深圳市博格斯通信技术有限公司
shenzhen bogesi communication technology co.,ltd

SPECIFICATION FOR APPROVAL

Customer Name	Edan
Customer Product Model	01.06.016930010
Specification	NANO WIFI ANT
MPN:	LBS-049B (RB version)
Manufacturer	Shenzhen Bogesi Communication Technology Co., Ltd
Approve Date	2024/4/16

Supplier Sign and Seal	Customer Sign and Seal

Note: 1. After the electronic file or paper file that has been stamped by BGS and was provided to the customer,, the customer need to sign the paper or electronic file of the approval back to BGS before place the formal order to BGS. If there is no formal change or change notice, BGS acquiesce that the customer approve and accept this specification of product .

2. The relevant intellectual property rights of this product are owned by Shenzhen Bogesi Communication Technology Co., Ltd. Without the permission of our BGS, please do not apply for patent rights for this product in other names, and please do not disclose this product and related information to others or provide to third-party for viewing and use.

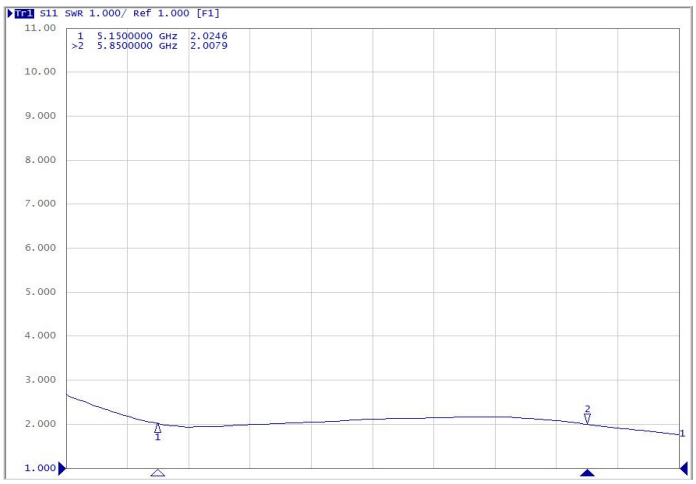
Application:

Applied on the Edan's NANO project

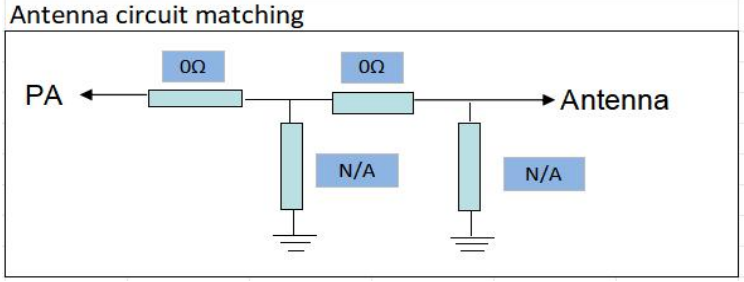
Electrical specifications:			
Frequency band	5140-5860	**Antenna material**	FPC
Impedance	50Ω	**Antenna connect type**	Connector
VSWR	≤3.0	**Polarization**	Linear polarization
Gain	1.88≤gain≤5.91	**Working Temperature**	-40℃～+85℃
		Storage Temperature	+19℃～+23℃
TRP&TIS:			
Test instruments	Test Method		Test result
BLUETEST.se RTS60 Chamber CMW5000	1.Assemble the antenna inside device 2. OTA RF test in anachoic chamber 3. Measuring TRP and TIS		see the test data
Test conditions and instruments			
Test instruments	Test Method		Test result
7×4×3 anechoic chamber + Aglient E5071B Network analyzer	1.Assemble the antenna inside device 2. Put the device on the fixture in the chamber, and connect with the network analyzer 3. Test the passive test data using the test software		see the test data

Test data

VSWR:



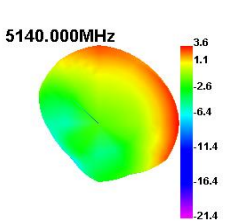
Antenna circuit matching

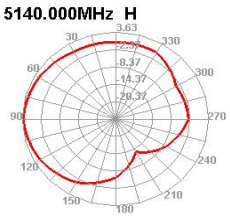


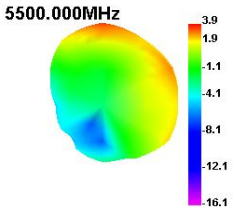
Passive test data

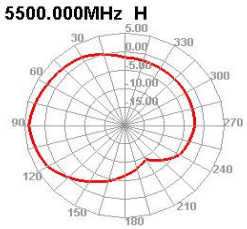
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
5140	63.72	3.63	5500	61.68	3.92
5160	60.14	2.95	5520	65.61	4.51
5180	61.16	3.12	5540	62.53	4.1
5200	65.02	3.59	5560	63.16	3.47
5220	57.47	3.13	5580	67.32	3.69
5240	65.89	3.86	5600	64.54	3.96
5260	69.67	4.2	5620	62.51	3.33
5280	62.61	4.04	5640	61.48	3.95
5300	56.68	4.64	5660	64.83	4.61
5320	54.74	4.58	5680	54.83	3.98
5340	58.37	4.14	5700	57.2	4.18
5360	55.22	4.43	5720	56.78	4.15
5380	61.77	4.29	5740	57.31	4.2
5400	67.17	3.96	5760	58.1	4.28
5420	66.07	4.69	5780	57.81	4.3
5440	61.33	3.53	5800	61.67	4.65
5460	63.06	4.16	5820	65.97	4.85
5480	64.43	4.7	5840	68.38	4.57
			5860	70.98	5.19

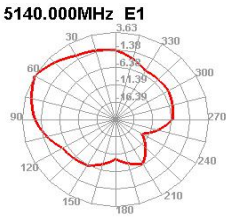
Radiation pattern

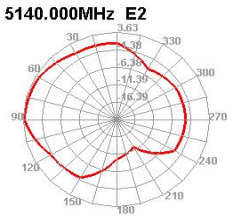


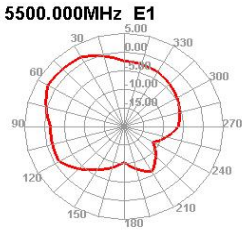


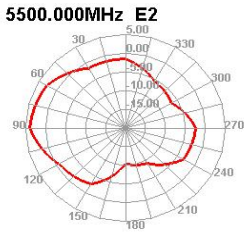


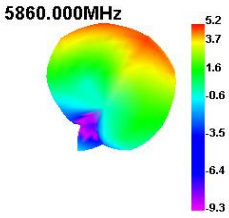


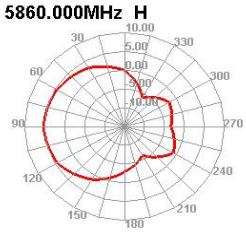


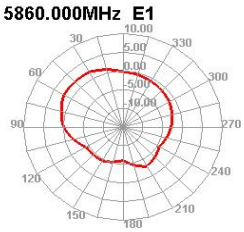


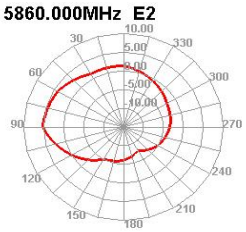




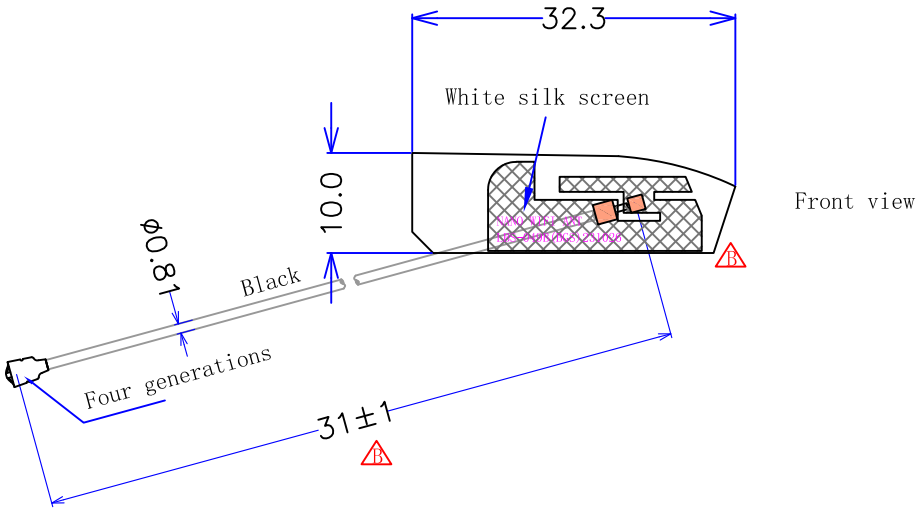


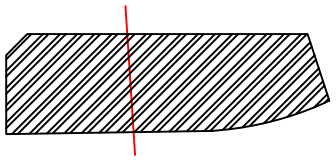






Sample picture：





Back view

The backing is divided into tow sections

.....Screen printing part

.....Antioxidant part

.....Empty membrane part

.....Line section

.....Part of gum

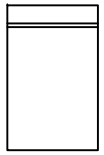
Note:

1. Pack a small package for every 100 antenna components, a large package for every 10 small packages, and then pack it into boxes.
2. If the silk screen printing content has added "+" or "-" is the mark used by our company to distinguish suppliers, but the product performance, material and processing technology are exactly the same.
3. The thickness of FPC+adhesive + release paper is 0.22±0.08MM; THE THICKNESS OF SINGLE FPC+ ADHESIVE BACKING IS 0.12±0.03MM.

NO.	PART NO.	NAME	DESCRIPTION	QT'Y
②	LBS-048B-01A	FPC	FPC, front spray black oil, feed point antioxidant, single-sided adhesive 3M-9471	1
①	LBS-049B-20L	CABLE	OD0.81mm, black cover, peeled at one end, four generations of terminals at one end	1

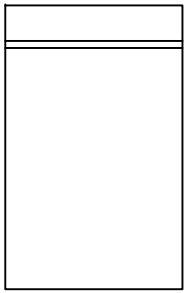
Change the shape of the line and the length of the line B	Oct 25,2023	深圳市博格斯通信技术有限公司 Shenzhen Bogesi Communication Ttechnology co.,ltd			
Modify content	Modify date	Product NO.	LBS-049B	Material is qualitative	FPC+CABLE
limits of tolerance; Others less than ± 0.2	Designer	Client NO.	NANO	Version of this	RB
	Auditing	Part name	Antenna components	Item no.	LBS-049
	Approve	Publish date	Jul 25,2023		page 1/1

PE Sealed bag/PE封口袋

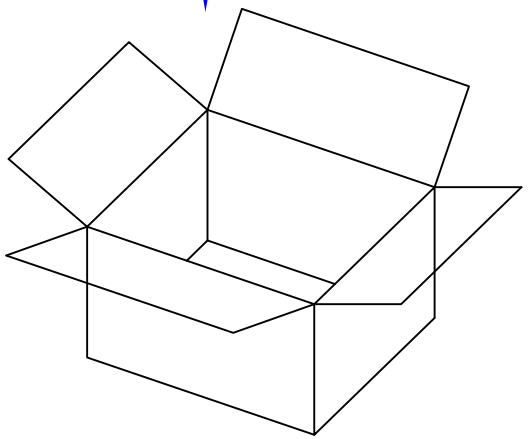


① 100 pcs/ small PE bag (bag size depends on product size)/
100个装一小袋（包装袋尺寸依产品大小而定）

PE Sealed bag/PE封口袋



② 100 pcs small bag/big PE bag (bag size depends on product size)/
10小袋装一大袋（包装袋尺寸依产品大小而定）



③ Final packing (carton size depends on product size and quantity)/
最后装箱（纸箱尺寸依产品大小、数量而定）

Note:

1. 100pcs antenna in one small PE bag ,stick the label;
2. 1000pcs antenna (10 bags*100pcs) in one big PE bag ,stick the label;
3. Put them in the carton and stick the carton marks.

说明:

1. 每100个天线组件装一小包，贴标签;
2. 每1000个（10袋*100个）装一大包，贴标签;
3. 装箱，贴外箱标签。

		深圳市博格斯通信技术有限公司 Shenzhen bogesi communication technology Co.,Ltd	
Change the content/变更内容	Change the date/变更日期	Package Drawing/包装规范图	
Design/设计			
Approve/审核		Issue Date/发行日期	Mar,25 2023
Reviewed/批准			Page 1 of 1

深圳市博格斯通信技术有限公司
shenzhen bogesi communication technology co.,ltd

Product Materials Ingredient Declaration Form

Product Name		NANO WIFI ANT	**Model NO.**		LBS-049B			**Declaration Date**		2024/4/16
No.	Part name	Homogeneous Material Name	The homogeneous material contains the value of RoHS restricted substance（ppm）						Certification number	Test date
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	FPC	Electrolytic flexible copper-clad foil substrate	ND	ND	ND	ND	ND	ND	SHAEC24000428808	2024/1/12
2		Solder resist ink	ND	ND	ND	ND	ND	ND	ETR23701480	2023/7/13
3		3M glue	ND	ND	ND	ND	ND	ND	SHAEC23021627701	2023/12/27
4	Wire	RF coaxial cable	ND	ND	ND	ND	ND	ND	SZXEC23001776704	2023/8/8
5	Terminals	Gold plating	ND	ND	ND	ND	ND	ND	A2230400553101001E	2023/8/9
6		PBT	ND	2.55	ND	ND	ND	ND	ETR23705931	2023/8/4
7		Tin Phosphor Bronze	ND	ND	ND	ND	ND	ND	A2230400553101002E	2023/8/9

Description:

Material analysis expansion table is similar to our company's machine type BOM, which describes the composition of each material provided by the supplier, and then conducts RoHS control on each component (or the supplier shall conduct RoHS compliance management on his supplier, and provide tripartite inspection certificate).

A complete material analysis expansion table that includes:

1. Material expansion table: component composition decomposition
2. Third-party verification report of each component