antenna Length (cm)	默认 10cm (可定制)
连接器型号 Connect Type	SMA 外螺内孔 SMA 内螺内针
线材规格 Cable Material	RG316 (纯铜镀银)
工作温度 Working Temp	-45($^{\circ}$ C)~85($^{\circ}$ C)
储藏温度 Storage Temperature	-45($^{\circ}$ C)~85($^{\circ}$ C)

10.2 产品规格图 (Product Specification Chart)



10.3 S 参数图 (S Parameter Chart)



11 Document Management Information Sheet

Subject		YCHIOT UWB antenna and cable datasheet
Version		V2.0
Reference documents		dw1000-datasheet-v2.08,Qorvo DW1000_Software_API_Guide_rev2p7, Qorvo um004-UWB_MAX2001 使用手册_V1.6
Creation time		2020/7/14
Founder		Lynn
Latest release date		2023/01/01

Modifier	Date	Document change history
Lynn	2020/07/14	<u>V1.0</u> 发布 V1.0 文档
Lynn	2021/01/15	<u>V1.3</u> 增加棒状天线信道 5/7
Lynn	2022/12/13	<u>V1.4</u> 更新天线参数与文档勘误
Lynn	2023-01-01	<u>V2.0</u> ■ 删去 UWB-SMA08 天线，已停止生产 ■ 增加第 1 章节：研创 UWB 系列产品推荐搭配天线 ■ 修改格式，研创 23 年全新文档视觉