

# SPECIFICATION



Daxian Communication Technology Limited

## 深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

### 易力声 BTH-1469 Dongle 天线

### INNOVATION BTH-1469 Dongle antenna

## 产品规格书

## Product Specification

客户 connection	易力声 INNOVATION	频段 frequency range	2400 ~ 2500MHz
项目名称 entry name	BTH-1469	版本 edition	V08
物料编号 Material No	1T-H1469-040	颜色 Color	黑色 Black
客户料号 Customer Item Number	<b>HA.E.03314690000AR</b>		
R F 设计 R F Design	胡 鹏 Peng.Hu	结构设计 Structural Design	赖宁平 Ningping Lai
品质经理 Quality Manager	杨 进 Jin.Yang	技术总监 Technical Director	张 磊 Lei Zhang
日期 Date	2023-10-17		

客户确认:

Customer confirmation:

装配是否符合贵司要求: OK NGWhether the assembly meets your company's requirements: OK NG

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## 一 项目说明 Project Description

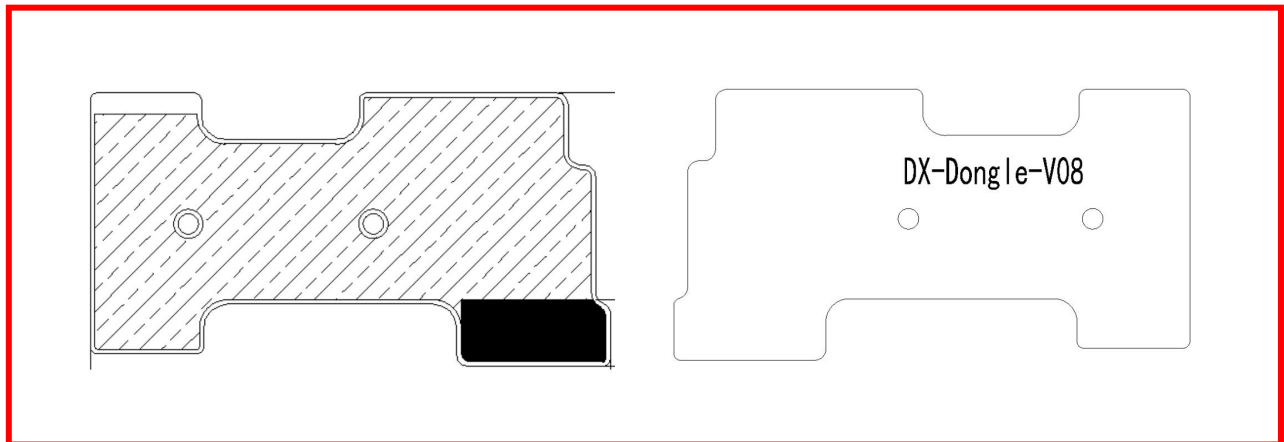
客户名: Customer Name:	易力声 INNOVATION
整机类型: Type of complete machine:	Dongle
天线频段: Antenna band:	2400 ~ 2500MHz
天线类型: Antenna type:	PIFA 全向天线 PIFA omnidirectional antenna
馈电形式: Feed form:	弹片 shrapnel
馈脚数量: Number of feed legs:	两个 Two

## 二 Dongle 天线 Dongle Antenna

### 1 规格 specifications

本报告主要提供 BTH-1469 项目天线的各项电气和结构性能参数的测试状况。下图为大显设计的天线图片。

This report mainly provides the testing status of various electrical and structural performance parameters of the antenna for the BTH-1469 project. The following image shows an antenna with a large display design.



天线外观图

antenna appearing diagram

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## 1.1 电气规格标准 Electrical specifications and standards

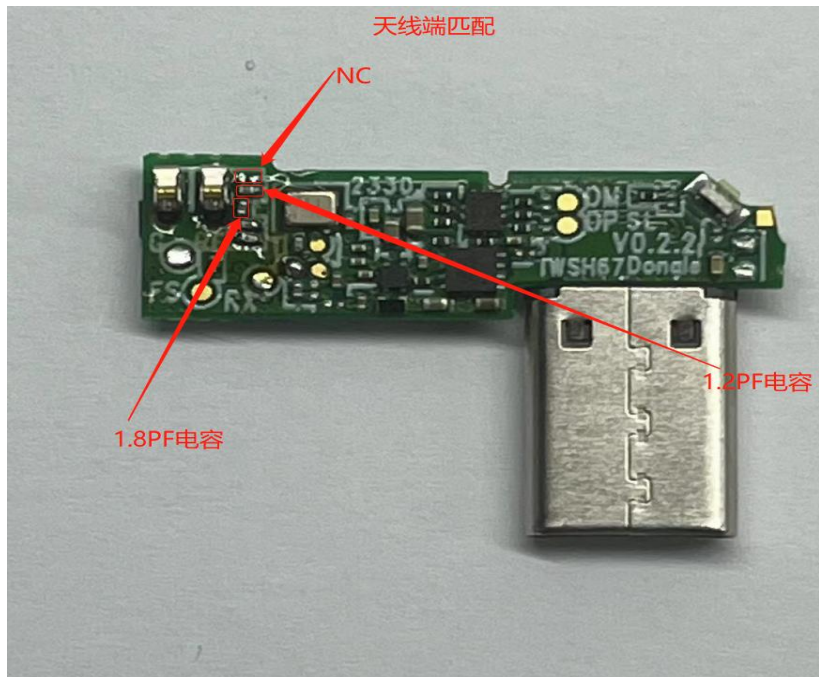
### 1.1.1 电性能指标 Electrical performance index

天线工作频段在 **2400 ~ 2500 MHz**。下表是大显设计和量产天线的电性能指标。

The operating frequency band of the antenna is between **2400 and 2500 MHz**. The following table shows the electrical performance indicators of large display design and mass production antennas.

Frequency Range	Frequency (MHz)	VSWR
Dongle	2400 ~ 2500	$\leq 2$

### 1.1.2 天线匹配 Antenna matching



## 1.2 结构规格标准 Structural specifications and standards

### 1.2.1 天线组成 Antenna composition

天线主要是由 FPC 组成。

The antenna is mainly composed of FPC.

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## 2. 测试设备 The Equipment of Active Test

Satimo 3D Chamber 6×4×4( m )

Agilent 8960 E5515c

Network analyzer-R&S ZVL



图 2

Figure 2

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### 3 测试 test

#### 3.1 驻波(VSWR)的测试 Test of standing wave (VSWR)

3.1.1 测试连接: VSWR 测试装置依次连接为: R&S ZVL 网络分析仪 → 测试线 → 测试治

Test connection: The VSWR test device is sequentially connected as follows: R&S ZVL network analyzer → test line → test fixture

实测(附图)Actual measurement (attached drawing)

#### 3.2 增益及效率、功率 (TRP)、灵敏度 (TIS) 的测试

Gain and efficiency, power (TRP), sensitivity (TIS) testing

##### 3.2.1 测试的场地 Test site:

大显微波暗室。测试频率范围为 400MHz—6GHz, 静区范围为 50cm 圆周, 反射率小于-50 dB。

Large display microwave anechoic chamber. The test frequency range is 400MHz - 6GHz, the static zone range is 50cm circumferential, and the reflectivity is less than -50dB.

##### 3.2.2 测试的仪表 Tested Instruments:

R&S ZVL 网络分析仪、Agilent8960 E5515C、标准喇叭天线、法国 SATIMO-SG24SYSTEM 系统、打印机等。

R&S ZVL network analyzer, Agilent 8960 E5515C, standard horn antenna, French SATIMO-SG24SYSTEM system, printer, etc.

##### 3.2.3 测试数据 : 在微波暗室中, 测试的功率和灵敏度相关的数值如下表

Test data: In a microwave anechoic chamber, the values related to the power and sensitivity tested are shown in the table below

#### OTA 有源测试 OTA Active Test:

Samsung S8			
BAND	CH	TRP (dBm)	TIS (dBm)
Dongle	0	6.52	-89.28
	39	6.71	-89.83
	78	7.01	-89.68

Xiaomi POCO			
BAND	CH	TRP (dBm)	TIS (dBm)
Dongle	0	4.46	-87.81
	39	4.63	-88.87
	78	5.12	-87.82

HONOR Notebook			
BAND	CH	TRP (dBm)	TIS (dBm)
Dongle	0	7.34	-88.37
	39	7.11	-89.41
	78	7.18	-88.13

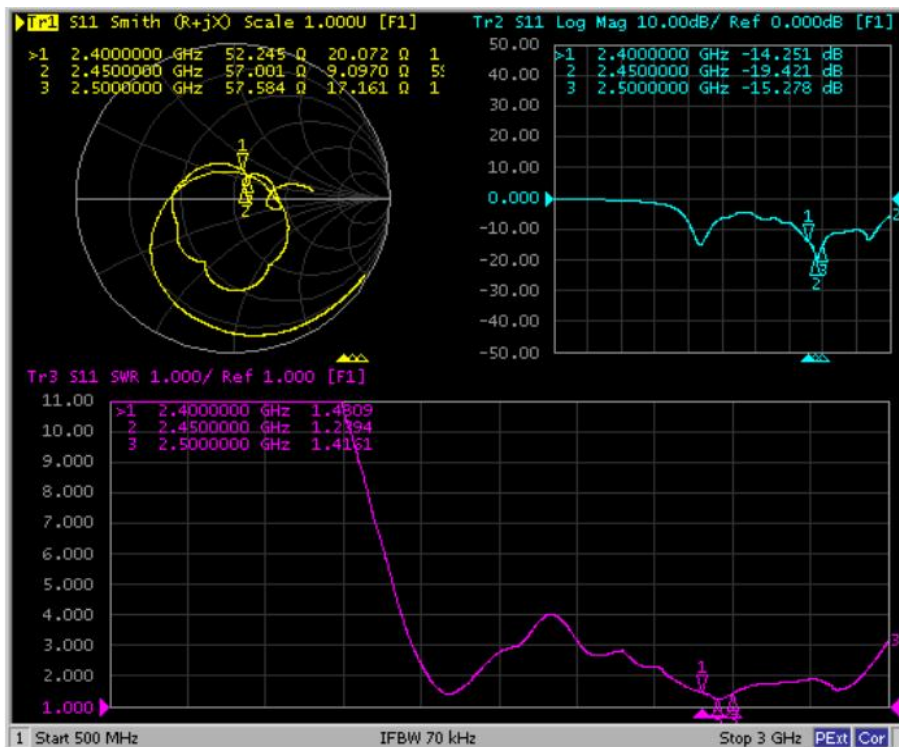
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无源效率&增益 Passive efficiency&gain:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	28	-5.53	1.28
2410	28.19	-5.5	1.7
2420	28.81	-5.4	1.62
2430	29.61	-5.29	1.17
2440	28.3	-5.48	1.34
2450	27.6	-5.59	0.8
2460	28.56	-5.44	0.73
2470	28.98	-5.38	0.62
2480	28.28	-5.49	0.73
2490	28.01	-5.53	0.77
2500	29.17	-5.35	0.73

4、VSWR 参数图 VSWR parameter diagram



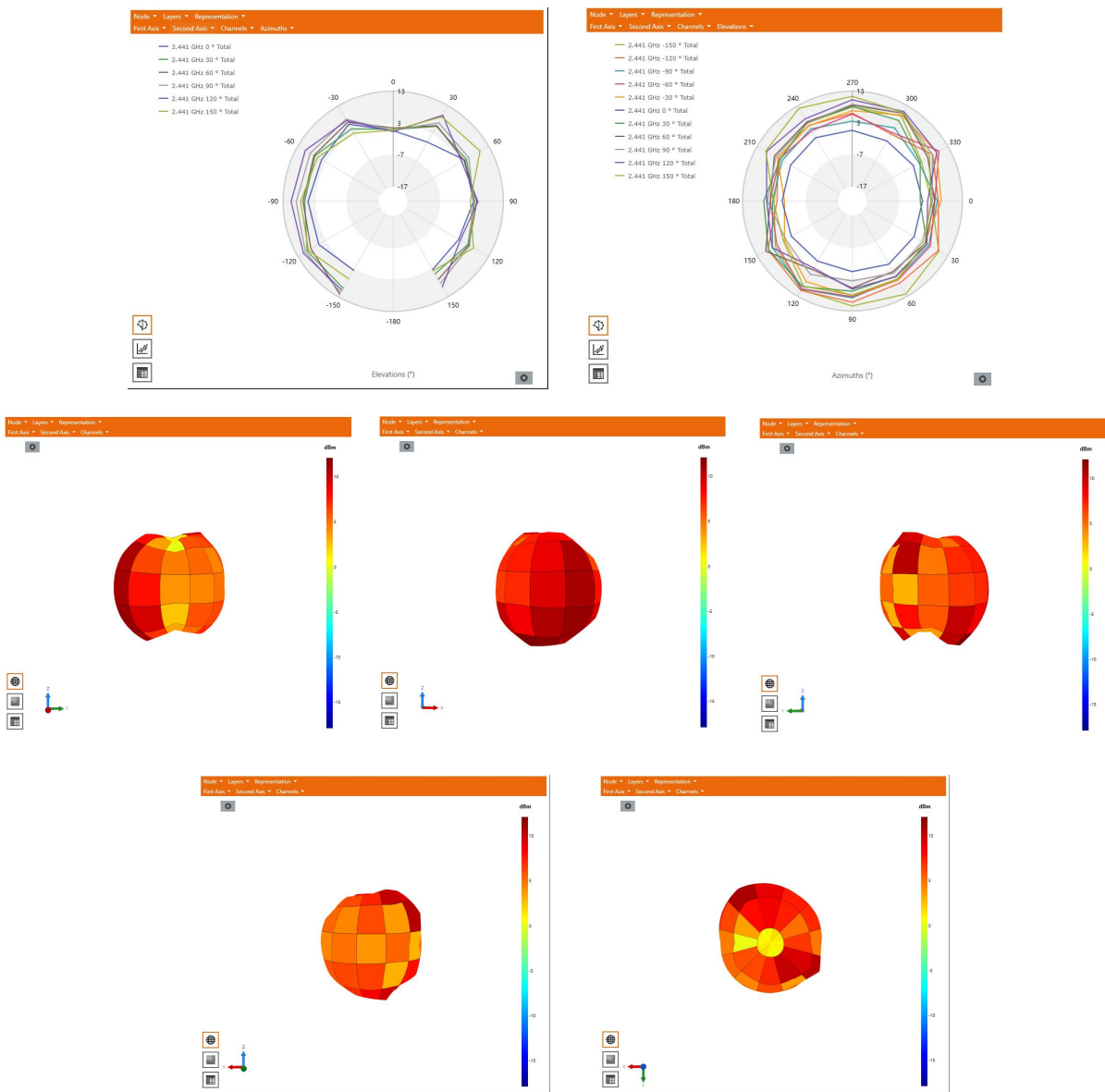
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## 6、有源场型图 Active field pattern diagram



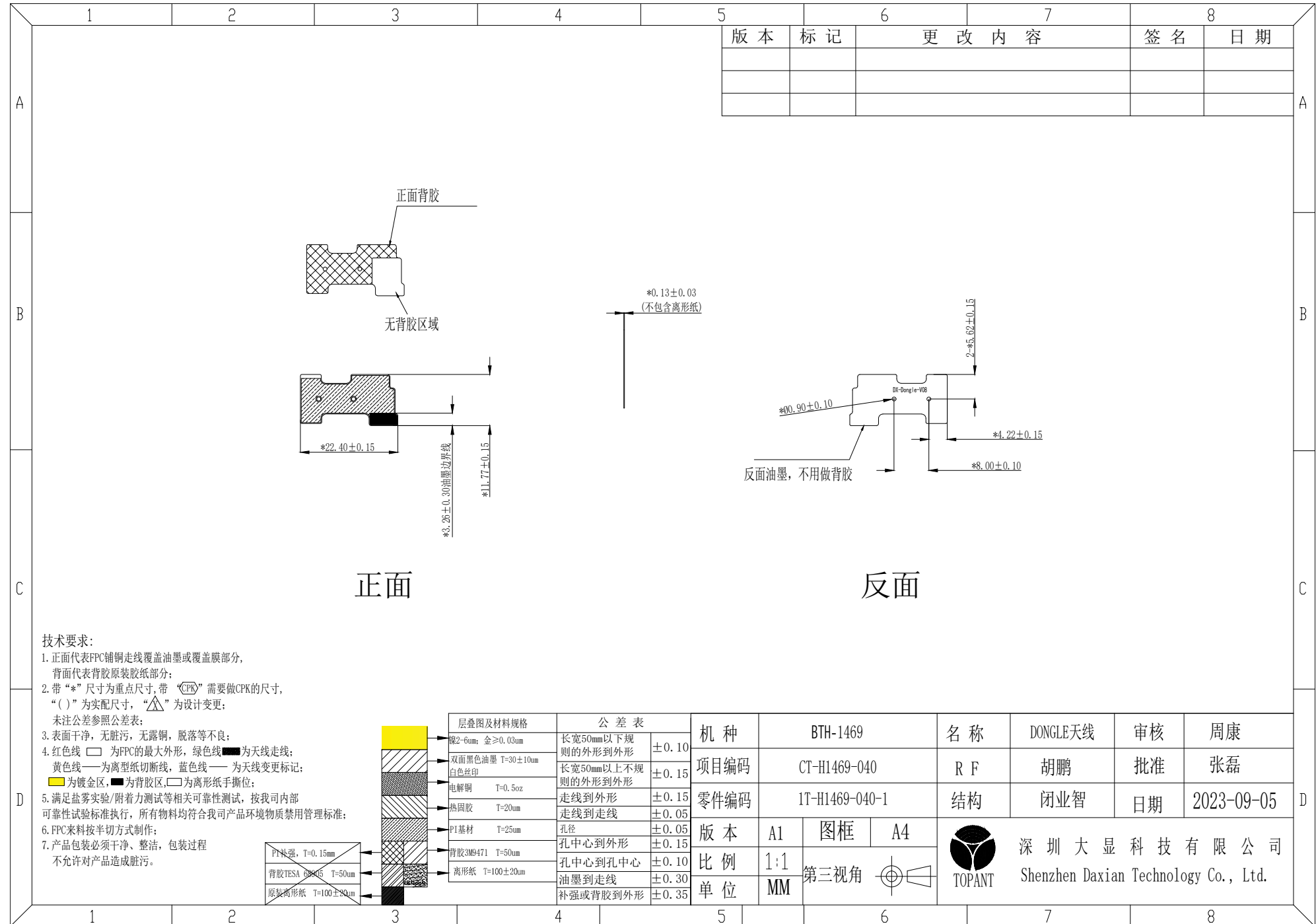
## 7、结论 conclusion

此天线是在客户提供样机基础上设计，电参数和结构性能已达到技术要求，请确认！

This antenna is designed based on the prototype provided by the customer. The electrical parameters and structural performance have met the technical requirements, please confirm!

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