

# VLG TECHNOLOGY

VLG Communication Technology Limited

Address: 4th Floor, Building B5, Taohuayuan Technology Innovation Ecological Park, Tiegang Community, Xixiang Street, Bao'an District, Shenzhen, China

Name	U45	Frequency	5725-5850MHz
Model	V1516-008-A-04/05		A
	Hushuai		
	2024-12-12		
VLG Communication Technology			

[www.vlg.com.cn](http://www.vlg.com.cn)

VLG has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

## 1、Antenna picture

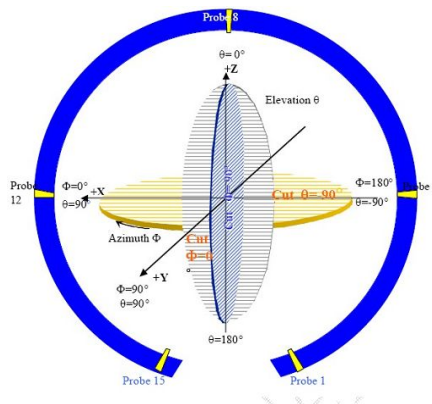
The report mainly provides the test status of various electrical performance parameters of U45 Antenna. U45 antenna is a single frequency antenna, Antenna 5725–5850MHz. The antenna picture is shown below.



Antenna picture

## 2、Antenna testing equipment

The antenna input characteristics were tested using an Agilent E5071C vector network analyzer; Antenna radiation characteristics were measured using a Satimo Starlab 3D near-field microwave antrum chamber, Use the instrument Agilent E5071C comprehensive measuring instrument. The 3D chambertest coordinates are as follows:

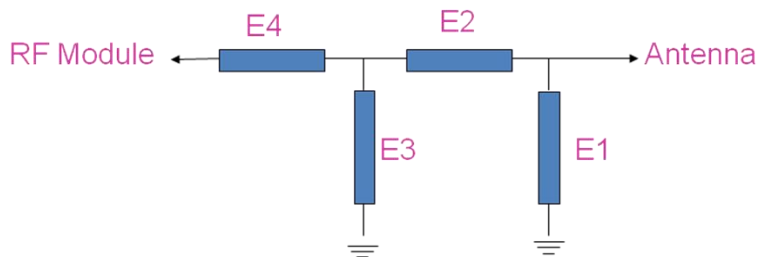


[www.vlg.com.cn](http://www.vlg.com.cn)

VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

## The matching circuit of the antenna

antenna matching circuit is provided by the customer.



Element	Value
E1(0402)	NA
E2(0402)	0 $\Omega$
E3(0402)	NA
E4(0402)	0 $\Omega$

## 3、Electrical properties

### 3.1 The standard specifications

U45 antenna operating frequency range of 2400-2500MHz; The following table is the test index of U45 antenna performance by VLG.

	frequency (MHz)	VSWR	frequency (MHz)	VSWR
Frequency	TX		RX	
	5725MHz~5850MHz	$\leq 3.5$	5725MHz~5850MHz	$\leq 3.5$

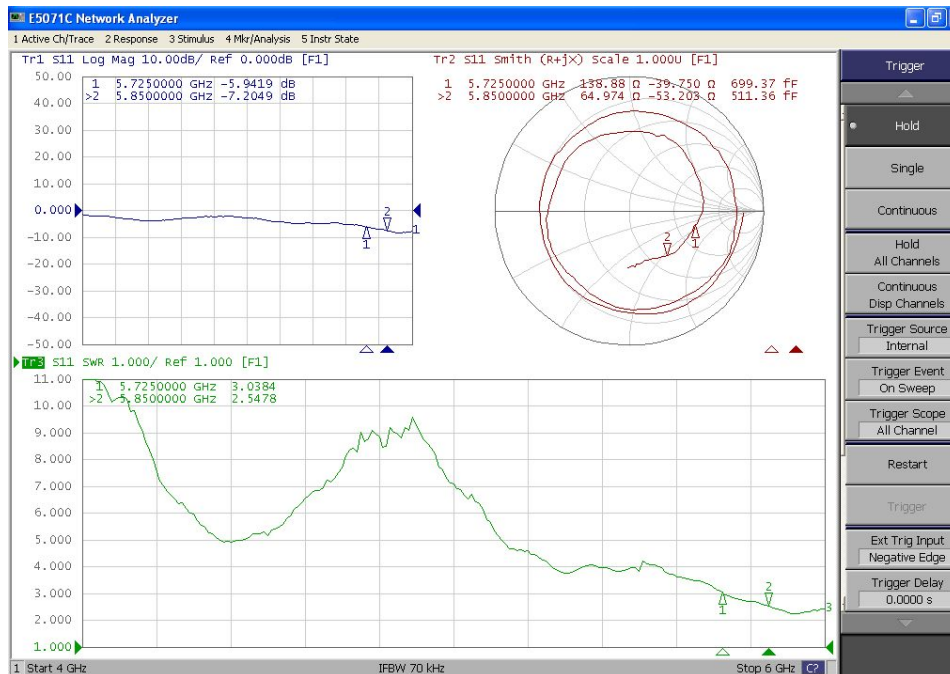
[www.vlg.com.cn](http://www.vlg.com.cn)

VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

### 3.2 S11:

Return loss、VSWR、Smith chart

#### ANTENNA 1#



#### ANTENNA 2#

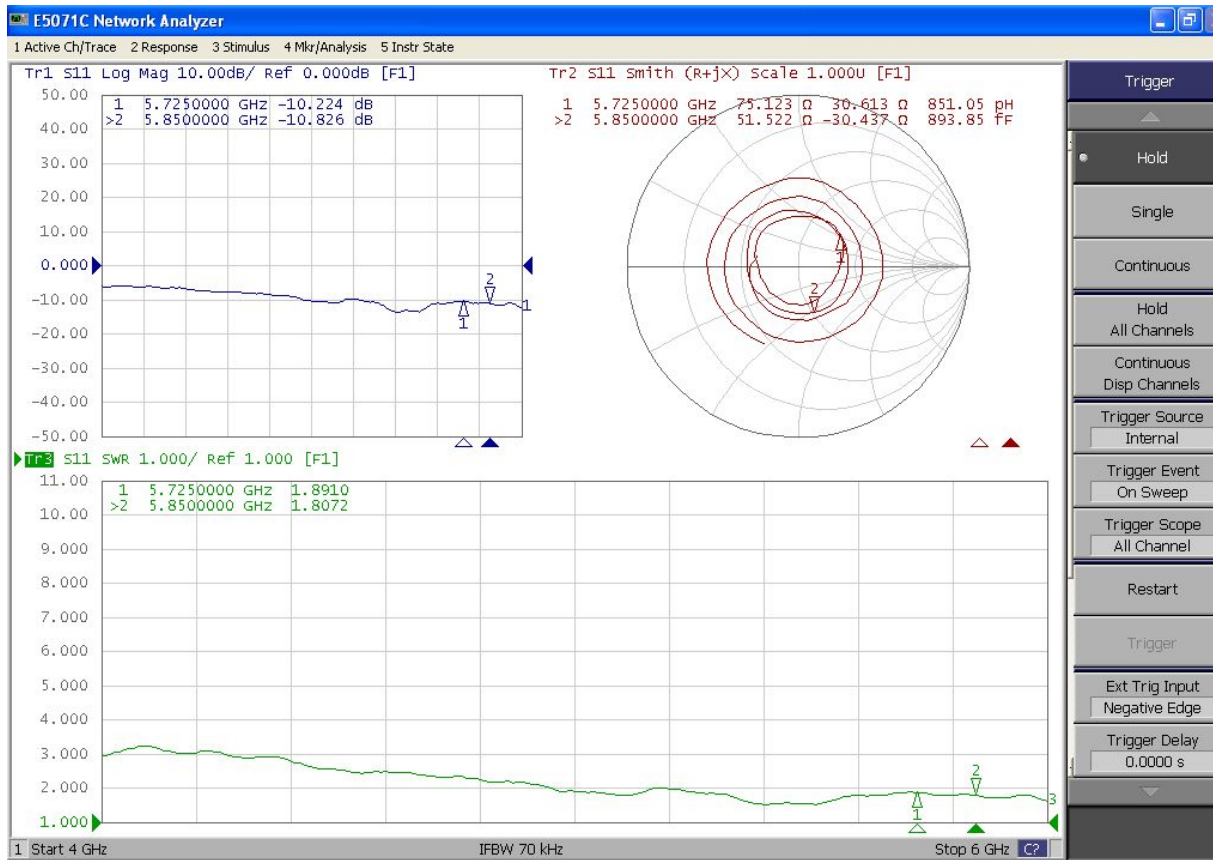


[www.vlg.com.cn](http://www.vlg.com.cn)

VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

## ANTENNA

## TX



[www.vlg.com.cn](http://www.vlg.com.cn)

VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

### 3.3 The efficiency of the antenna

#### ANTENNA 1#

U45接收1# RX1		
Frequency (MHZ)	Efficiency	Gain (dBi)
5720	39.98%	2.28
5730	41.55%	2.43
5740	43.20%	1.44
5750	42.70%	2.15
5760	43.31%	2.60
5770	47.83%	3.37
5780	47.86%	2.26
5790	44.04%	2.06
5800	41.59%	2.18
5810	41.72%	2.35
5820	43.37%	1.90
5830	42.09%	1.79
5840	39.61%	2.04
5850	40.22%	2.43

#### ANTENNA 2#

U45接收2# RX2		
Frequency (MHZ)	Efficiency	Gain (dBi)
5720	37.19%	2.63
5730	37.98%	3.00
5740	38.16%	2.00
5750	36.85%	1.49
5760	37.06%	2.70
5770	40.04%	3.54
5780	39.96%	2.57
5790	38.68%	1.90
5800	36.86%	2.61
5810	36.48%	3.25
5820	36.99%	2.48
5830	35.29%	1.58
5840	33.34%	2.33
5850	32.99%	2.79

[www.vlg.com.cn](http://www.vlg.com.cn)

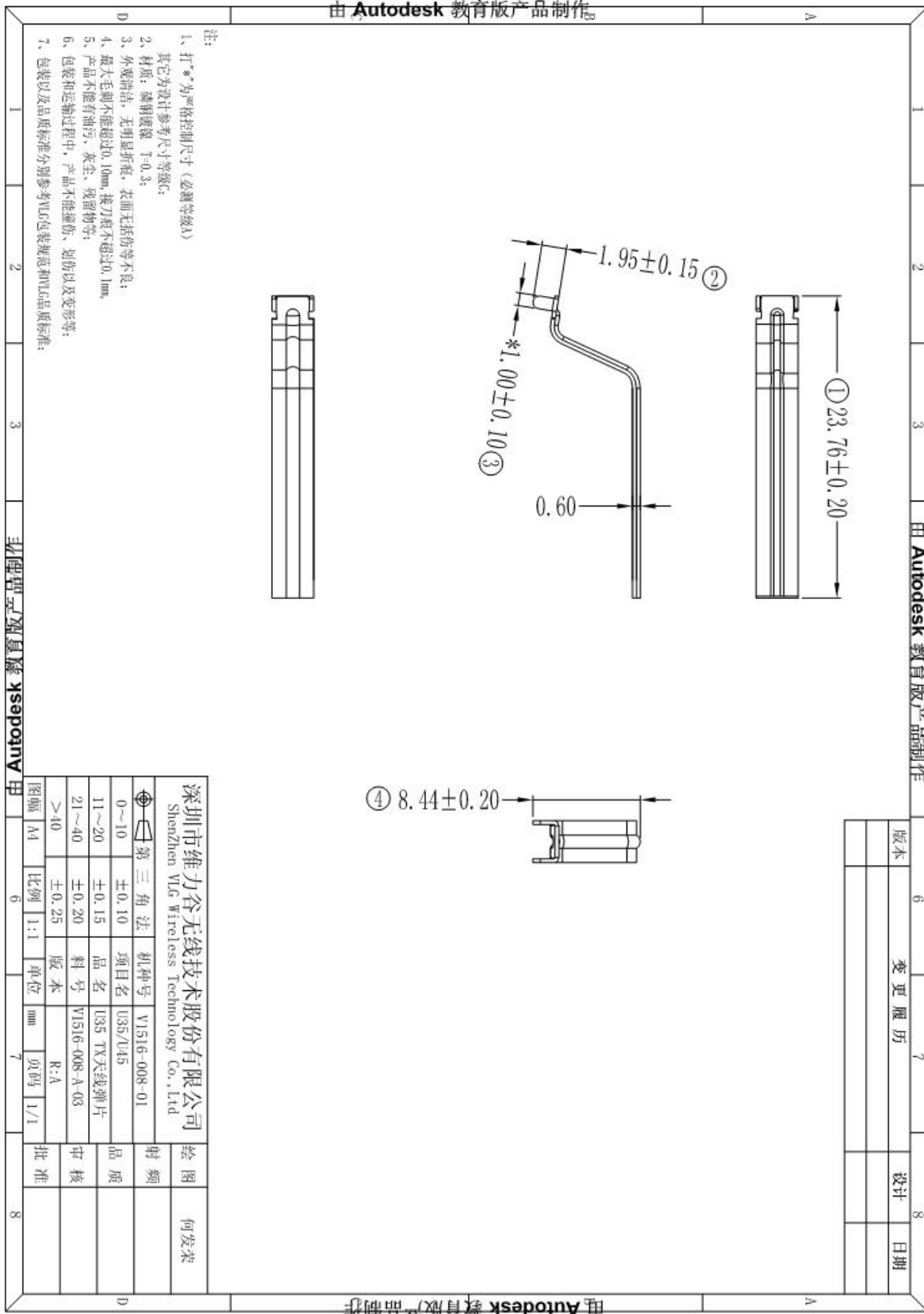
VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

**ANTENNA****TX**

<b>U45发射 TX 1</b>		
Frequency (MHZ)	Efficiency	Gain (dBi)
5720	44.30%	0.74
5730	45.30%	1.27
5740	45.51%	2.15
5750	44.38%	2.06
5760	45.09%	0.85
5770	48.05%	1.78
5780	46.5%	1.85
5790	42.7%	1.63
5800	41.2%	0.51
5810	41.7%	1.01
5820	41.6%	1.61
5830	40.8%	1.24
5840	40.3%	0.17
5850	40.5%	0.55

[www.vlg.com.cn](http://www.vlg.com.cn)

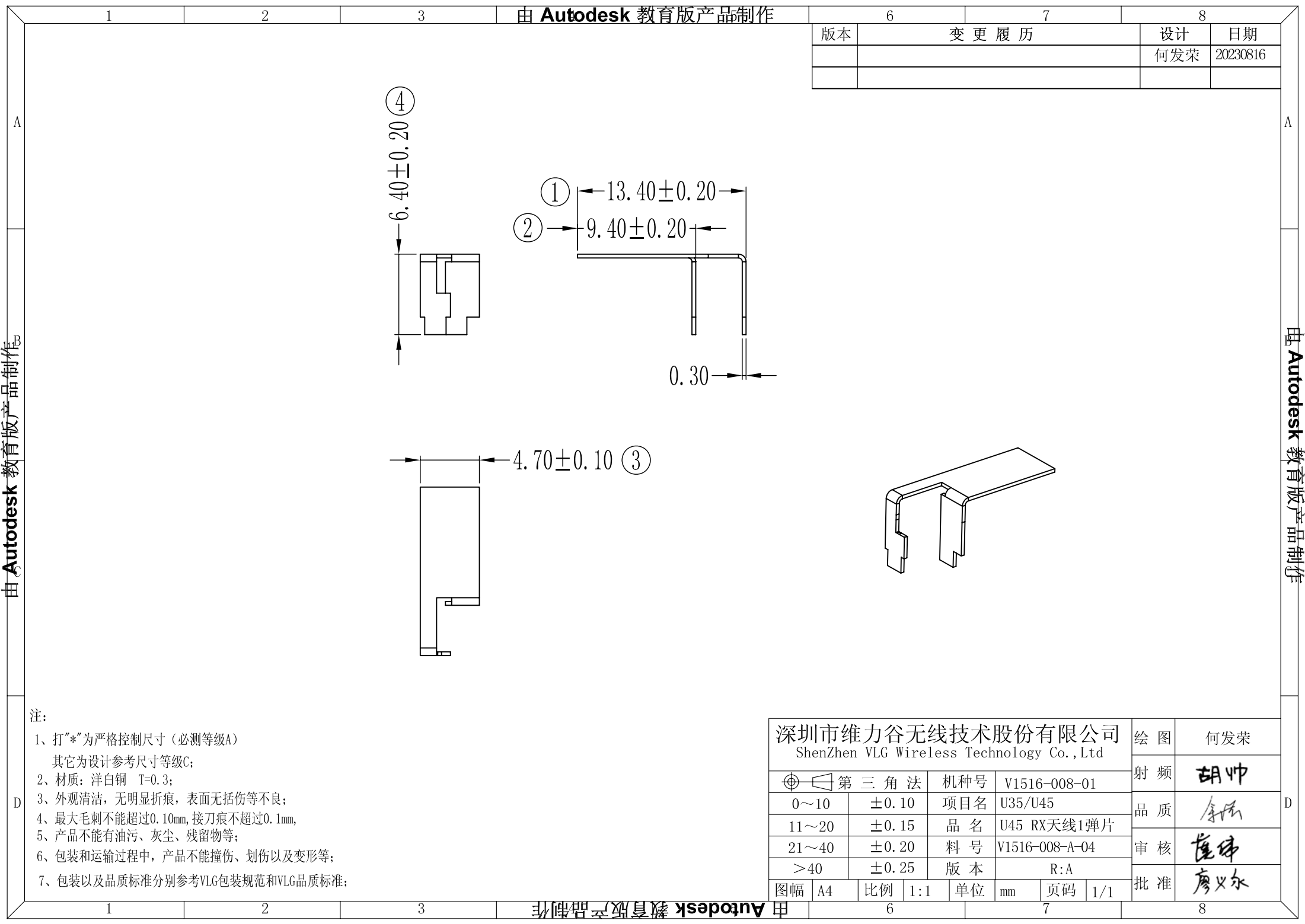
VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.



[www.vlg.com.cn](http://www.vlg.com.cn)

VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

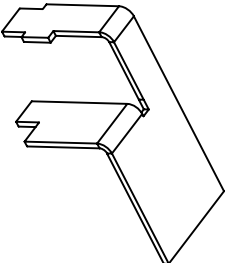
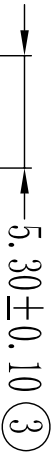
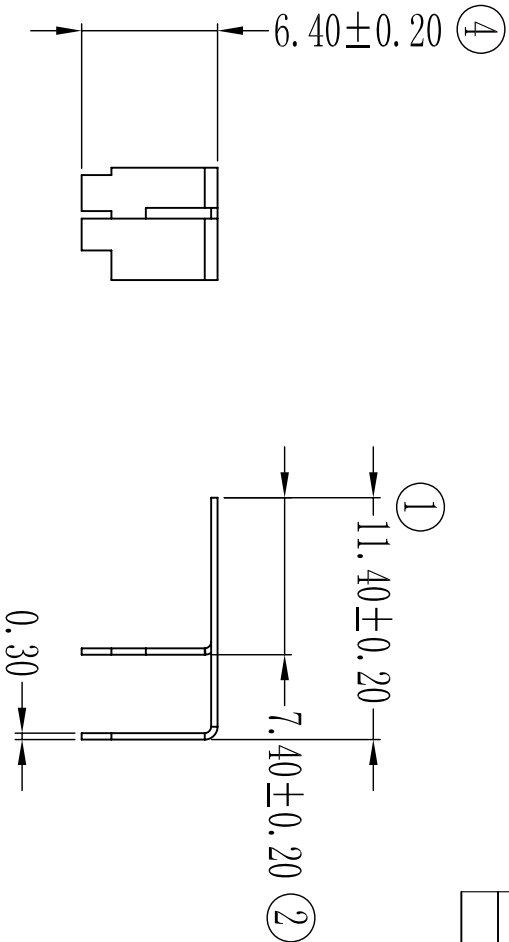





- 注：
- 1、打“\*”为严格控制尺寸（必测等级A）  
其它为设计参考尺寸等级C；
  - 2、材质：洋白铜 T=0.3；
  - 3、外观清洁，无明显折痕，表面无括伤等不良；
  - 4、最大毛刺不能超过0.10mm, 接刀痕不超过0.1mm,
  - 5、产品不能有油污、灰尘、残留物等；
  - 6、包装和运输过程中，产品不能撞伤、划伤以及变形等；
  - 7、包装以及品质标准分别参考VLG包装规范和VLG品质标准；

深圳市维力谷无线技术股份有限公司										绘 图	何发荣
ShenZhen VLG Wireless Technology Co.,Ltd										射 频	胡帅
		第 三 角 法		机种号		V1516-008-01					
0~10		±0.10		项目名		U35/U45					
11~20		±0.15		品 名		U45 RX天线1弹片					
21~40		±0.20		料 号		V1516-008-A-04					
>40		±0.25		版 本		R:A					
图幅	A4	比例	1:1	单位	mm	页码	1/1	批 准	廖义永		

6	7	8
版本	变更履历	设计日期
		何发荣20230816



- 注:
- 打“\*”为严格控制尺寸 (必测等级A)
  - 其它为设计参考尺寸等级C:
  - 材质: 洋白铜 T=0.3;
  - 外观清洁, 无明显折痕, 表面无划伤等不良;
  - 最大毛刺不能超过0.10mm, 接刀痕不超过0.1mm,
  - 产品不能有油污、灰尘、残留物等;
  - 包装和运输过程中, 产品不能碰撞、划伤以及变形等;
  - 包装以及品质标准分别参考VLG包装规范和VLG品质标准;

深圳市维力谷无线技术股份有限公司							何发荣	
Shenzhen VLG Wireless Technology Co., Ltd								
	第三角法		机种号		V1516-008-01		射频	胡帅
0~10	±0.10		项目名		U35/U45		品质	余松
11~20	±0.15		品名		U45 RX天线2弹片			
21~40	±0.20		料号		V1516-008-A-05		审核	廖伟
>40	±0.25		版本		R:A		批准	廖兴永
图幅	A4	比例	1:1	单位	mm	页码		
						1/1		