

产品规格书

SPECIFICATION

CUSTOMER 客户: _____

PRODUCT 产品: _____ SAW TC DUPLEXER _____

MODEL NO 型号: _____ KH-SAWD8994A _____

MARKING 印字: _____ ● 3 K _____

PREPARED 编制: _____ CHECKED 审核: _____

APPROVED 批准: _____ DATE 日期: _____ 2020-6-9 _____

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

深圳市金航标电子有限公司
SHENZHEN KINGHELM ELECTRONCO., LTD.

更改历史记录
History Record

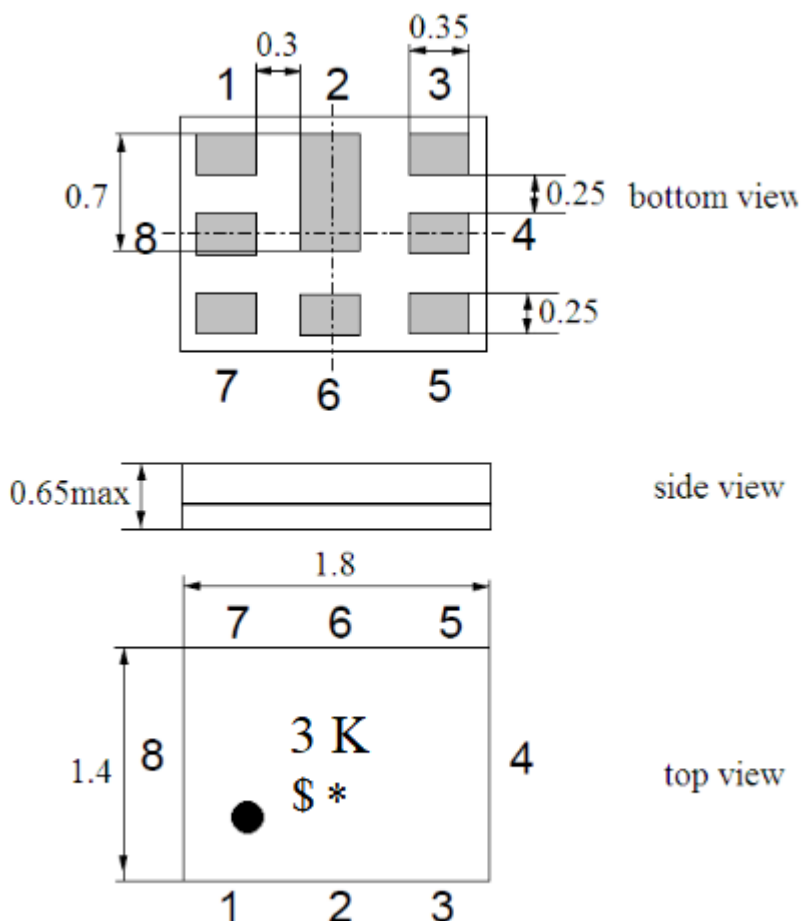
更改日期 Date	规格书编号 Spec. No.	产品型号 Part No.	客户产品型号 Customer No.	更改内容描述 Modify Content	备注 Remark
2020-6-9	SP01	KH- SAWD8994A		TC, High power, High Isolation.	

SAW DUPLEXER **KH-SAWD8994A**

1. Application

- Low-loss Saw duplexer for mobile telephone LTE and WCDMA Band8 systems.
- Low insertion attenuation and low passband ripple.
- Usable passband 35MHz
- High isolation between Tx and Rx.
- RoHS compatible

2. DIMENSION (PKG SIZE 1.8 x 1.4 x 0.65mm)



Pin configuration

- 3. Tx Input
- 6. Antenna
- 1. Rx Output
- 2,4,5,7,8 To be grounded

Marking: Laser Printing

\$: EIAJ Code

(Refer to the table 1)

*: Date Code

(Refer to the table 2)

Table 1 \$: EIAJ Code

This rule of code is applied repeatedly every four year.

2019 2023 2027	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2020 2024 2028	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2021 2025 2029	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c	d	e	f	g	h	j	k	l	m
2022 2026 2030	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	n	o	p	q	r	s	t	u	v	w	x	y

Table 2 *: Date Code

date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
code	A	B	C	D	E	F	G	H	J	K	
date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
code	L	M	N	P	Q	R	S	T	U	V	
date	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	X	Y	Z	a	b	c̄	d	e	f	g

3. Maximum Rating

Items	Conditions
Operation temperature rang	-30°C ~ +85°C
Storage temperature rang	-40°C ~ +85°C
ESD voltage	ESD(MM) : 50VDC
Sensitive discharge device	ESD(HBM) : 175VDC
DC Voltage VDC	3V (25+/-2 deg.C)
Moisture Sensivity Level	MSL 2

4. ELECTRICAL SPECIFICATION

Table1. Electrical Specification

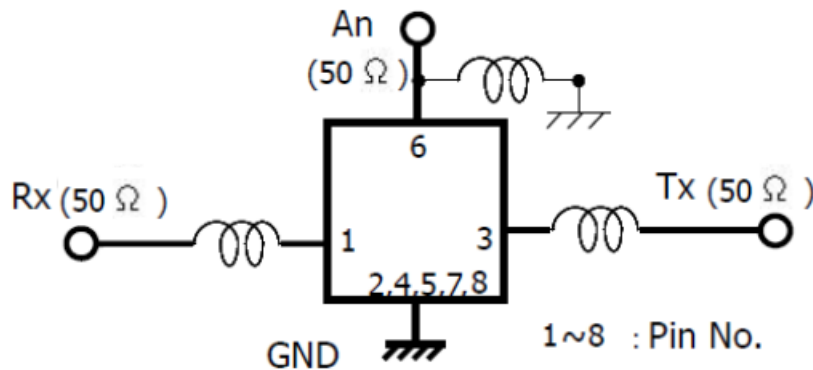
Item		Condition (MHz)	Specification			Unit	
			Min	Typ	Max		
TX to ANT	Insertion loss	880~915		1.7	2.5	dB	
	Amplitude ripple	880~915		0.7	2.0	dB	
	VSWR	ANT	880~915	-	1.5	2.1	-
			Tx	-	1.5	2.1	-
	Input Power	880~915	+30dBm Ta=+50°C 5000h,CW			-	
Absolute attenuation		10~862	30	35	-	dB	
		925~960	45	55	-	dB	
		1559~1605	38	43	-	dB	
		1710~1785	42	47	-	dB	
		1760~2025	45	50	-	dB	
		2110~2200	45	54	-	dB	
		2400~2500	45	53	-	dB	
		2496~2690	45	58	-	dB	
		3300~4200	40	50	-	dB	
		4400~5000	40	50	-	dB	
	5150~5950	40	46	-	dB		

Item		Condition (MHz)	Specification			Unit	
			Min	Typ	Max		
ANT to RX	Insertion loss	925~960	-	2.0	2.6	dB	
	Pass band ripple	925~960	-	1.0	2.0	dB	
	VSWR	ANT	925~960	-	1.7	2.2	-
		Rx		-	1.7	2.2	-
	Absolute attenuation	10~870	48	55	-	dB	
		880~915	50	56	-	dB	
		1427.9~1447.9	50	60	-	dB	
		1710~1785	50	58	-	dB	
		1920~1980	50	55	-	dB	
		2300~2400	40	52	-	dB	
		2400~2500	40	52	-	dB	
		2496~2690	40	52	-	dB	
		3300~4200	40	50	-	dB	
4400~5000		40	50	-	dB		
5150~5950	40	50	-	dB			

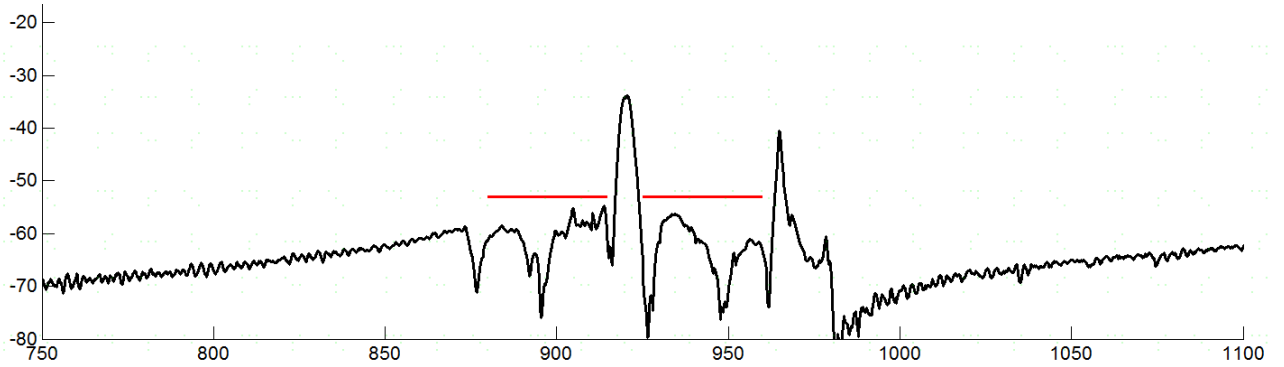
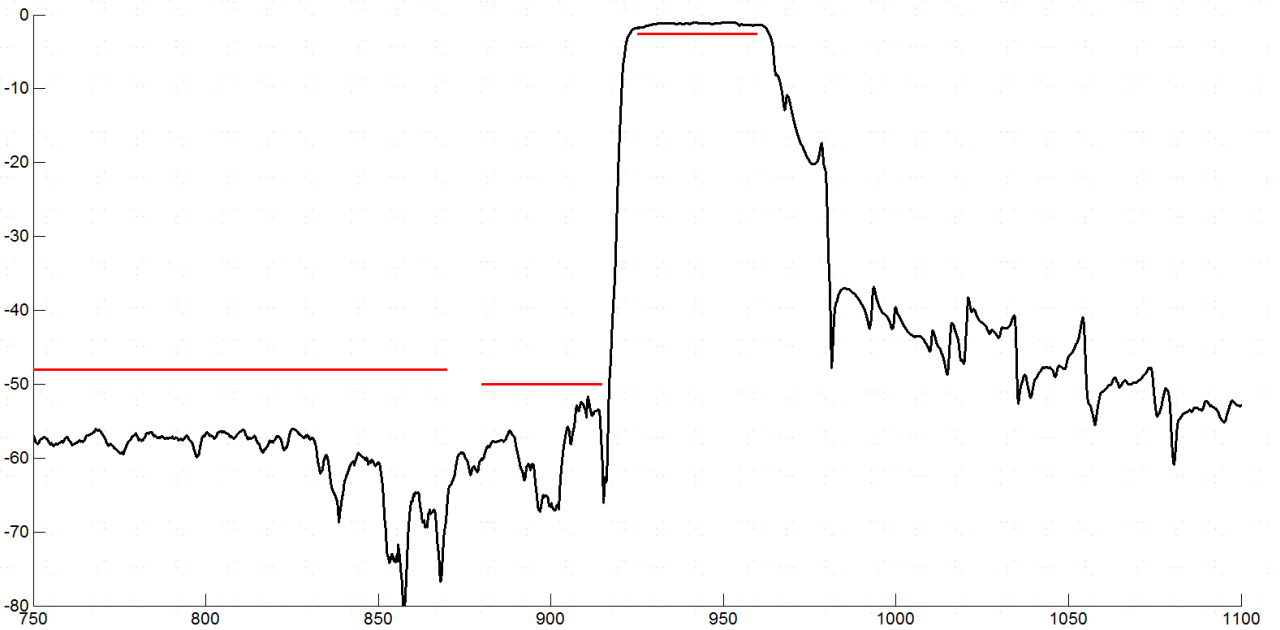
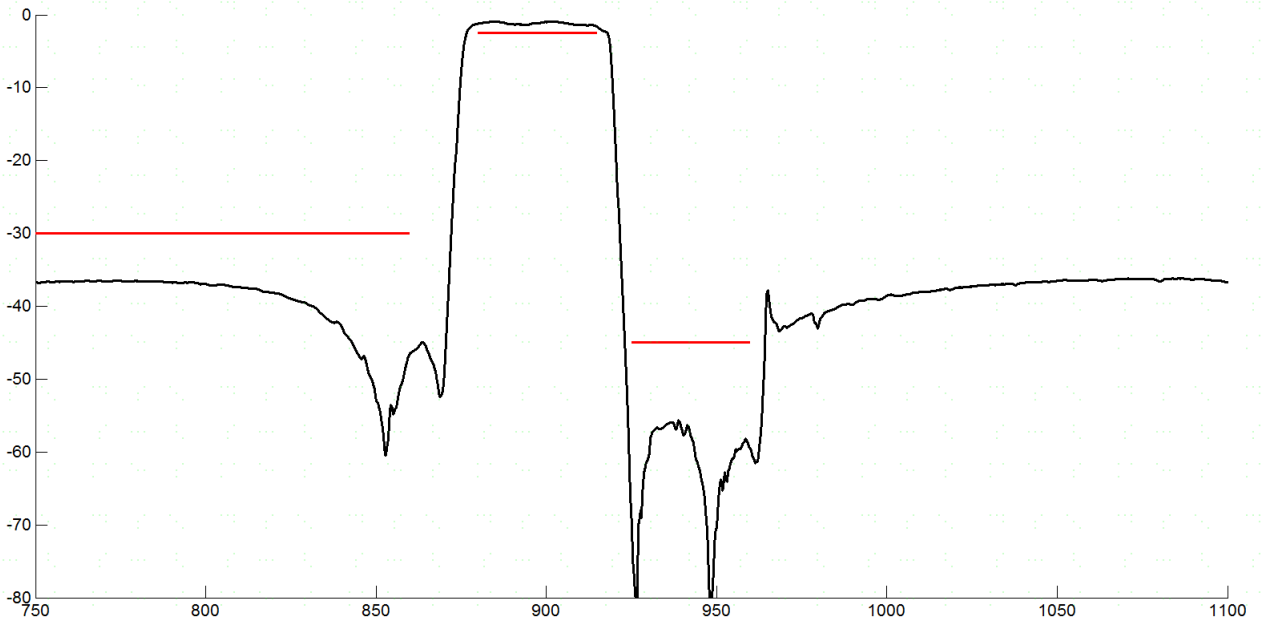
Table2. Electrical Specification

Item		Condition (MHz)	Specification			Unit
			Min	Typ	Max	
TX to RX	Isolation	880~915	53	58	-	dB
		925~960	53	58	-	dB

5. TEST CIRCUIT



6. Typical frequency response



7. Reliability test item & condition

Category	Reliability test items	Test condition	Qty	Description	
Environment Test	1	Low temperature storage	-40±5℃ 240h	23	JESD22-A119
	2	High temperature storage	125±5℃ 240h	23	JESD22-A103E
	3	High temperature humidity	85℃ 85%RH, 240h	23	JESD22-A106B
	4	Thermal Shock	-40 /30min~ +85 °C/30 min 100 cycle	23	JESD22-A106A
Mechanical Test	5	Drop Test	152mm 12times Steel floor JIG(110g~150g)	23	IEC 1178-1.4.8.9
	6	Vibration	10~55Hz, amplitude 1.5mm Sweep time:1min, X.Y.Z direction, 2h/direction	23	IEC 1178-1.4.8.7
Physical Test	7	Soldering heat resistance	Reflow with 260±5℃, 10±1s (Solder Pot)	23	JIS C 5201 4.18
	8	Solderability test	235±5℃ 3 sec. (Solder Pot)	50	JIS C 5201 4.17
	9	Board adhesion	0.5mm/sec 1point push	11	IEC 68-2-21 Ue3
	10	Leak Hunting	125℃ Fluorocarbon oil leak Hunting (30±1)s	20	MIL-STD-883E 1014.9

8. REMARK

8.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

8.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

8.3 Soldering

Only pad component may be solded. Please avoid soldering another part of component.

9. Packing

9.1 Dimensions

(1) Carrier Tape: Figure 1

(2) Reel: Figure 2

(3) The product shall be packed properly not to be damaged during transportation and storage.

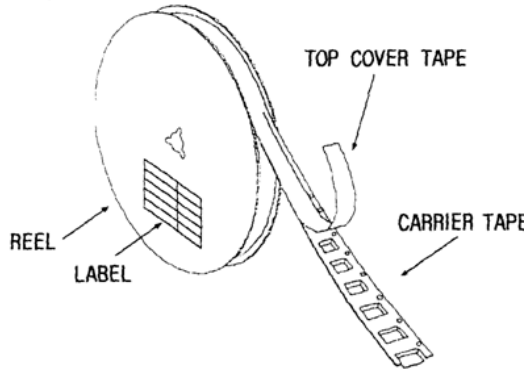
9.2 Reeling Quantity

10000 pcs/reel ϕ 257.5mm

SAW DUPLEXER **KH-SAWD8994A**

9.3 Taping Structure

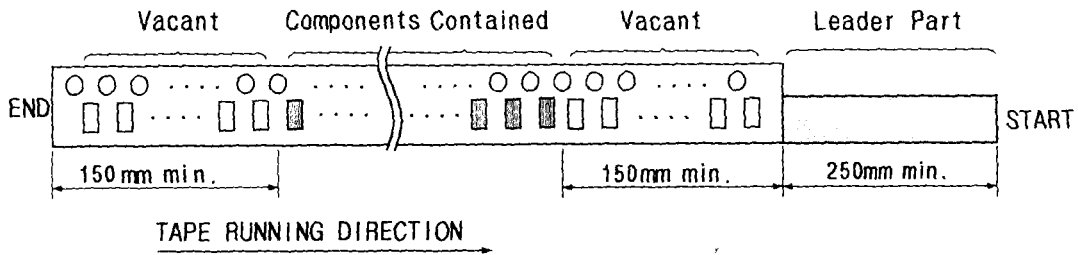
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

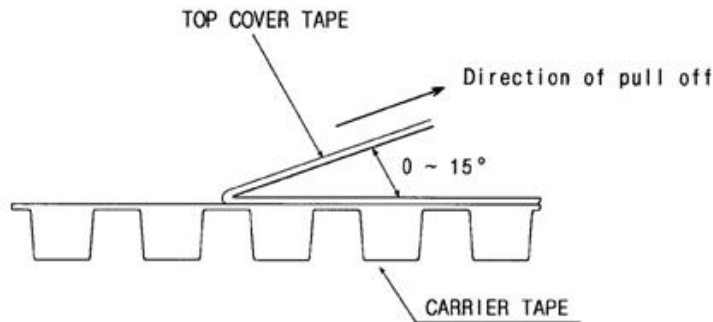


10. TAPE SPECIFICATIONS

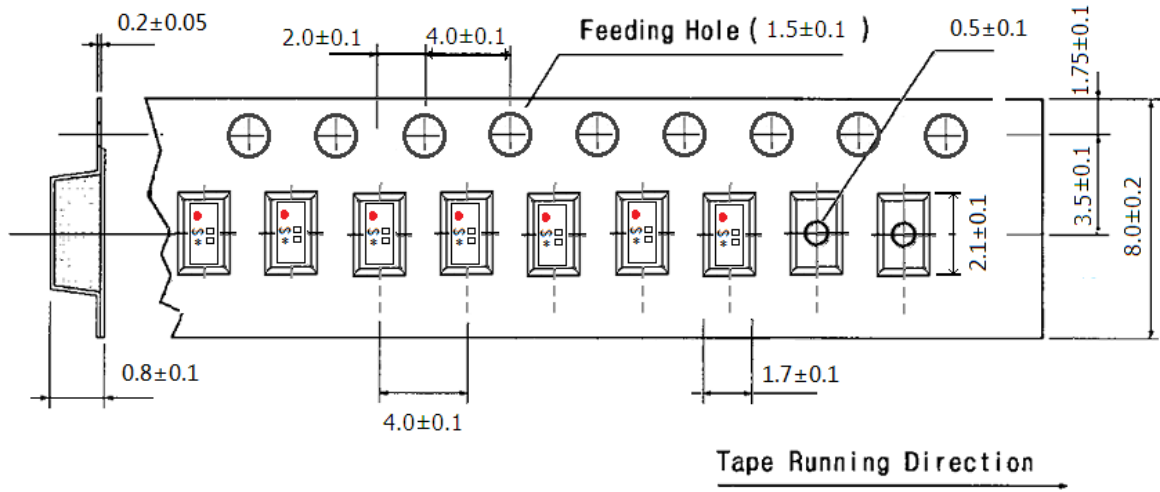
10.1 Tensile Strength of Carrier Tape: 4.4N/mm width

10.2 Top Cover Tape Adhesion (See the below figure)

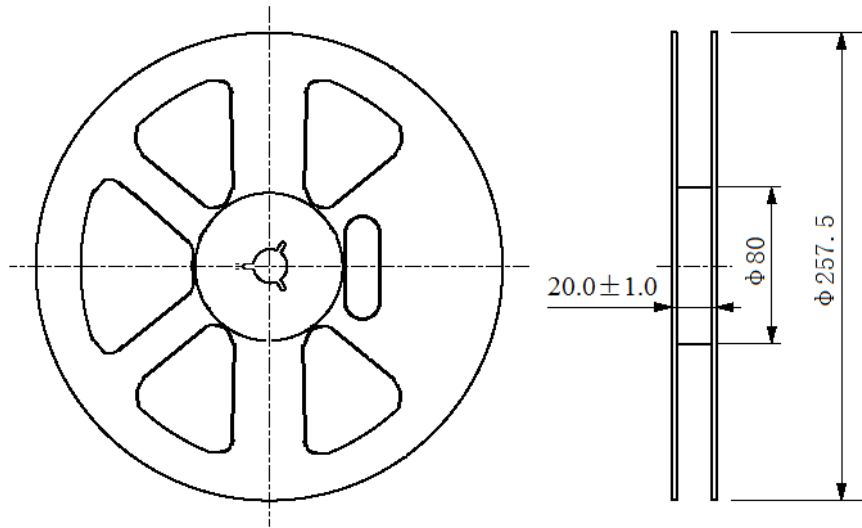
- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g



[Figure 1] Carrier Tape Dimensions



[Figure 2] 10000 pcs/reel $\phi 257.5\text{mm}$



$\phi 257.5$ Reel Dimension

(in mm)