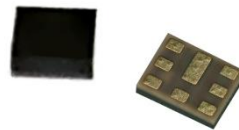


Data Sheet for SAW Components



Band3

Duplexer

Product ID: RBD1843G2R

Date: Feb. 7, 2023

Revision: 1.0

Features

- ◆ Package Size : 1.6 x 1.2 x 0.6max mm
- ◆ Single-Ended Input and Output
- ◆ Terminating Impedance : 50 Ω
- ◆ Moisture Sensitivity Level 3
- ◆ ESD Sensitive Device
- ◆ TC-SAW
- ◆ Low Insertion Loss

Electrical Specifications Band3 Duplexer

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

Tx to Ant				Min.	Typ.	Max.	Unit
Insertion Loss							
	1710.15	-	1784.85 MHz	-	1.5	2.4	dB
	1710.15	-	1784.85 MHz	-	1.5	2.2	dB ^{*2}
Pass Band Ripple							
	1710.15	-	1784.85 MHz	-	0.9	1.5	dB ^{*1}
	1710.15	-	1784.85 MHz	-	0.9	1.3	dB ^{*2}
VSWR Tx							
	1710.15	-	1784.85 MHz	-	1.3	2.0	-
	1710.15	-	1784.85 MHz	-	1.3	1.8	- ^{*2}
VSWR Ant							
	1710.15	-	1784.85 MHz	-	1.3	1.9	-
	1710.15	-	1784.85 MHz	-	1.3	1.8	- ^{*2}
Absolute Attenuation							
	10	-	960 MHz	32	44	-	dB
	1164	-	1189 MHz	30	40	-	dB
	1559	-	1606 MHz	37	44	-	dB
	1606	-	1680 MHz	15	27	-	dB
	1805.15	-	1879.85 MHz	45	57	-	dB
	1884.5	-	1915.7 MHz	41	47	-	dB
	1920	-	1980 MHz	30	43	-	dB
	2110	-	2170 MHz	27	34	-	dB
	2400	-	2500 MHz	30	40	-	dB
	2620	-	2690 MHz	27	45	-	dB
	3420	-	3570 MHz	28	35	-	dB
	4900	-	5850 MHz	9	33	-	dB
	5130	-	5355 MHz	9	33	-	dB
	6840	-	7140 MHz	7	29	-	dB

*1: Over any 5 MHz in band

*2: Room Temperature 25°C

Electrical Specifications Band3 Duplexer

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

Ant to Rx	Min.	Typ.	Max.	Unit
Insertion Loss				
1805.15 - 1879.85 MHz	-	2.4	3.3	dB
1805.15 - 1879.85 MHz	-	2.4	2.9	dB ^{*2}
Pass Band Ripple				
1805.15 - 1879.85 MHz	-	1.3	2.0	dB ^{*1}
1805.15 - 1879.85 MHz	-	1.3	1.6	dB ^{*2}
VSWR Rx				
1805.15 - 1879.85 MHz	-	1.4	2.0	-
1805.15 - 1879.85 MHz	-	1.4	1.9	- ^{*2}
VSWR Ant				
1805.15 - 1879.85 MHz	-	1.5	2.0	-
1805.15 - 1879.85 MHz	-	1.5	1.9	- ^{*2}
Absolute Attenuation				
1 - 1710 MHz	38	41	-	dB
95 - 95 MHz	50	109	-	dB
718 - 748 MHz	40	54	-	dB
814 - 849 MHz	40	50	-	dB
832 - 862 MHz	40	50	-	dB
880 - 915 MHz	40	48	-	dB
1447 - 1463 MHz	38	42	-	dB
1615 - 1690 MHz	40	45	-	dB
1710.15 - 1784.85 MHz	46	58	-	dB
1785 - 1790 MHz	17	60	-	dB
1920 - 2400 MHz	38	42	-	dB
2400 - 2500 MHz	40	53	-	dB
2500 - 2570 MHz	40	55	-	dB
2570 - 3515 MHz	35	47	-	dB
3515 - 3760 MHz	35	50	-	dB
4900 - 5950 MHz	30	44	-	dB
5205 - 5660 MHz	30	44	-	dB

7220	-	7520	MHz	15	42	-	dB
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*1: Over any 5 MHz in band

*2: Room Temperature 25°C

Sanan-IC

Electrical Specifications Band3 Duplexer

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

Tx to Rx	Min.	Typ.	Max.	Unit
Isolation				
1710.15 - 1784.85 MHz	55	58	-	dB
1805.15 - 1879.85 MHz	52	58	-	dB

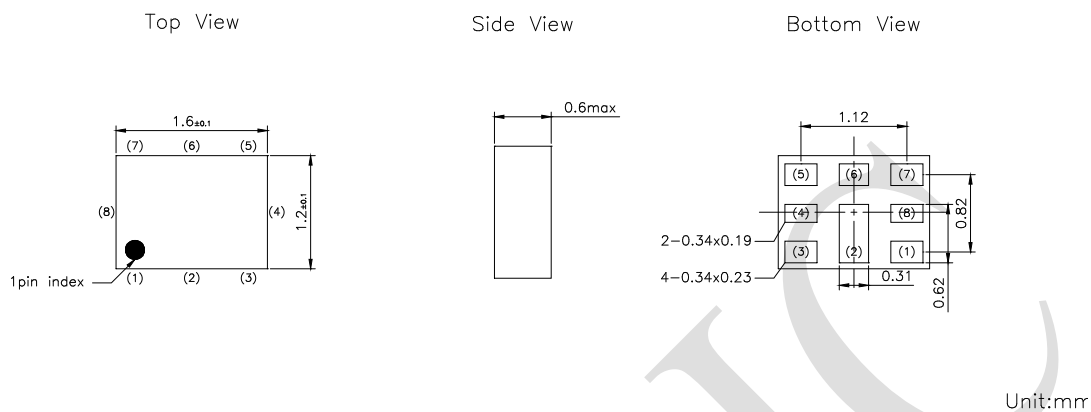
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 °C	
DC Voltage	5 V	+25 °C
Input power	+30 dBm	LTE , +55 °C , 3000 h

Recommended Operating Conditions

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

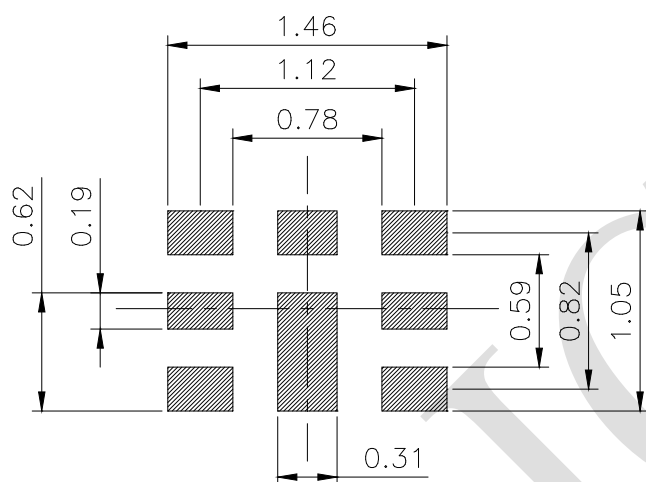
Package Information



Pin Configuration

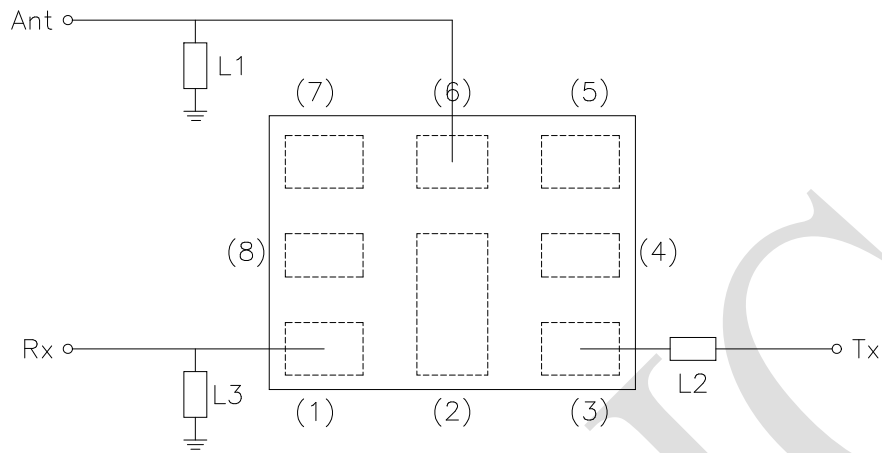
1 : Rx
 3 : Tx
 6 : Ant
 Other : GND

Land Pattern



Unit:mm

Application Circuit



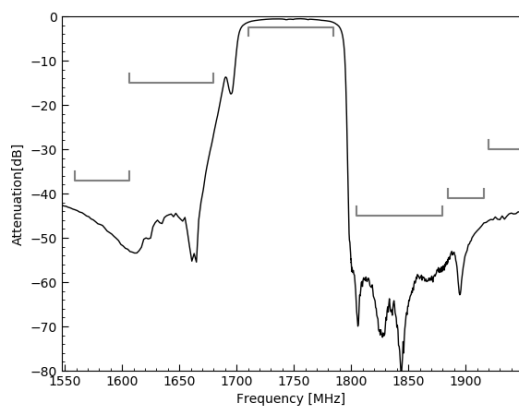
Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 3.9nH (Ideal inductor)
Tx	50 Ω	L2 : 3.9nH (Ideal inductor)
Rx	50 Ω	L3 : 6.8nH (Ideal inductor)

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

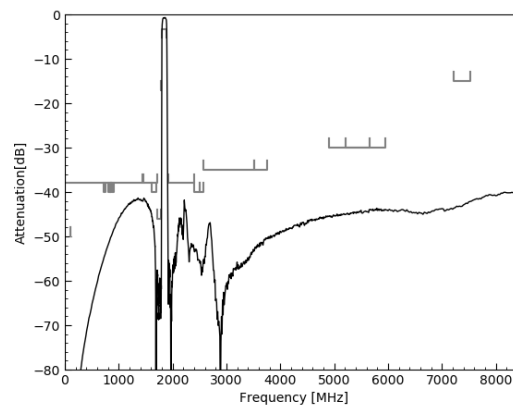
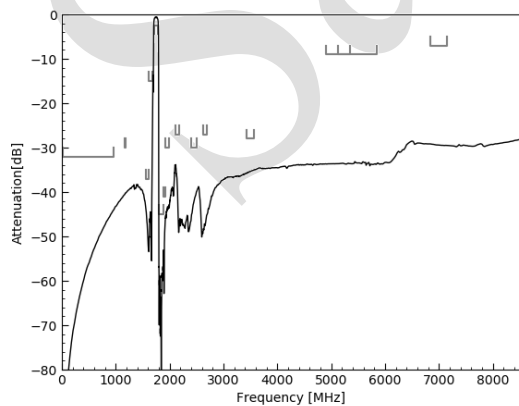
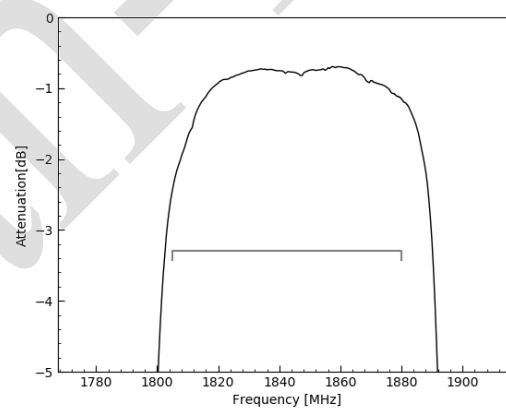
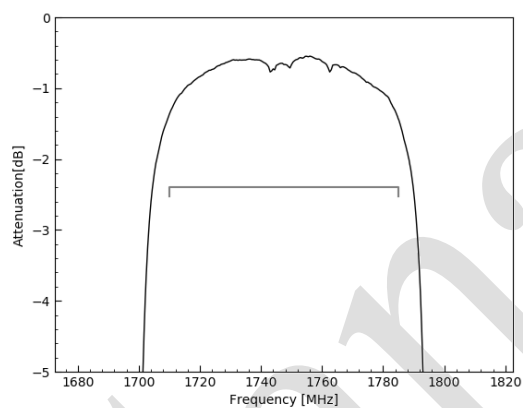
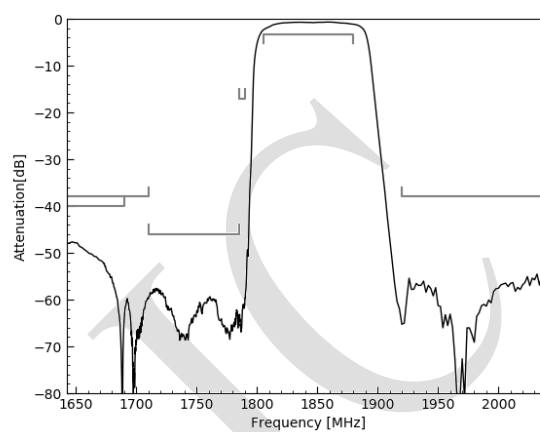
Electrical Characteristics

Band3 Duplexer

Tx to Ant



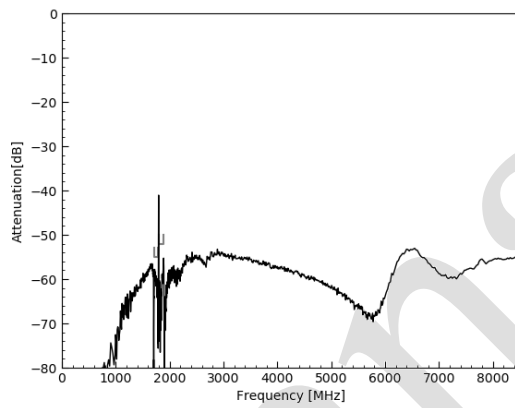
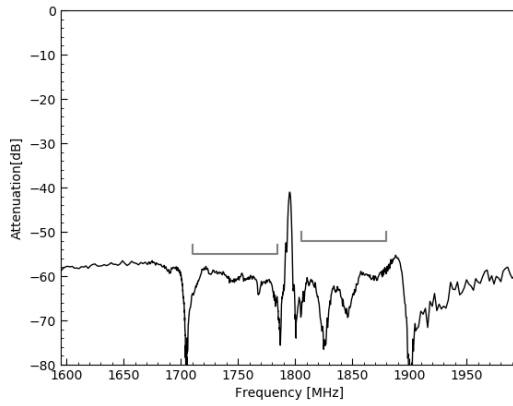
Ant to Rx



Electrical Characteristics

Band3 Duplexer

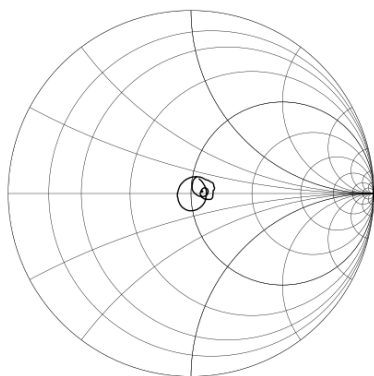
Tx to Rx



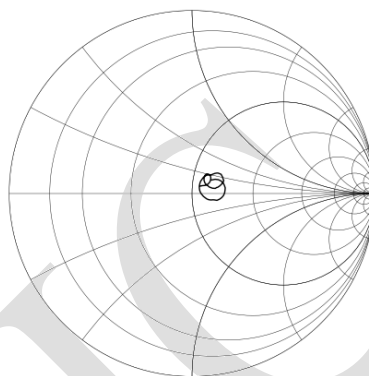
Electrical Characteristics

Band3 Duplexer

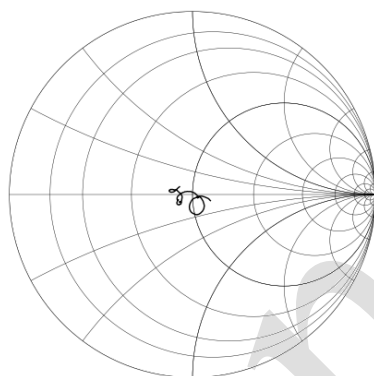
Ant Impedance (Tx band)



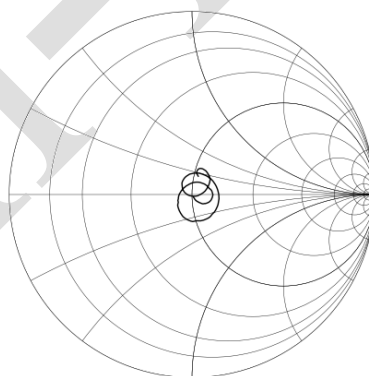
Ant Impedance (Rx band)



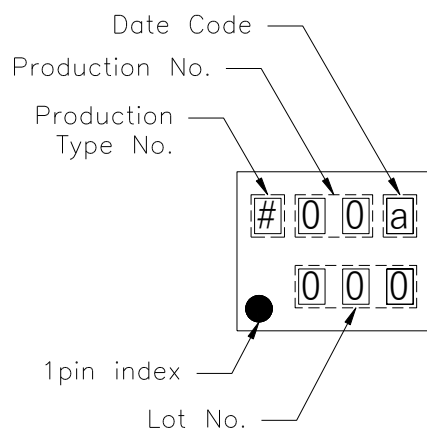
Tx Impedance



Rx Impedance



Marking Information



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

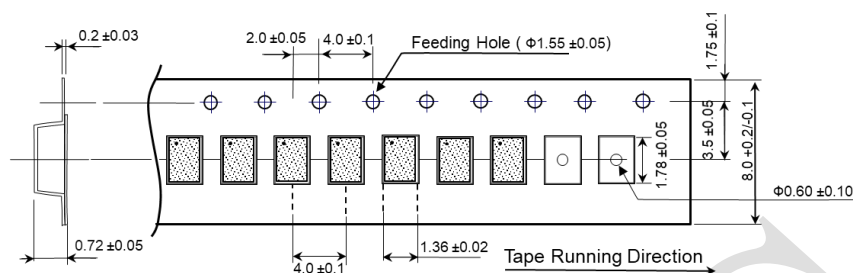
Product No. : 2R

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

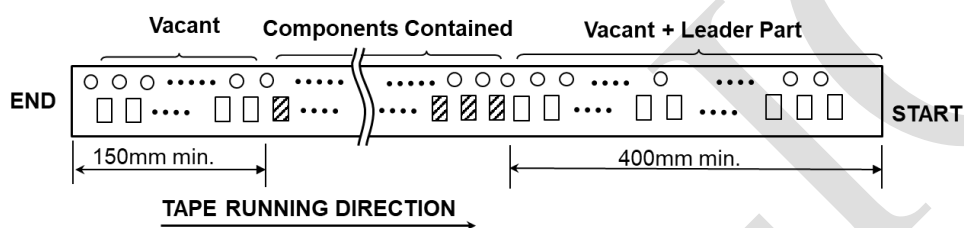
Product date code :

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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
2024	A	B	C	D	E	F	G	H	J	K	L	M
2025	N	P	Q	R	S	T	U	V	W	X	Y	Z

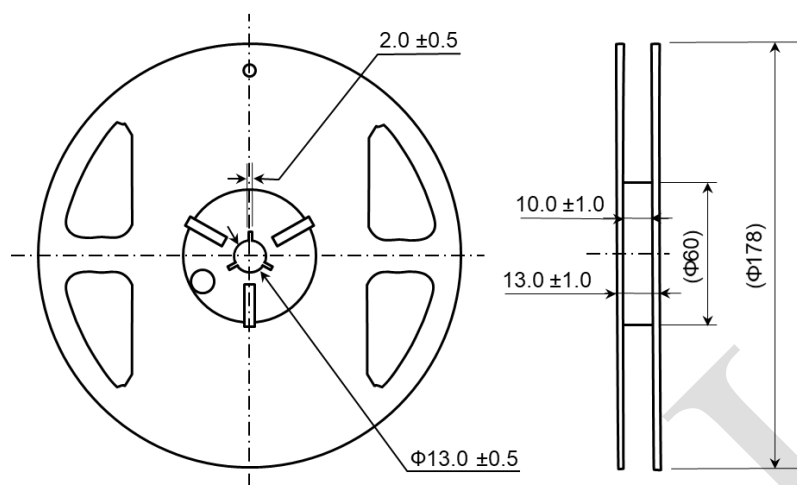
Tape Information



UNIT: mm

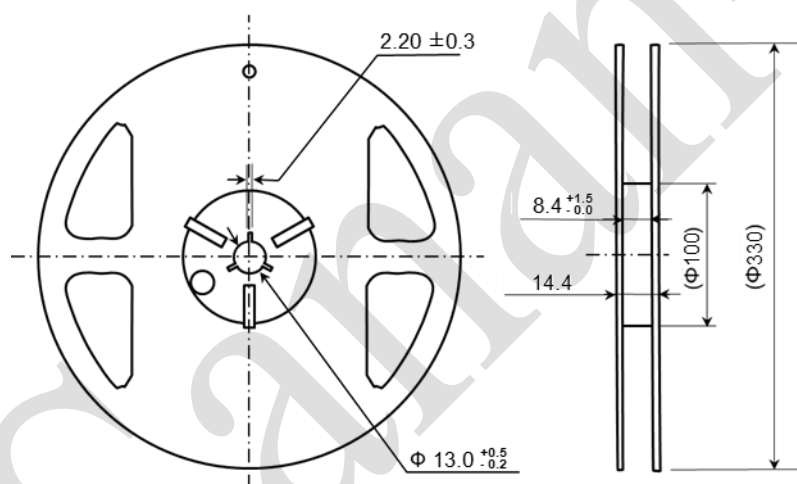


Reel Information



$\Phi 178$ Reel Dimension

UNIT: mm



$\Phi 330$ Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RBD1843G2R-SA	Bulk (few pieces)
RBD1843G2R-MB	Tape & Reel 3,000 pcs/reel
RBD1843G2R-MC	Tape & Reel 10,000 pcs/reel
RBD1843G2R-SZ	EVB

Revision History

Revision	Date	Description
1.0	Feb. 7, 2023	● Initial release

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