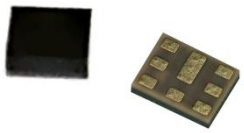
Data Sheet for SAW Components



Band2

Duplexer

Product ID: RBD1960G2Q

Date: Nov. 28, 2022

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 Band2 Duplexer

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

Tx to Ant					Min.	Typ.	Max.	Unit
Insertion Loss								
1850.25	-	1909.75	MHz		-	1.4	2.5	dB
Pass Band Ripple								
1850.25	-	1909.75	MHz		-	0.5	1.1	dB*1
VSWR Tx								
1850.25	-	1909.75	MHz		-	1.5	1.9	-
VSWR Ant								
1850.25	-	1909.75	MHz		-	1.5	1.9	-
Absolute Attenuation								
10	-	960	MHz		35	40	-	dB
1164	-	1189	MHz		30	36	-	dB
1559	-	1606	MHz		30	34	-	dB
1930.25	-	1989.75	MHz		40	51	-	dB
2010	-	2025	MHz		36	44	-	dB
2110	-	2200	MHz		30	34		dB
2300	-	2370	MHz		25	38	-	dB
2400	-	2500	MHz		30	41	-	dB
3700	-	3820	MHz		17	33	-	dB
4900	-	5850	MHz		3	29	-	dB
5254	-	5455	MHz		5	30	-	dB
5520	-	5845	MHz		3	29	-	dB
5540	-	5950	MHz		3	29	-	dB
7390	-	7650	MHz		1	27		dB

*1: Over any 5MHz in band

Electrical Specifications Band2 Duplexer

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

Ant to Rx					Min.	Typ.	Max.	Unit
Insertion Loss								
1930.25	-	1989.75	MHz		-	2.1	3.0	dB
Pass Band Ripple								
1930.25	-	1989.75	MHz		-	0.7	1.2	dB*1
VSWR Rx								
1930.25	-	1989.75	MHz		-	1.5	2.0	-
VSWR Ant								
1930.25	-	1989.75	MHz		-	1.5	2.0	-
Absolute Attenuation								
10	-	915	MHz		45	47	-	dB
1427	-	1850	MHz		35	41	-	dB
1850.25	-	1909.75	MHz		45	60	-	dB
2050	-	2075	MHz		35	46	-	dB
2300	-	2690	MHz		30	43	-	dB
2400	-	2500	MHz		30	43	-	dB
3860	-	3980	MHz		38	56	-	dB
4900	-	5970	MHz		28	46		dB
7720	-	7960	MHz		10	43	-	dB

*1: Over any 5MHz in band

Electrical Specifications Band2 Duplexer

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

Tx to Rx				Min.	Typ.	Max.	Unit
Isolation							
1852.5	-	1907.5	MHz	53	56	-	dB_{INT} *2
1932.5	-	1987.5	MHz	50	57	-	dB_{INT} *2
1950	-	1990	MHz	54	58	-	dB

*2: Integrated |S32| over the center 4.5 MHz CH BW and converting to dB value

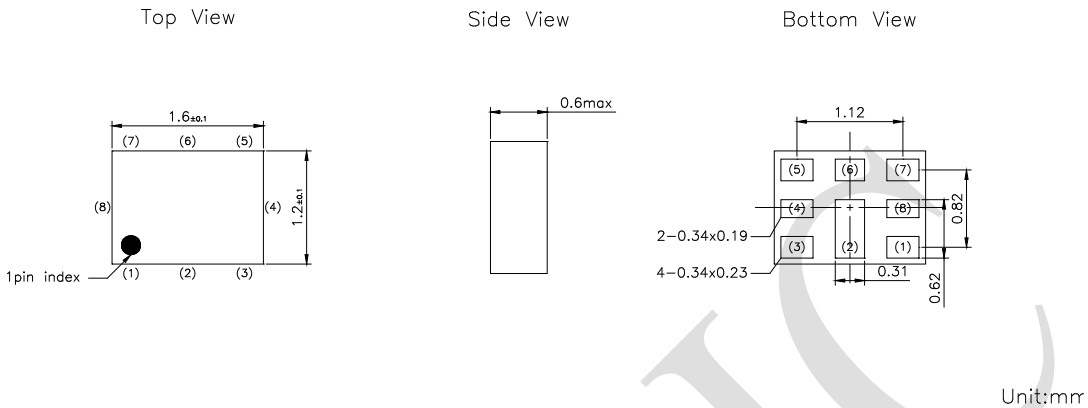
Maximum Ratings

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	

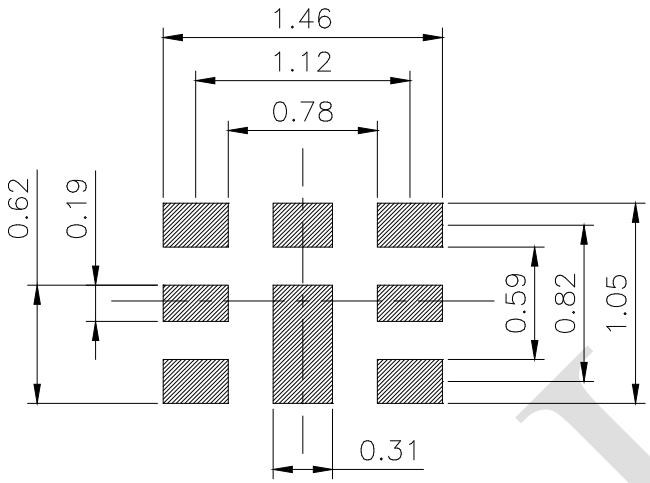
Package Information



Unit:mm

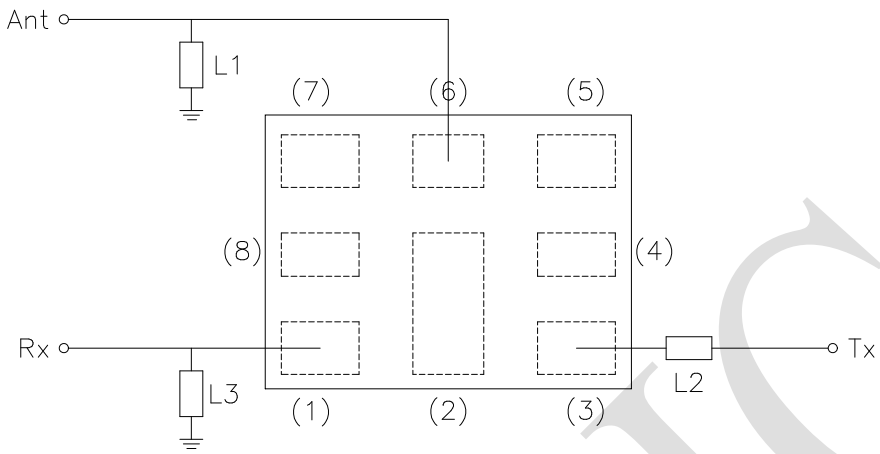
Pin Configuration		
1	:	Rx
3		Tx
6	:	Ant
Other	:	GND

Land Pattern



Unit:mm

Application Circuit

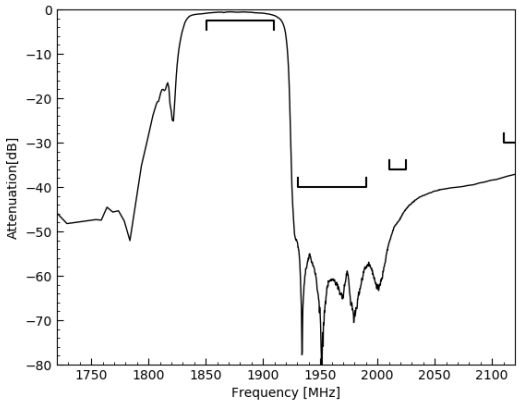


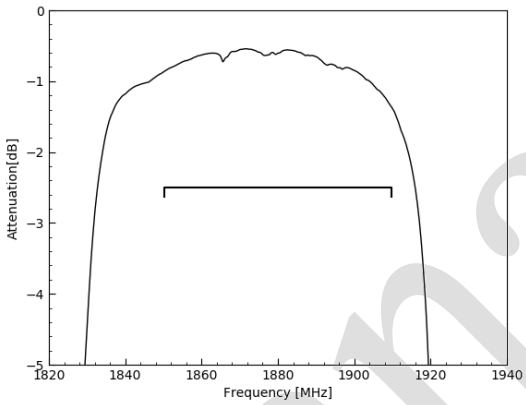
Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 4.7nH (Ideal inductor)
Tx	50 Ω	L2 : 3.6nH (Ideal inductor)
Rx	50 Ω	L3 : 10.0nH (Ideal inductor)

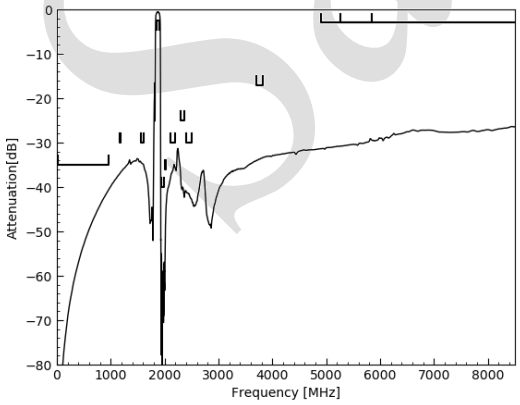
For ESD protection, external shunt inductor at all ports is recommended.

Electrical Characteristics Band2 Duplexer

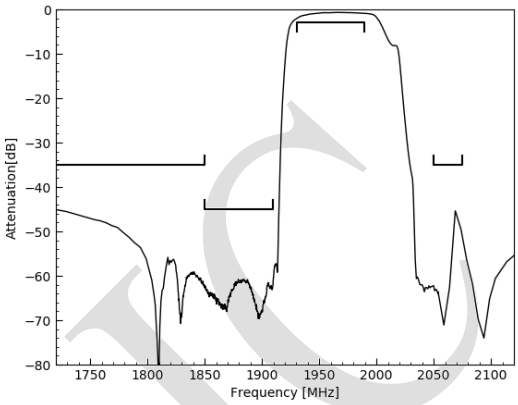
Tx to Ant

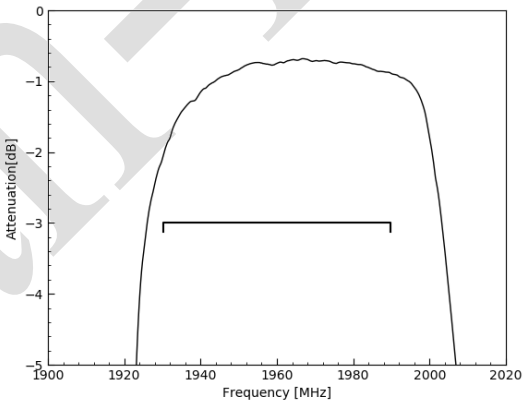


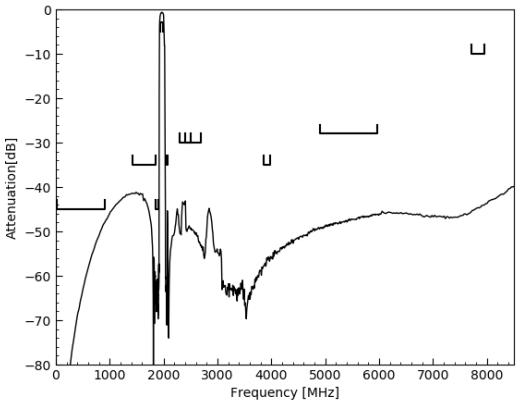




Ant to Rx

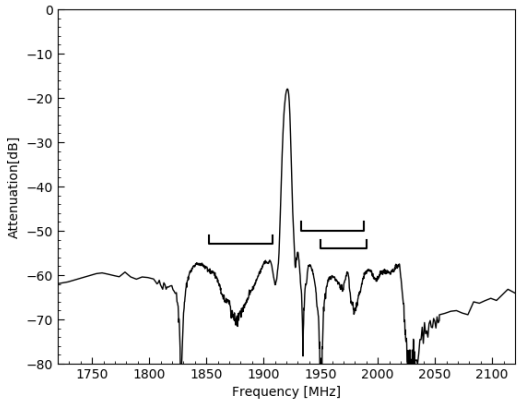


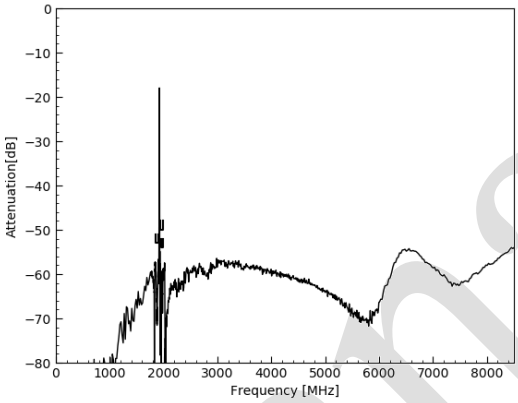




Electrical Characteristics Band2 Duplexer

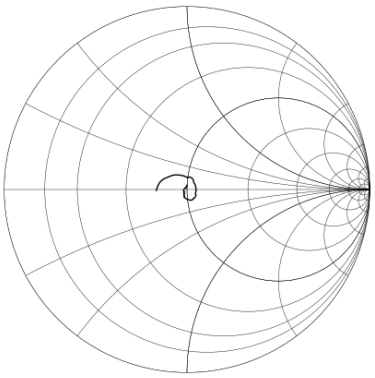
Tx to Rx



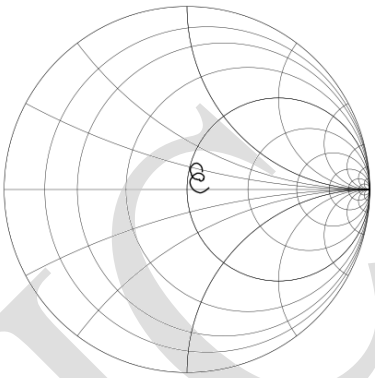


Electrical Characteristics Band2 Duplexer

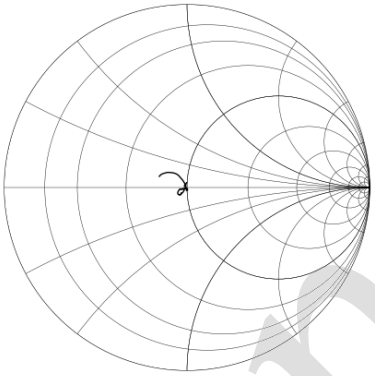
Ant Impedance (Tx band)



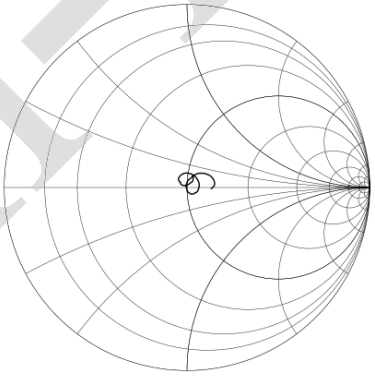
Ant Impedance (Rx band)



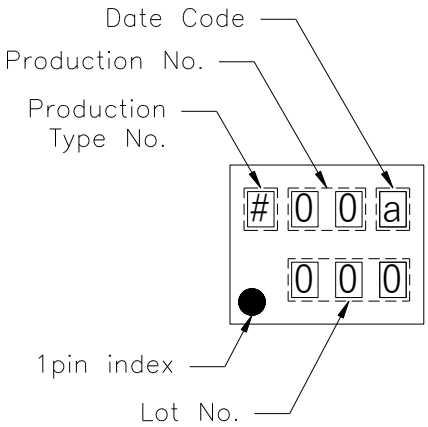
Tx Impedance



Rx Impedance



Marking Information



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

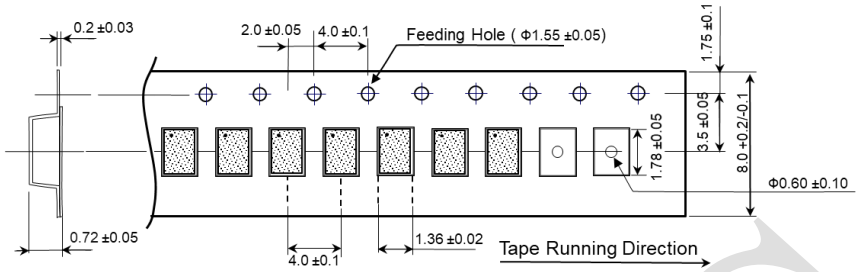
Product No. : 2Q

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

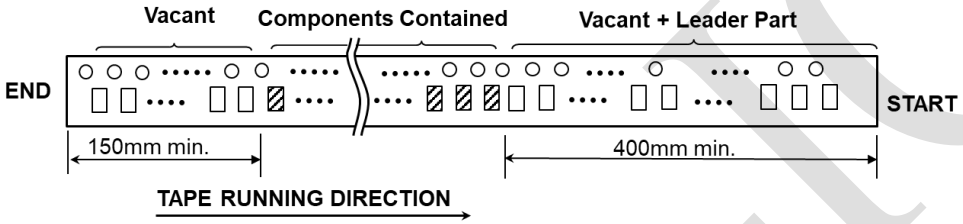
Product date code :

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

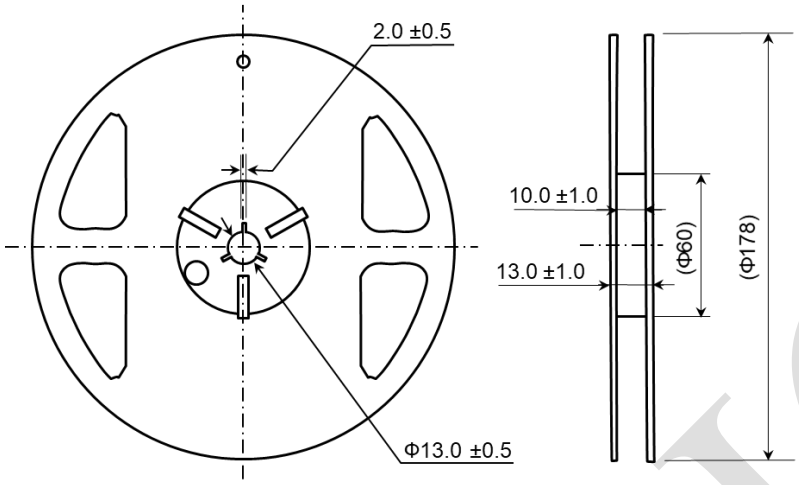
Tape Information



UNIT: mm

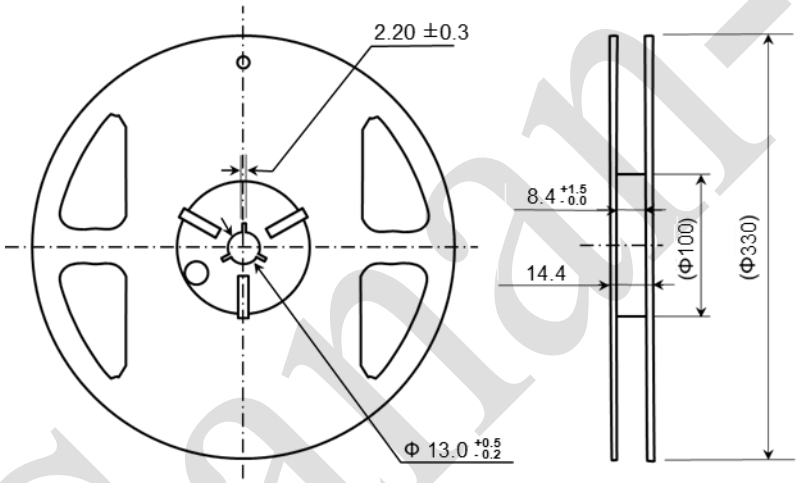


Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RBD1960G2Q-SA	Bulk (few pieces)
RBD1960G2Q-MB	Tape & Reel 3,000 pcs/reel
RBD1960G2Q-MC	Tape & Reel 10,000 pcs/reel
RBD1960G2Q-SZ	EVB

Revision History

Revision	Date	Description
0.1	Jun. 9, 2022	● Initial release

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