客户 Customer: 日期 DATE:

纳入仕样书
SPECIFICATION

产 品 名 称 PRODUCT NAME: 声表双工器

SAW Duplexer

贵 司 料 号 YOUR PART NO.:	
敝 司 料 号 OUR PART NO.:	MS16U836M-DU05C
版 本 号 VERSION.:	V1.2

接受 RECEPTION THE SPECIFICATION HAS BEEN ACCEPTED. 该纳入仕样书已被我司接受 日期： DATE： 公司： COMPANY：		
批准 CFMD	审核 CHKD	接收 RCVD

深圳市麦捷微电子科技股份有限公司
SHENZHEN MICROGATE TECHNOLOGY CO.，LTD
TEL：86-755-28085000
FAX：86-755-28085605

CFMD. 批准	CHKD. 审核	DSGD. 担当
赵拥军	赖定权	赵新佳

纳入仕样书改定履历

MODIFY HISTORY OF SPECIFICATION

NO.	修改日期/DATE	修改内容/CONTENT	批准/APPROVED
1.0	2022.02.28	初稿 /New Released	赵拥军
1.1	2022.06.17	版本升级/Version Upgrade	赵拥军
1.2	2022.09.03	版本升级/Version Upgrade	赵拥军

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1 适用范围 Scope

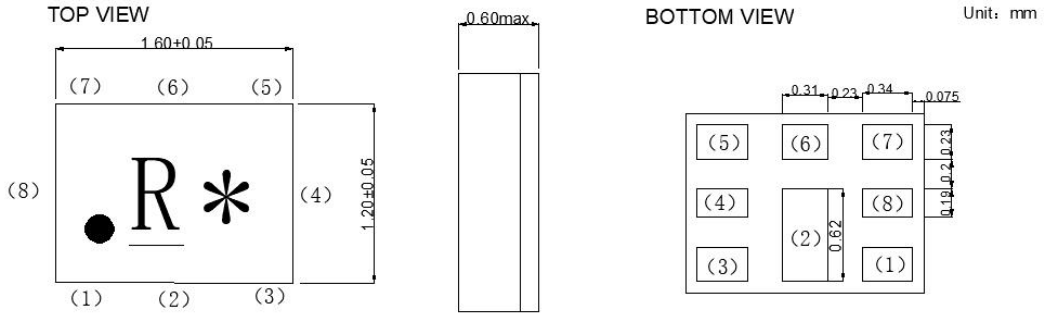
麦捷声表滤波器系列产品设计用于 WIFI、GPS、移动电话和无绳电话机等相关市场中。
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

2 品名构成 Product Identification

MS	16	U	836M	–	DU	05	C
①	②	③	④		⑤	⑥	⑦

① 麦捷声表滤波器/Microgate SAW
② 尺寸/Size：16 (18-1814, 16-1612,15-1511,14-1411, 11-1109)
③ 输出/Output：(B-Balance out, U-Unbalance out)
④ 频率/Frequency：（836M-836MHz)
⑤ 型号/Type：(QP-QPX,DU-Duplexer, DI-Diplexer, Tx-Tx SAW, Rx-Rx SAW)
⑥ 频段/Band：05-Band5
⑦ 流水号/Serial number

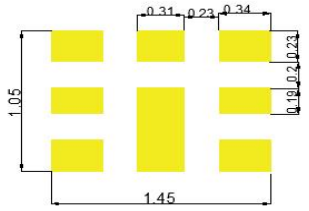
3 尺寸和管脚定义 Dimensions and PIN Configurations



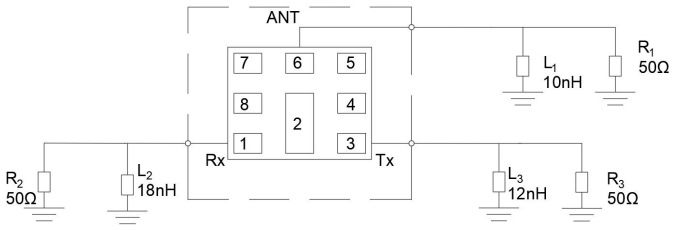
PIN NO.	（1）	（2）	（3）	（4）	（5）	（6）	（7）	（8）
PIN Name	Rx	GND	Tx	GND	GND	ANT	GND	GND

4 推荐焊盘与测试电路 Recommended Land Pattern and Test Circuit

Land Pattern
Unit:mm



Test Circuit
Top View



5 电气性能 Electrical Characteristics

操作温度范围 Operating Temperature Range : -20 to +85℃

保存温度范围 Storage Temperature Range : -40 to +85℃

测试温度范围 Test Temperature：25℃±2℃

湿度敏感等级 Moisture Sensitivity Level: MSL 2a

静电敏感等级 Electrostatic Discharge(ESD) Sensitivity: 250V (Human Body Model)

端口电压 D.C. Volatage between the terminals: 3V (25℃±2℃)

Table1. Electrical Specification

No.	Item		Frequency (MHz)	Specification			
				Min	Typ.	Max	Unit
1	Tx to ANT	Insertion Loss	824~849		1.6	2.2	dB
2		Ripple Deviation	824~849		0.6	1.3	dB
3		Absolute Attenuation	10~420	35	40		dB
4			420~494	30	35		dB
5			494~701	22	27		dB
6			699~716	22	27		dB
7			701~728	22	27		dB
8			728~764	22	27		dB
9			764~804	24	29		dB
10			869~894	43	48		dB
11			1559~1563	33	38		dB
12			1565~1585	34	39		dB
13			1597~1605	34	39		dB
14			1638~1708	35	40		dB
15			1710~1785	36	41		dB
16			1844~1879	35	40		dB
17			1884~1919	34	39		dB
18			1920~1980	33	38		dB
19			2110~2170	29	34		dB
20			2400~2494	25	30		dB
21			2472~2547	25	30		dB
22			3286~3406	17	23		dB
23			3300~3800	14	20		dB
24			3300~4200	13	18		dB
25			4110~4255	13	18		dB
26			4400~5000	11	16		dB
27			4900~5950	10	16		dB
28		VSWR（ANT）	824~849		1.5	2.0	
29		VSWR（Tx）	824~849		1.5	2.0	
30	Input Signal Level		+30 dBm, Continuous wave for 3000h(55℃)				

Table2. Electrical Specification

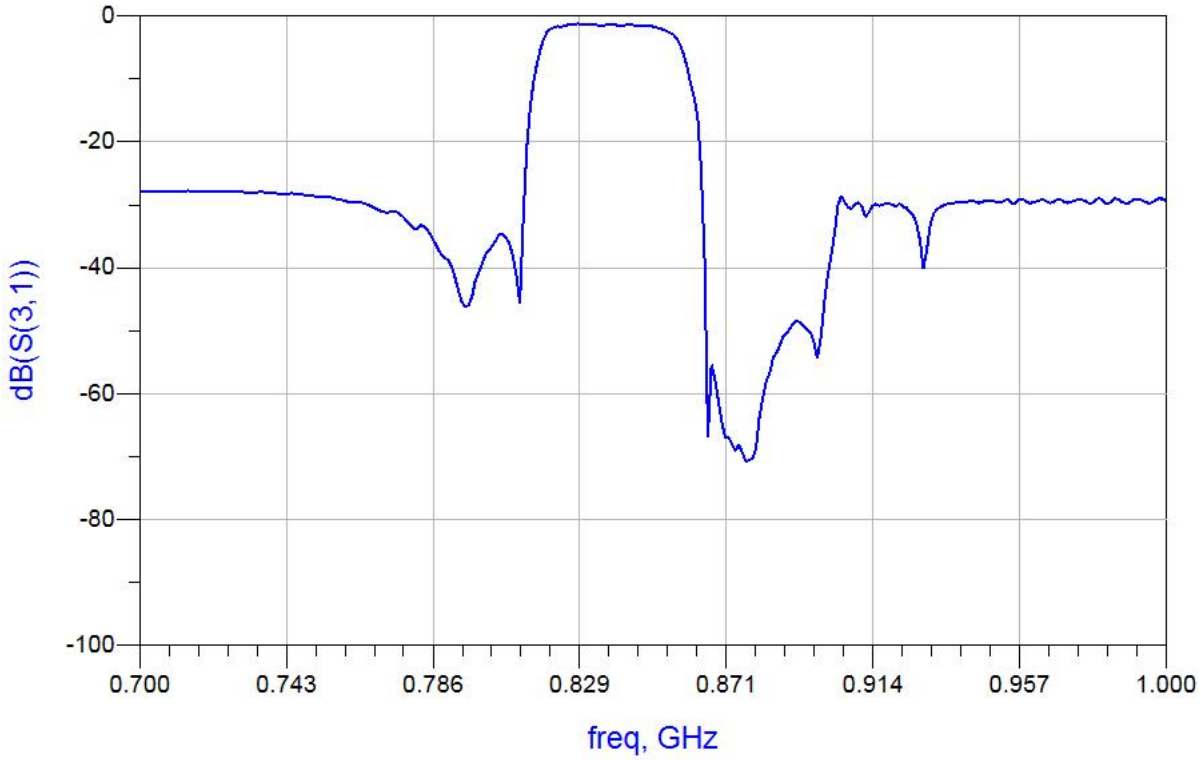
No.	Item		Frequency (MHz)	Specification			
				Min	Typ.	Max	Unit
1	ANT to Rx	Insertion Loss	869~894		2.4	2.7	dB
2		Ripple Deviation	869~894		0.6	1.3	dB
3		Absolute Attenuation	10~447	55	60		dB
4			447~824	50	55		dB
5			779~804	51	57		dB
6			824~849	50	56		dB
7			849~854	38	45		dB
8			920~979	14	19		dB
9			1693~1743	51	57		dB
10			1710~1785	52	58		dB
11			1850~1920	50	57		dB
12			1920~1980	50	57		dB
13			1980~2400	50	56		dB
14			2400~2500	47	57		dB
15			2467~2494	50	58		dB
16			2517~2592	48	56		dB
17			2607~2682	48	56		dB
18			3300~3800	44	52		dB
19			3476~3576	45	51		dB
20			3300~4200	39	47		dB
21			4345~4470	35	42		dB
22			4400~5000	30	38		dB
23			4900~5950	19	27		dB
24		VSWR（ANT）	869~894		1.7	2.1	
25		VSWR（Rx）	869~894		1.8	2.1	

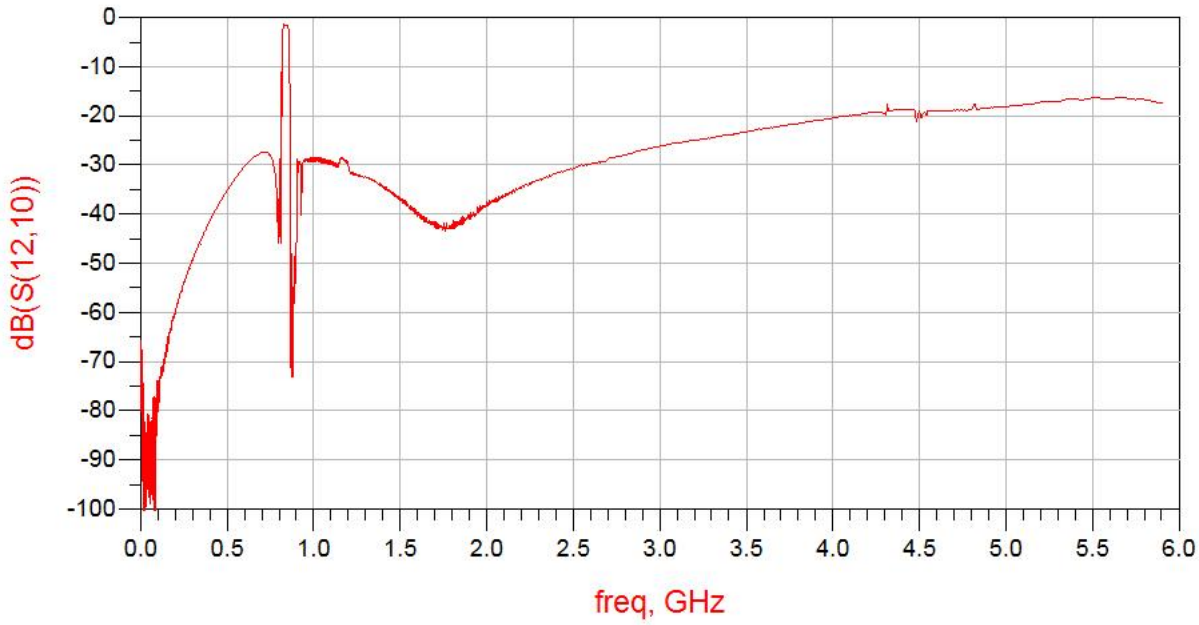
Table3. Electrical Specification

No.	Item		Frequency	Specification			
			(MHz)	Min	Typ.	Max	Unit
1	Tx to Rx	Isolation	824~849	52	55		dB
2			869~894	50	53		dB

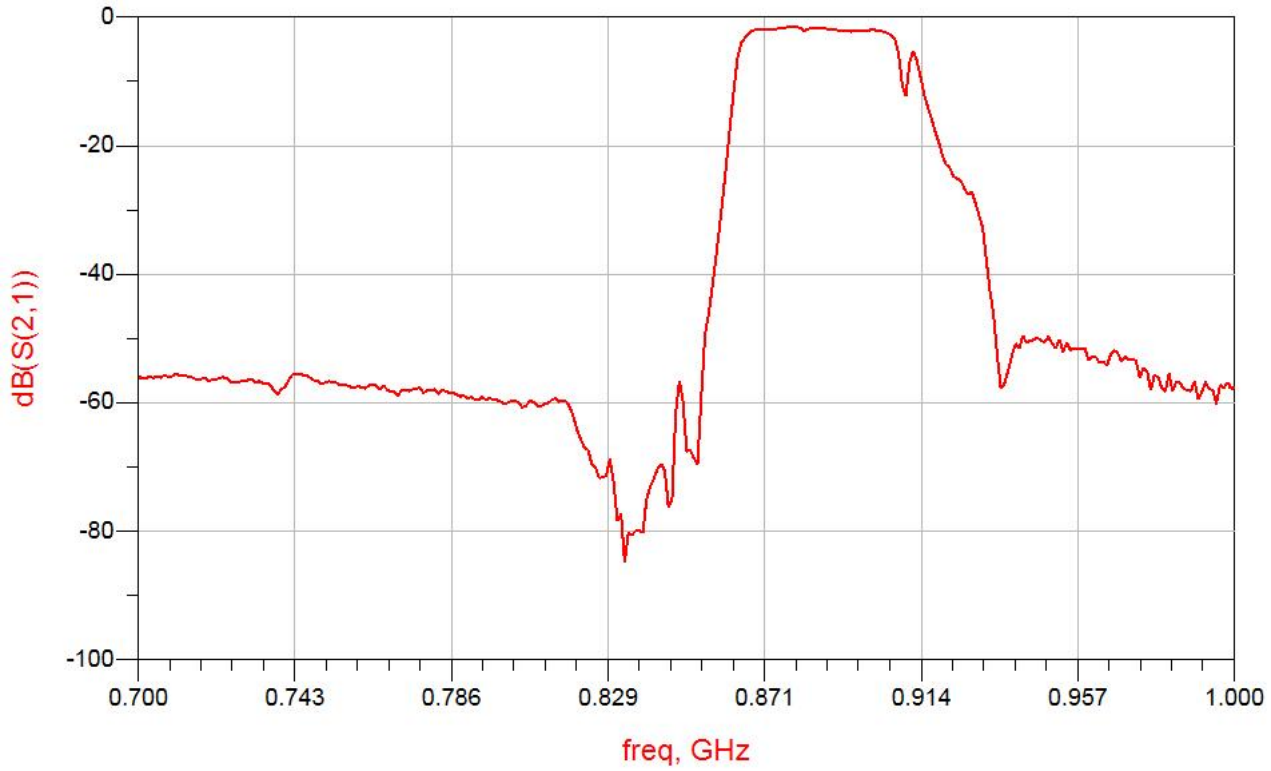
Frequency Performance

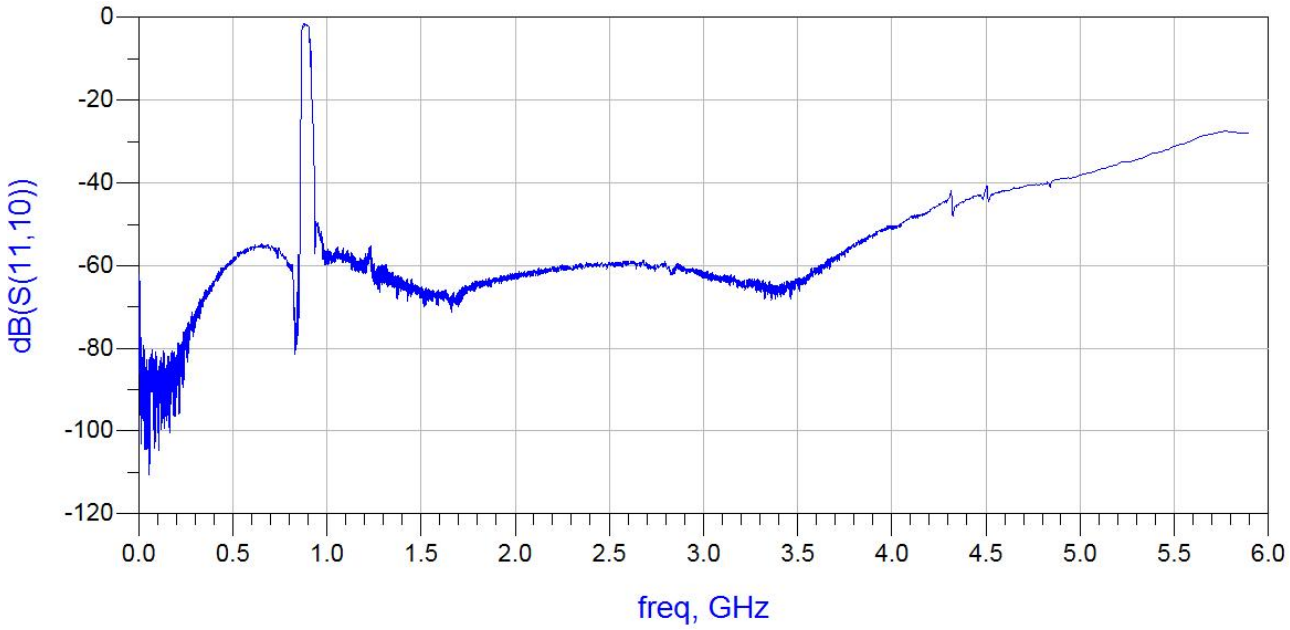
Tx to ANT



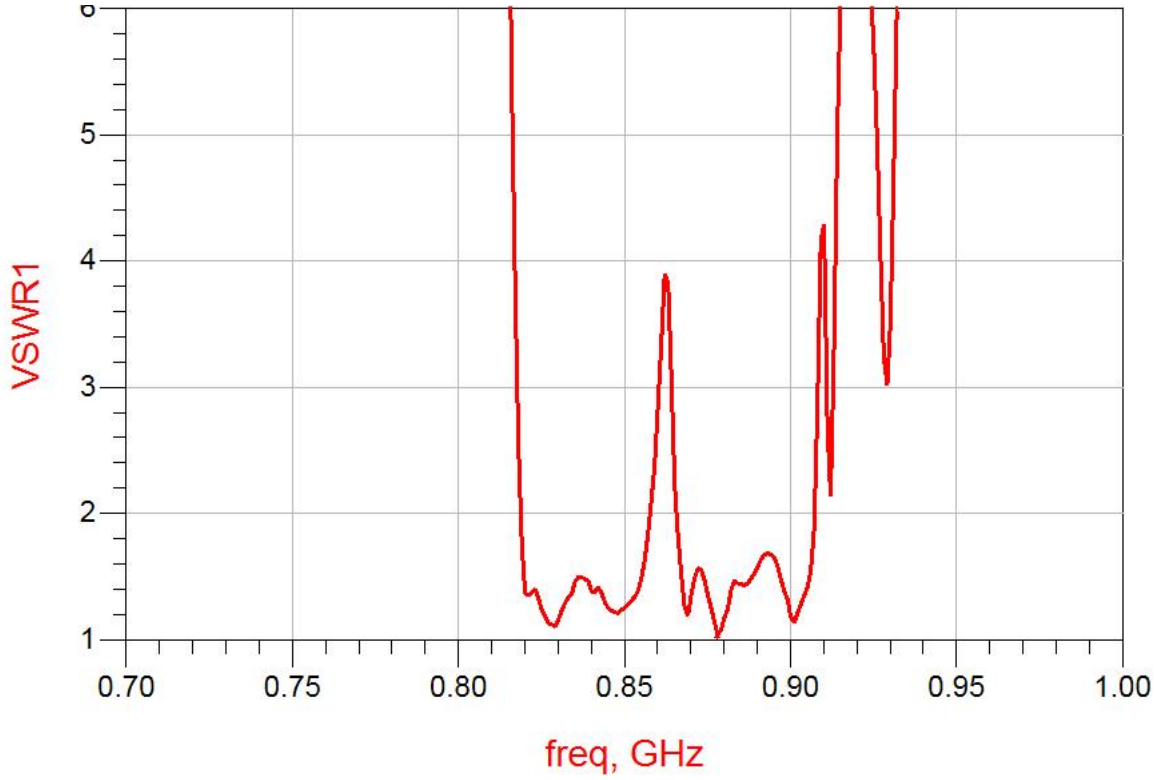


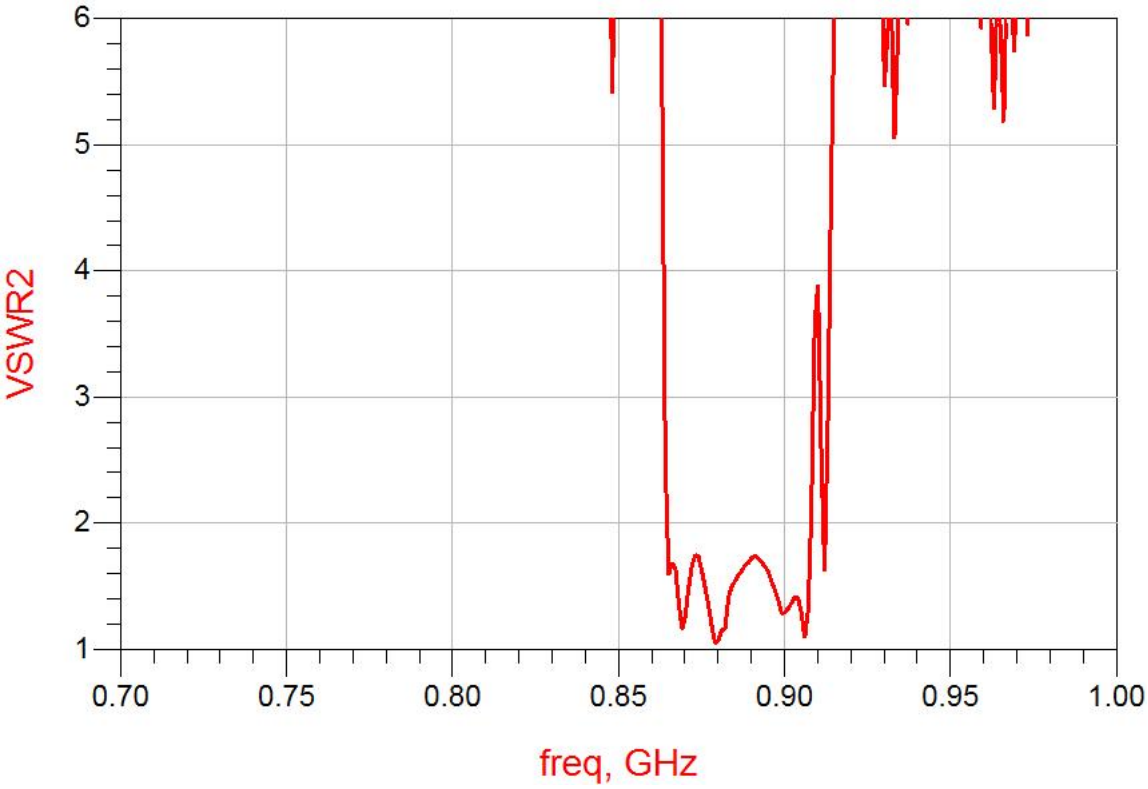
ANT to Rx

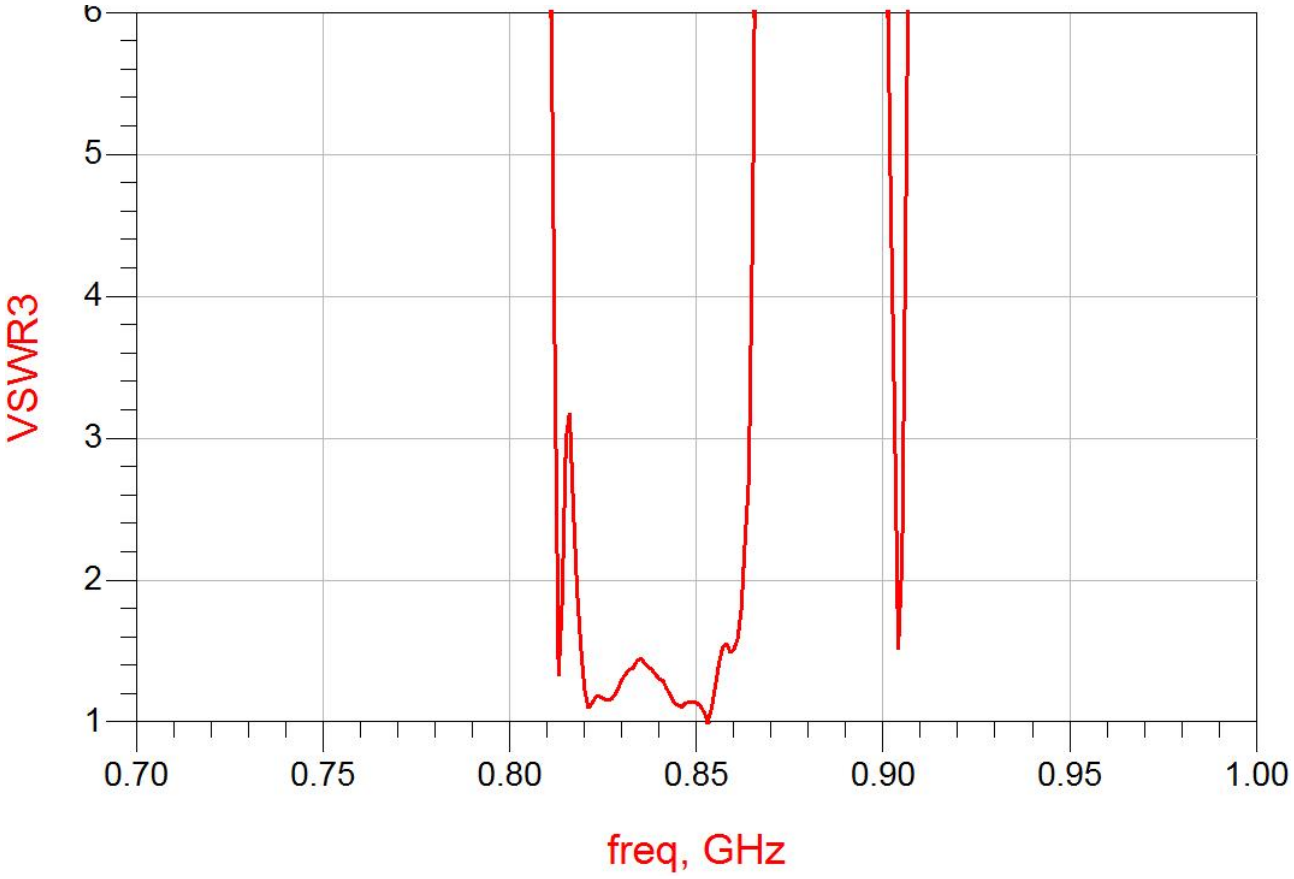

0
-20
-40
-60
-80
-100
dB(S(2,1))
0.700
0.743
0.786
0.829
0.871
0.914
0.957
1.000
freq, GHz


0
-20
-40
-60
-80
-100
-120
dB(S(11,10))
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
freq, GHz

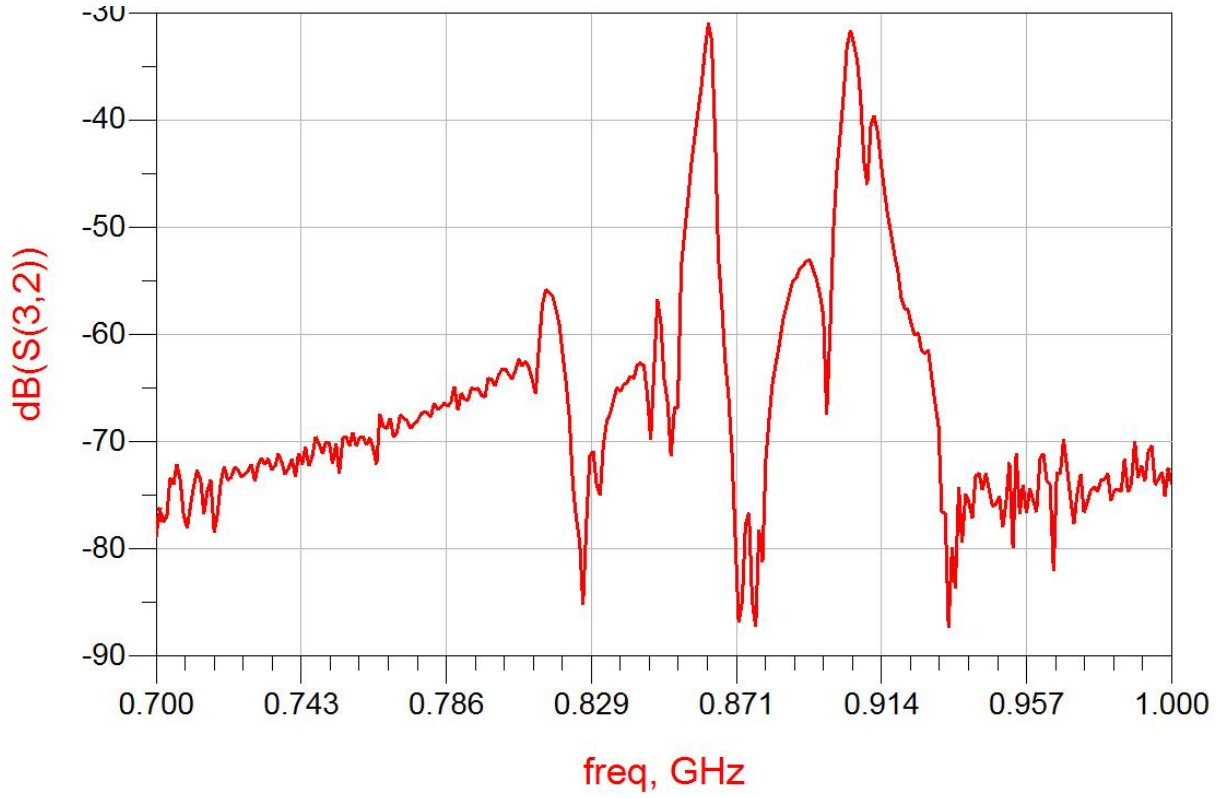
VSWR


VSWR1
6
5
4
3
2
1
0.70
0.75
0.80
0.85
0.90
0.95
1.00
freq, GHz


VSWR2
6
5
4
3
2
1
0.70
0.75
0.80
0.85
0.90
0.95
1.00
freq, GHz

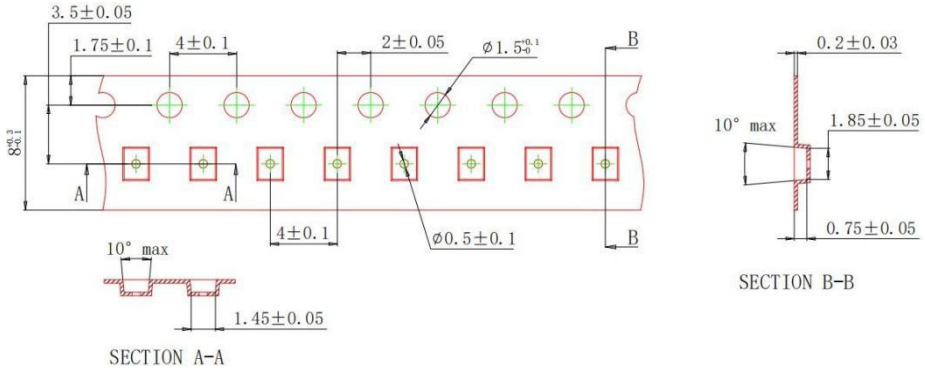


Isolation Tx to Rx



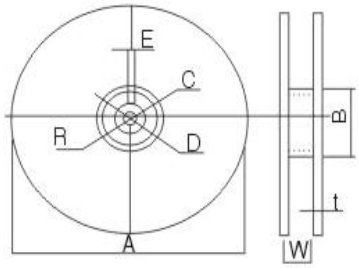
6 包装 Packaging

① 编带尺寸 Dimensions of Tape:



② 带轮尺寸 Dimensions of Reel

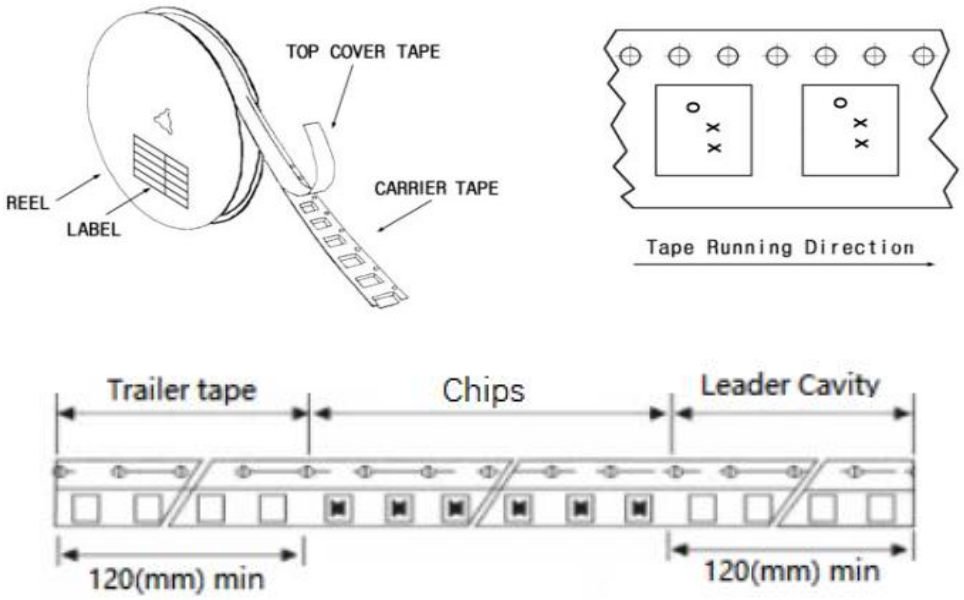
Unit: mm



Reel material: PS (Polystyrene)

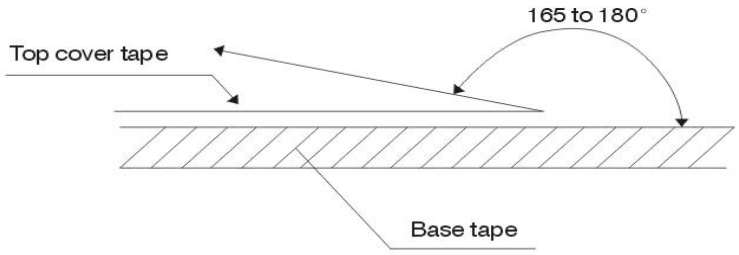
A	178±2
B	60±2
C	13.0±0.5
D	21.0±0.8
E	2.0±0.5
W	8.5±1.0
t	1.2±0.2
R	1.0±0.25

③ 编带简图及拉伸方向 Taping figure and drawing direction:



④ 盖带的剥离强度 Peeling strength of cover tape:

盖带 Cover tape	0.1~1.0N (10gf~100gf)



测试条件 Test condition:

1) 剥离角度 peel angle: 165°~180° vs. carrier tape.
2) 剥离速度 peel speed: 300mm/min±10%.

⑤ 包装数量 Packaging quantities: 3000 PCS / Reel

7 装箱清单及标志 Packing documents and marking

① 包装文件 Packing documents

a.装箱清单 Packing list.

b.合格证书 Certificate of compliance.

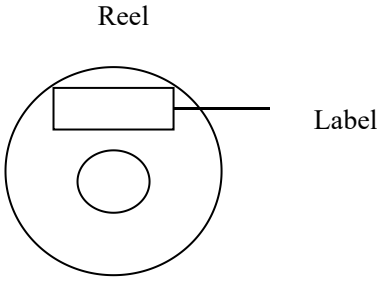
② 盘上标记 Marking on reels:

a. 麦捷料号 MICROGATE Part No.

b. 生产批号 Lot number

c. 盘装数量 Quantity per reel

d. 检验员号 Inspector No.



以上内容必须在标签上注明.All above shall be shown on marking label

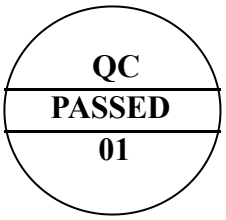
麦捷公司标签如下所示：MICROGATE marking label will be as following:

MICROGATE

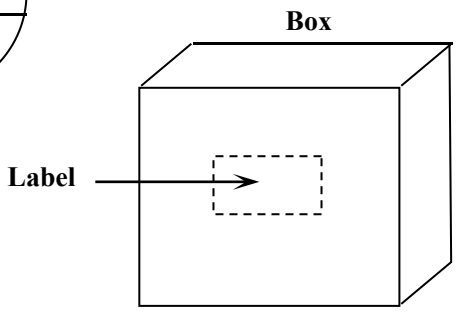
CUSTOMER:	P. O. NO	
CUSTOMER PART NO:	DATE CODE	LOT NO
MG PART NO:	QUANTITY	INSP. NO

MG PART NO

检验合格后，检验员在标签上盖上合格章。合格章如下所示：The eligible reels will be pressed a mark onto the surface. The mark will be as following:



③ 内包装盒标记:Marking on inner box



a.型号 MICROGATE part No.

b.每盒数量 Quantity per box

c. 包装日期 Date

以上内容必须在标签上注明（标签见 7.2 所示）。Above shall be shown on marking label (The marking label is shown in item 7.2).

④ 外包装箱标记 Marking on outer case:

1) 制造商 Manufacturer: “MICROGATE” ①

“中国深圳制造” “Made in Shenzhen CHINA”②

2) 发运标记 Ship marking:

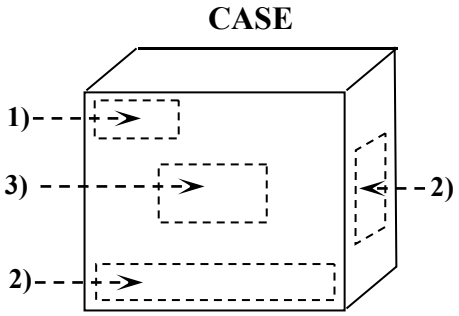
“向上” “UP”, “小心轻放”“HAND CARE”, “防潮”“MOISTURE-PROOF”.

3) 包装标签包括以下内容 Packing label include the following:

a.型号 MICROGATE Part No

b.总数量 Total quantity per case

c.包装日期 Date;



以上内容必须在标签上注明。(参见 7.2 所示)

All above shall be shown on marking label. (The marking label is shown in item 7.2)

8 保管 Storage

保存条件 Storage conditions

●存放货物的库房应满足以下条件 Products should be storage in the warehouse on the following conditions

温度 Temperature: ≤40℃

湿度 Humidity : ≤70% relative humidity

不允许温、湿度有极剧变化。No rapid change on temperature and humidity

●禁止将产品保管在腐蚀性物质中，例如硫磺、氯气或者酸，否则将引起端头氧化，导致降低焊接性。Don't keep products in corrosive gases such as sulfur, chlorine gas or acid, or it may cause oxidization of electrode, resulting in poor solder ability.

●为了避免受潮气、灰尘等物质的影响，产品应保管于货架上。Products should be storage on the palette for the prevention of the influence from humidity, dust and so on.

●产品保管在库房中时，应避免热冲击，振动以及直接光照等等。Products should be storage in the warehouse without heat shock, vibration, and direct sunlight and so on.

●产品应密封包装 Products should be storage under the airtight packaged condition.