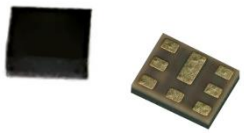
Data Sheet for

SAW Components



Band8

Duplexer

Product ID: RAD0943B0Q

Date: Dec. 29, 2020

Revision: 2.0

Features

- Package Size : 1.8 x 1.4 x 0.5max mm
- Single-Ended Input and Output
- Terminating Impedance : 50 Ω
- Moisture Sensitivity Level 3
- ESD Sensitive Device
- TC-SAW
- Low Insertion Loss

Electrical Specifications Band8 Duplexer

Temperature Range for Specification: -30 to +85 °C

Tx to Ant					Min.	Typ.	Max.	Unit
Insertion Loss								
880.25	-	914.75	MHz		-	1.6	2.7	dB
Pass Band Ripple								
880	-	915	MHz		-	1.0	2.6	dB
VSWR Tx								
880	-	915	MHz		-	1.6	2.0	-
VSWR Ant								
880	-	915	MHz		-	1.6	2.0	-
Absolute Attenuation								
10	-	716	MHz		30	37	-	dB
716	-	728	MHz		30	37	-	dB
728	-	793	MHz		30	36	-	dB
832	-	862	MHz		30	41	-	dB
925.25	-	959.75	MHz		45	58	-	dB
1559	-	1563	MHz		33	44	-	dB
1565.42	-	1573.37	MHz		33	44	-	dB
1573.37	-	1577.47	MHz		33	44	-	dB
1577.47	-	1585.42	MHz		33	44	-	dB
1597.55	-	1605.89	MHz		33	45	-	dB
1710	-	1785	MHz		30	49	-	dB
1760	-	1840	MHz		40	50	-	dB
1840	-	1880	MHz		38	52	-	dB
1920	-	1980	MHz		30	48	-	dB
2110	-	2170	MHz		30	45		dB
2400	-	2500	MHz		30	39	-	dB
2434	-	2494	MHz		30	39	-	dB
2620	-	2745	MHz		30	34	-	dB
3520	-	3660	MHz		10	28	-	dB
4400	-	4575	MHz		5	21	-	dB
4900	-	5950	MHz		2	15	-	dB
6160	-	6405	MHz		2	14	-	dB
7040	-	7320	MHz		5	20		dB

	7920	-	8235	MHz	2	26	-	dB

Electrical Specifications Band8 Duplexer

Temperature Range for Specification: -30 to +85 °C

Ant to Rx					Min.	Typ.	Max.	Unit
Insertion Loss								
925.25	-	959.75	MHz		-	1.9	2.9	dB
Pass Band Ripple								
925	-	960	MHz		-	1.2	2.8	dB
VSWR Rx								
925	-	960	MHz		-	1.6	2.0	-
VSWR Ant								
925	-	960	MHz		-	1.6	2.0	-
Absolute Attenuation								
10	-	880	MHz		45	55	-	dB
		45	MHz		50	104	-	dB
835	-	870	MHz		40	56	-	dB
880.25	-	914.75	MHz		45	59	-	dB
902.5	-	910	MHz		45	59	-	dB
980	-	1045	MHz		23	31	-	dB
1427	-	1448	MHz		40	54	-	dB
1710	-	1785	MHz		40	62	-	dB
1805	-	1920	MHz		40	63	-	dB
1920	-	1980	MHz		40	61	-	dB
2400	-	2500	MHz		40	57	-	dB
2500	-	2570	MHz		40	56	-	dB
2685	-	2790	MHz		40	54	-	dB
2775	-	2880	MHz		40	55	-	dB
2880	-	3700	MHz		35	51		dB
3700	-	3840	MHz		40	57	-	dB
4625	-	4800	MHz		35	52	-	dB
4900	-	5950	MHz		25	37	-	dB
6475	-	6720	MHz		20	34	-	dB
7400	-	7680	MHz		15	36	-	dB

Electrical Specifications Band8 Duplexer

Temperature Range for Specification: -30 to +85 °C

Tx to Rx					Min.	Typ.	Max.	Unit
Isolation								
	880.25	-	914.75	MHz	55	60	-	dB
	925.25	-	959.75	MHz	53	58	-	dB

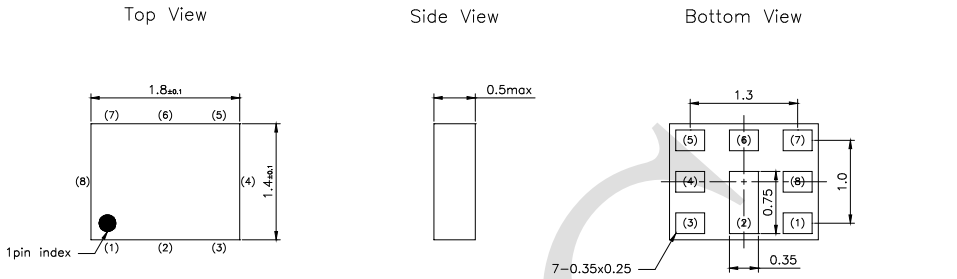
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 °C	
DC Voltage	5 V	+25 °C
Input power	+30 dBm	LTE , +55 °C , 2000 h

Recommended Operating Conditions

Item	Rating	Condition / Remark
Operating Temperature, T_{CASE}	-30 to +85 °C	

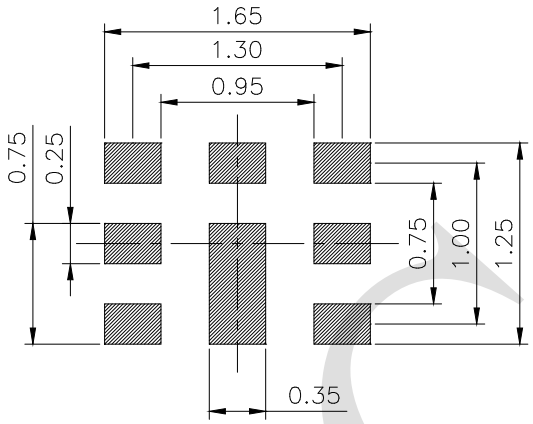
Package Information



Unit:mm

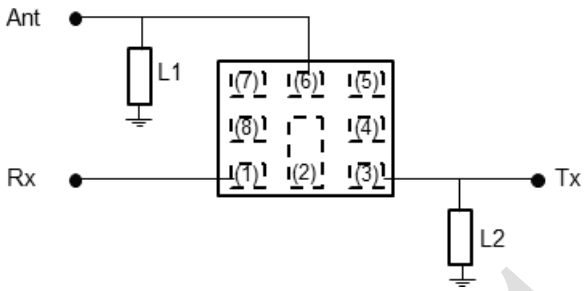
Pin Configuration		
1	:	Rx
3		Tx
6	:	Ant
Other	:	GND

Land Pattern



Unit:mm

Application Circuit

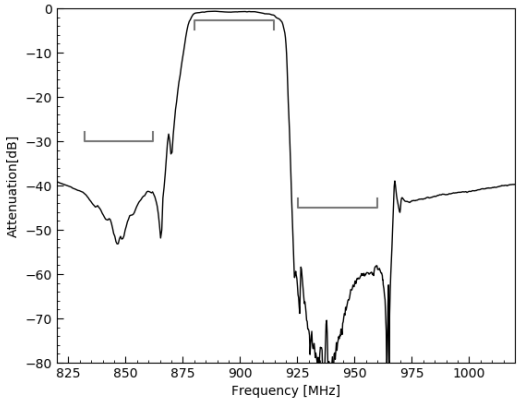


Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 8.2nH (Ideal inductor)
Tx	50 Ω	L2 : 18nH (Ideal inductor)
Rx	50 Ω	

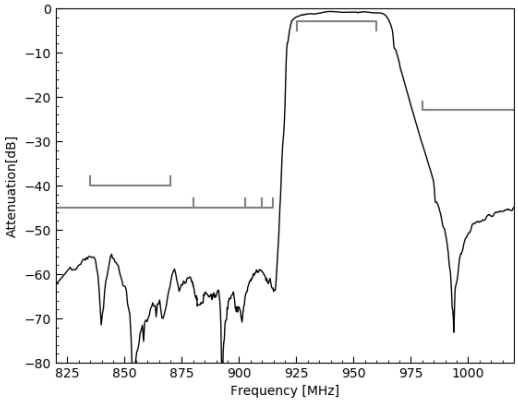
For ESD protection, external shunt inductor at all ports is recommended.

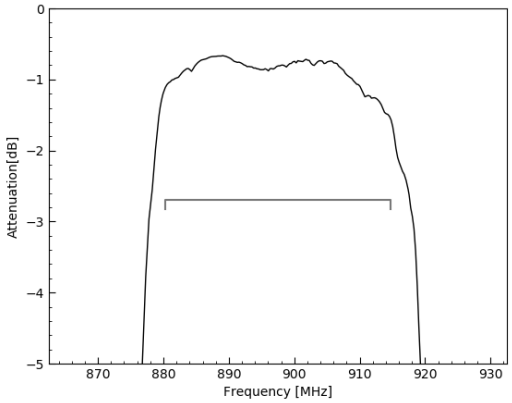
Electrical Characteristics Band8 Duplexer

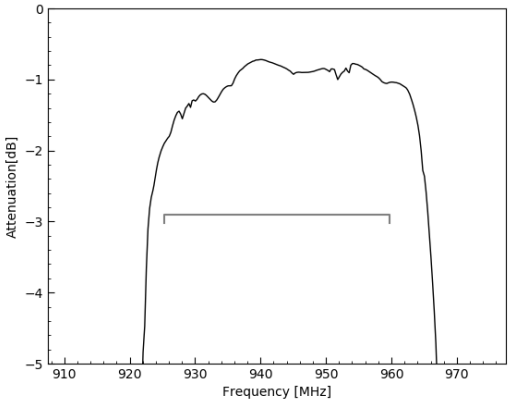
Tx to Ant

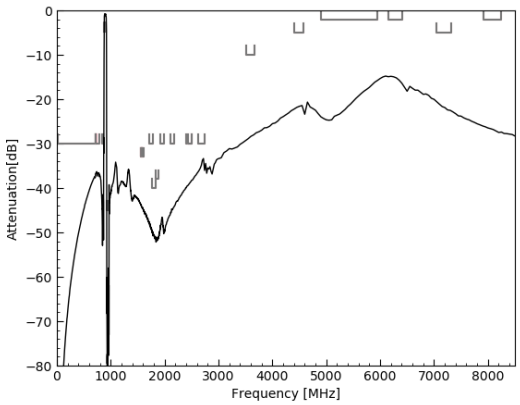


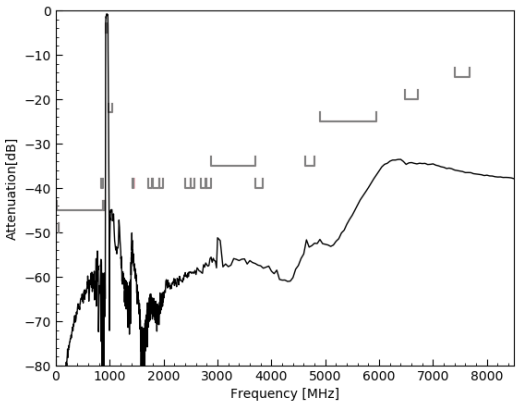
Ant to Rx





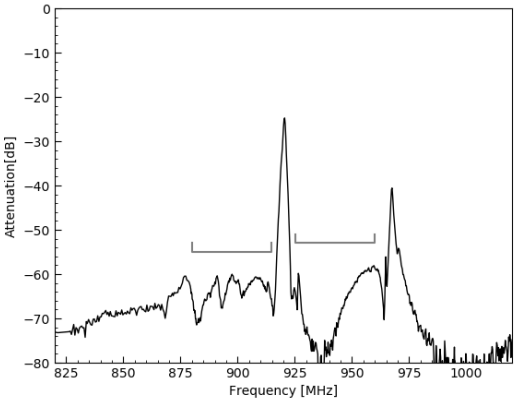


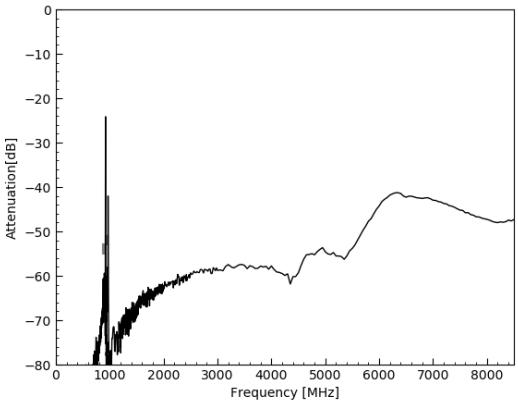




Electrical Characteristics Band8 Duplexer

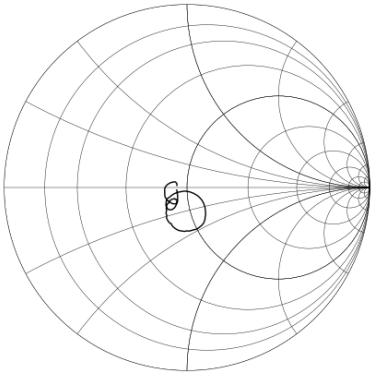
Tx to Rx



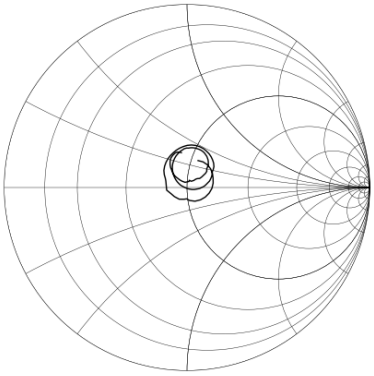


Electrical Characteristics Band8 Duplexer

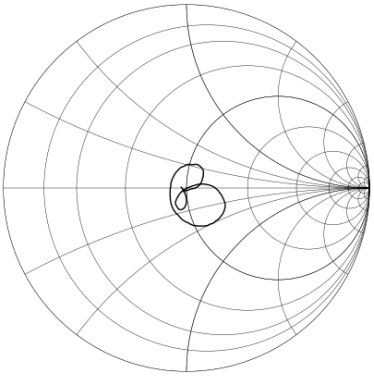
Ant Impedance (Tx band)



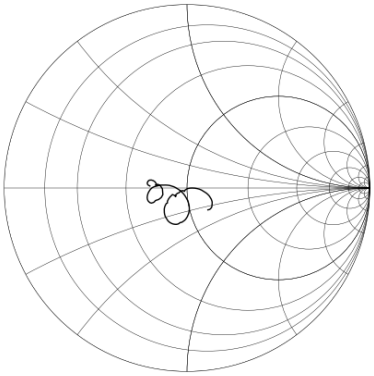
Ant Impedance (Rx band)



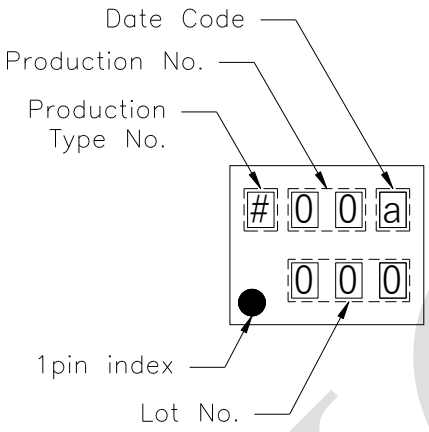
Tx Impedance



Rx Impedance



Marking Information



Production type No.（S: Sample, P: Production）

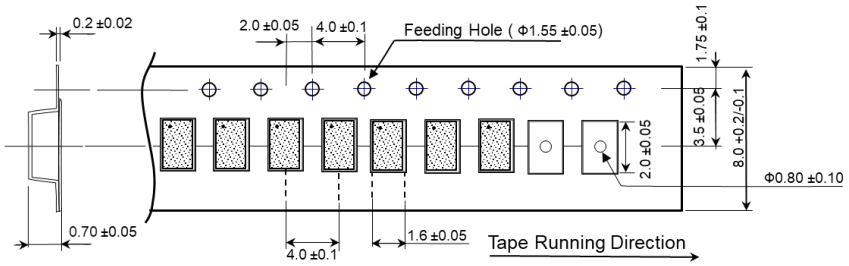
Product No. : 0Q

Lot No.（Indicated by 0 ~ 9 or A to Z and a to z, except I, O, i, o and l）

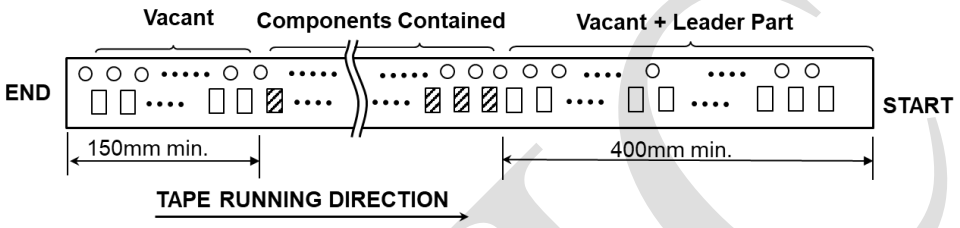
Product date code :

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

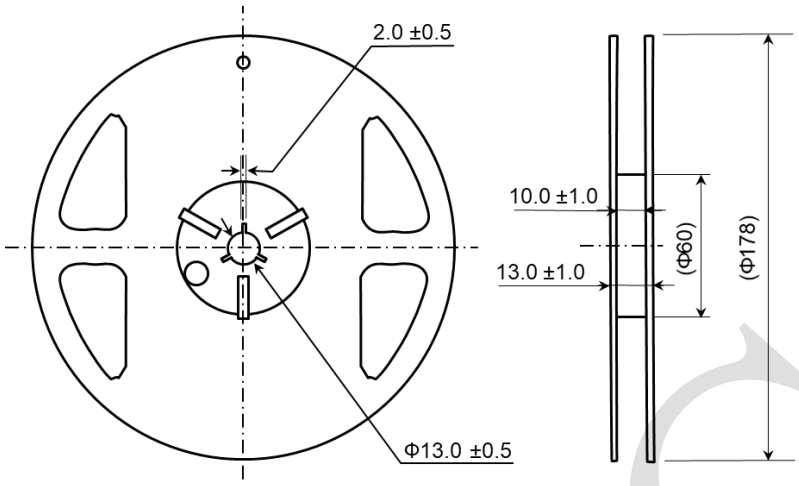
Tape Information



UNIT: mm

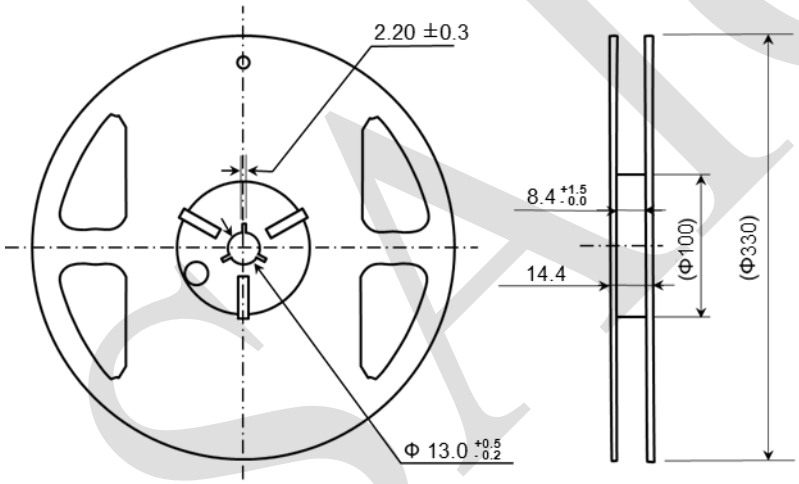


Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RAD0943B0Q-SA	Bulk (few pieces)
RAD0943B0Q-MB	Tape & Reel 3,000 pcs/reel
RAD0943B0Q-MC	Tape & Reel 10,000 pcs/reel
RAD0943B0Q-SZ	EVB

Revision History

Revision	Date	Description
1.0	Jul. 17, 2020	● Initial release
2.0	Dec. 29, 2020	● Updated “Electrical Specifications”, “Electrical Characteristics”. ● Updated “Reel Information”.

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