



SPECIFICATION FOR APPROVAL

Customer Name	Edan	
Product Model NO. :	01.06.016849010	
Specification	AX9 WIFI-2	
MPN:	LBS-045D (RA version)	
Manufacturer	Shenzhen Bogesi Communication Technology Co., Ltd	
Approve Date	2022/11/23	
	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.



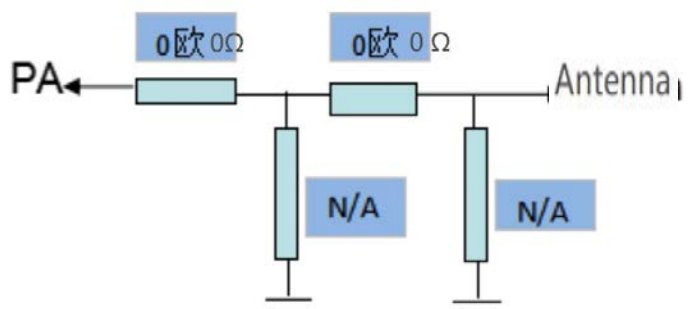
Application: Applied on the Edan's AX9 project

Electrical specifications:			
Frequency band	2.4G/5.8G	Antenna material	FPC
Impedance	50Ω	Antenna connect type	Connector
VSWR	≤3.0	Polarization	Linear polarization
Gain	2400-2500MHz:-2.35dBi≤gain≤-0.74dBi	Working Temperature	-40℃~+85℃
	5150-5850MHz:-1.76dBi≤gain≤0.37dBi	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 anechoic 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 + Agilent 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

Active test data:

Band	Channel	TRP	TIS
		11g/6M	11g/54M
2.4G	Low	5.37	-58.08
	Mid	7.56	-59.88
	High	6.7	-58.63
		11a/6M	11a/54M
5G	Low	7.4	-68.1
	Mid	5.8	-67.2
	High	7.4	-66.7

Antenna circuit matching

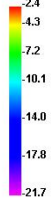
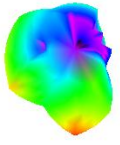


Passive test data

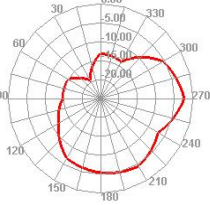
Passive Test For 2.4-2.5			Passive Test For 5100-5900					
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
2400	16.49	-2.35	5100	22.6	-0.71	5460	22.75	-0.56
2410	18.53	-1.67	5120	21.07	-1.04	5480	27.13	0.01
2420	19.87	-1	5140	18.68	-1.41	5500	21.05	-1.01
2430	16.76	-1.43	5160	22.54	-0.57	5520	21.51	-1.03
2440	15.27	-1.57	5180	20.99	-0.73	5540	21.09	-1.14
2450	13.76	-1.91	5200	19.76	-0.72	5560	18.71	-1.76
2460	16.2	-1.11	5220	26.58	0.37	5580	21.3	-1.14
2470	15.11	-1.21	5240	21.67	-0.48	5600	19.6	-1.38
2480	16.47	-0.82	5260	24.9	-0.05	5620	18.9	-1.43
2490	13.81	-1.6	5280	22.9	-0.26	5640	20.82	-1.28
2500	16.62	-0.74	5300	20.44	-0.67	5660	17.58	-1.69
			5320	24.29	-0.22	5680	19.75	-1.39
			5340	21.26	-0.78	5700	20.08	-1.18
			5360	23.53	-0.35	5720	17.99	-1.57
			5380	25.21	0.05	5740	20.92	-0.93
			5400	21.89	-0.69	5760	21.46	-0.72
			5420	26.2	0.11	5780	20.77	-0.78
			5440	23.07	-0.4	5800	24.65	-0.04

Radiation pattern

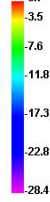
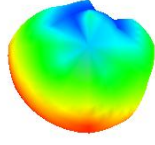
2400.000MHz



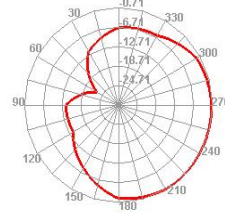
2400.000MHz H



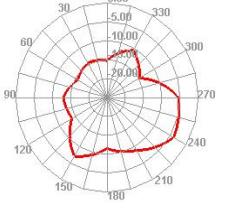
5100.000MHz



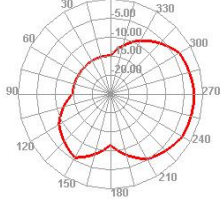
5100.000MHz H



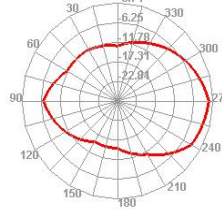
2400.000MHz E1



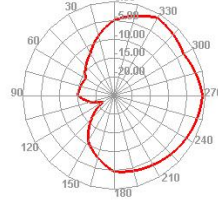
2400.000MHz E2



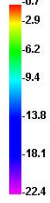
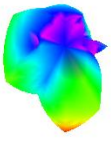
5100.000MHz E1



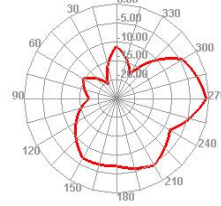
5440.000MHz H



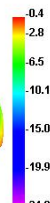
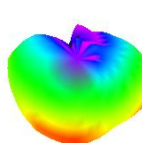
2500.000MHz



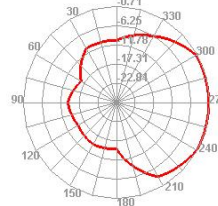
2500.000MHz H



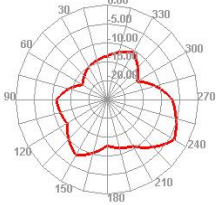
5440.000MHz



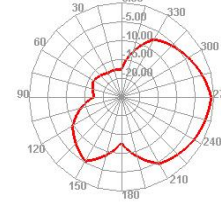
5100.000MHz E2



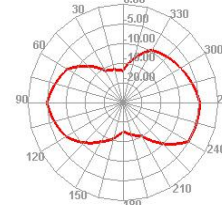
2500.000MHz E1



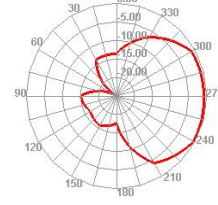
2500.000MHz E2



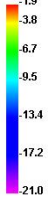
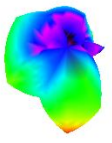
5440.000MHz E1



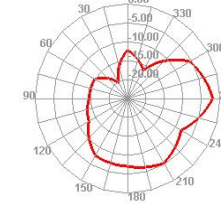
5440.000MHz E2



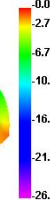
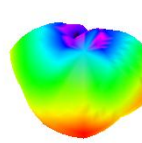
2450.000MHz



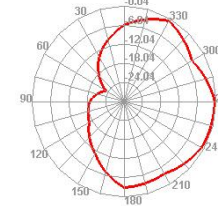
2450.000MHz H



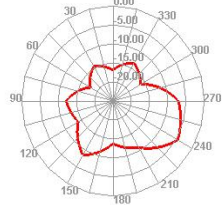
5800.000MHz



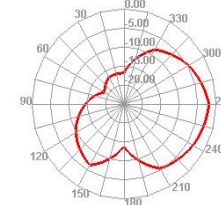
5800.000MHz H



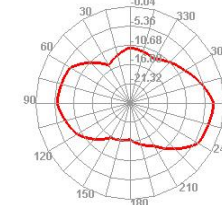
2450.000MHz E1



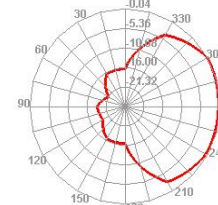
2450.000MHz E2



5800.000MHz E1

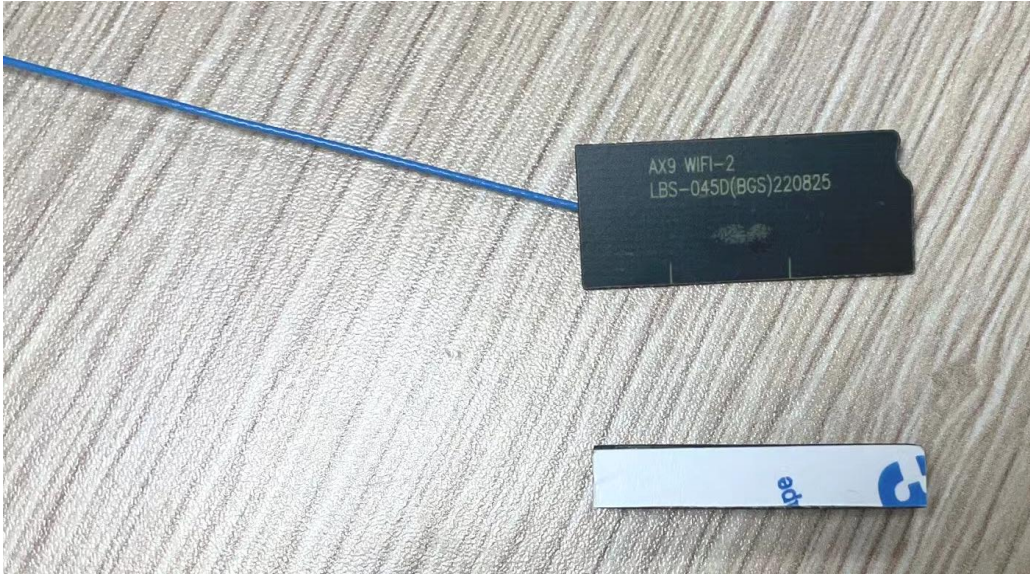


5800.000MHz E2





Sample picture:



A

A

B






B

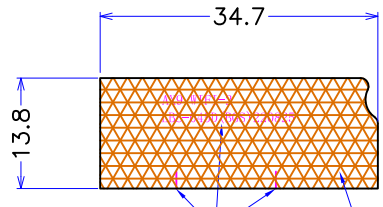
C

C

D

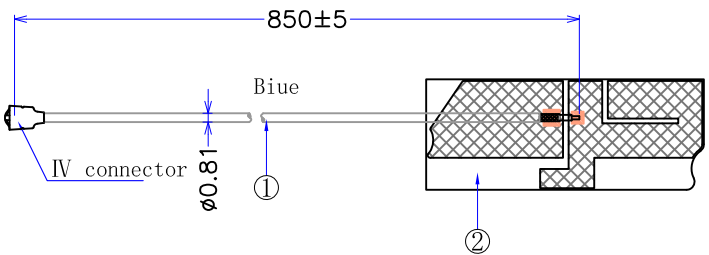
D

- Screen printing part
- Antioxidant part
- Empty membrane part
- Line section
- Part of gum

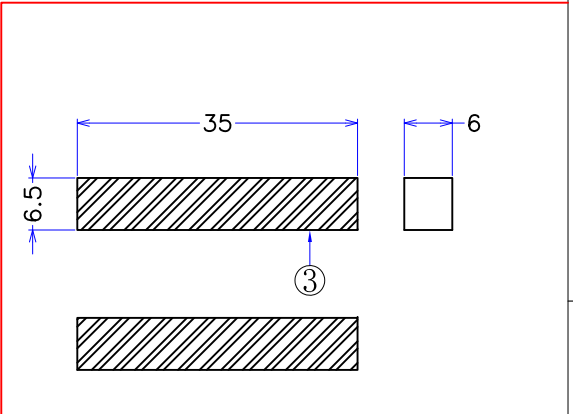


Front view



White silk screen Add 0.2mm FR4 reinforcement



Back view



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.Black sponge shipped separately, dosage 1PCS.

③	LBS-045B-12A	Black sponge	35*6.5*6 black sponge	1			 深圳市博格斯通信技术有限公司 Shenzhen Bogesi Communication Ttechnology co.,ltd			
②	LBS-045D-01A	FPC	FPC, front spray black oil, feed point antioxidant, single-sided adhesive 3M-467	1	Modify content	Modify date	Product NO.	LBS-045D	Material is qualitative	FPC+CABLE
①	LBS-045D-20L	CABLE	ODO.81mm, blue cover, peeled at one end, IV connector of terminals at one end	1	limits of tolerance;	Designer	Client NO.	AX9	Version of this	RA
NO.	PART NO.	NAME	DESCRIPTION	QT'Y	Others less than ±0.2	Auditing	Part name	Antenna components	Item no.	LBS-045
						Approve	Publish date	Nov 17, 2022		page 1/1



Antenna Package

一、Outer package: carton box

Front view:



Side view:



二、Inner package (100pcs antennas in 1 small PE bag,10pcs small PE bags in one big PE bag, the PE bag size is depend on the antenna size, the conductive fabric in the whole package)





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		AX9 WIFI-2	Model NO.		LBS-045D			Declaration Date		2022/11/24
Company Name		Shenzhen Bogesi Communication Technology Co., Ltd		Contact person		Xuebing Zhou		Phone NO.		0755-86083452
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	Antenna radiation unit	Flexible Copper Clad Laminate	ND	ND	ND	ND	ND	ND	SHAEC2202460504	2022/2/21
2		Printing inks	ND	ND	ND	ND	ND	ND	ETR22705905	2022/8/5
3		3M	ND	ND	ND	ND	ND	ND	CHNEC2200386501	2022/1/12
4	wire	Silver coated Copper	ND	ND	ND	ND	ND	ND	SHAEC2127051115	2021/12/16
5		Tinned copper	ND	ND	ND	ND	ND	ND	A2220186128101ER1	2022/5/17
6		Insulation	ND	ND	ND	ND	ND	ND	NGBML2200124301	2022/1/27
7	Connector	Gold plating	ND	ND	ND	ND	ND	ND	A2220404860101001C	2022/9/17
8		PBT	ND	ND	ND	ND	ND	ND	NGBEC22001678607	2022/6/7
9		Copper plate	ND	5	ND	ND	ND	ND	CANEC2201952007	2022/2/18

Made by: JINGHUA LIANG

Reviewed by

DELIU LIANG

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