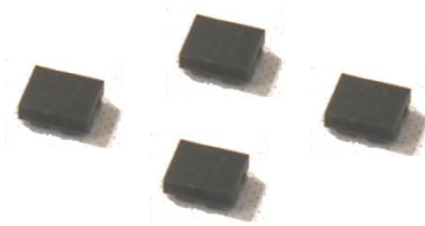




# Data Sheet of SAW Components

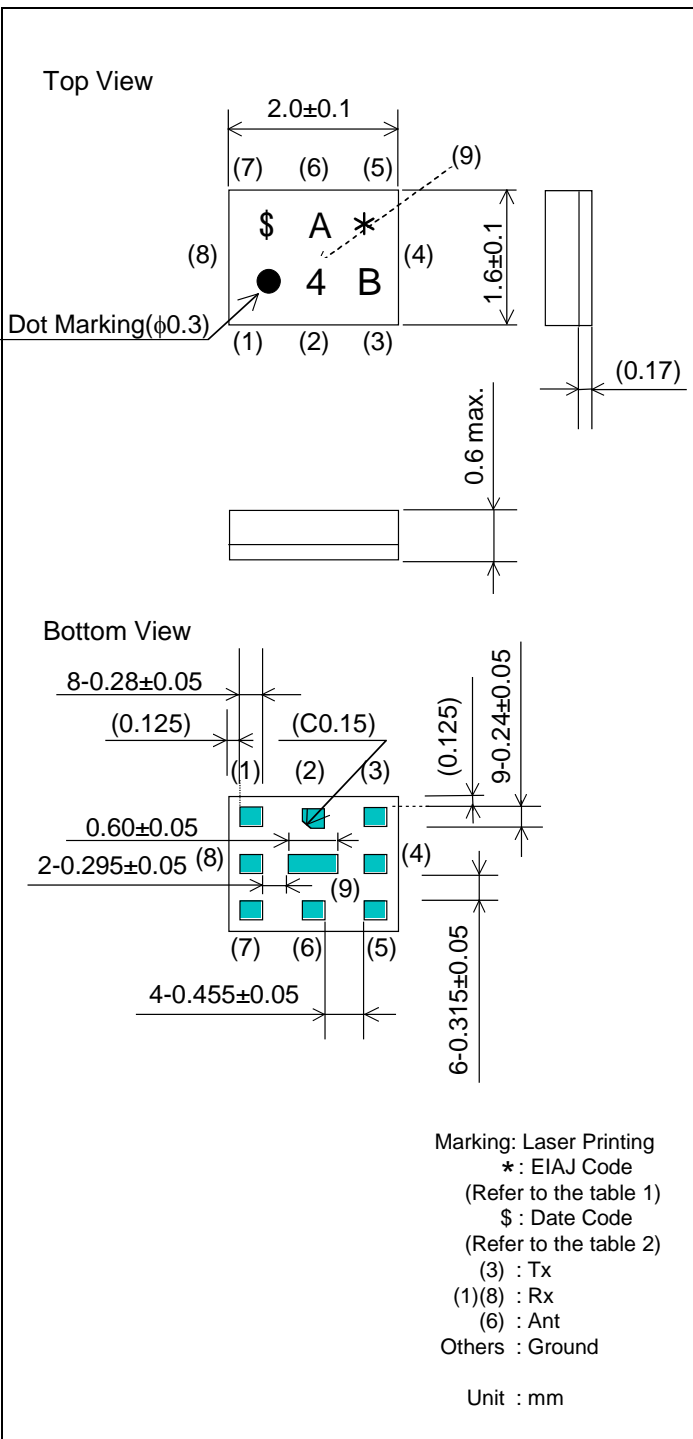


Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.  
Please also read caution at the end of this document.

# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→ANT]

## Package Dimensions



## Target Specification

Item	Specification		
	-10 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	1880MHz		
Insertion Loss (1852.4 to 1907.6MHz)* <sup>1</sup> (1851.25 to 1908.75MHz)* <sup>2</sup>	2.4 dB <sub>INT</sub> max.	2.2 dB <sub>INT</sub> max.	2.0 dB <sub>INT</sub>
	2.5 dB <sub>INT</sub> max.	2.3 dB <sub>INT</sub> max.	2.1 dB <sub>INT</sub>
Absolute Attenuation			
1) 30 to 728 MHz	30 dB min.	30 dB min.	44 dB
2) 728 to 764 MHz	38 dB min.	38 dB min.	43 dB
3) 869 to 894 MHz	36 dB min.	36 dB min.	41 dB
4) 1565.42 to 1573.374 MHz	40 dB min.	40 dB min.	46 dB
5) 1573.374 to 1577.466 MHz	40 dB min.	40 dB min.	47 dB
6) 1577.466 to 1585.42 MHz	40 dB min.	40 dB min.	47 dB
7) 1597.5515 to 1605.886 MHz	35 dB min.	40 dB min.	46 dB
8) 1605.886 to 1680 MHz	30 dB min.	30 dB min.	36 dB
9) 1932.4 to 1987.6 MHz* <sup>1</sup>	36 dB <sub>INT</sub> min.	38 dB <sub>INT</sub> min.	48 dB <sub>INT</sub>
10) 1931.25 to 1988.75 MHz* <sup>2</sup>	33 dB <sub>INT</sub> min.	37 dB <sub>INT</sub> min.	47 dB <sub>INT</sub>
11) 2010 to 2025 MHz	30 dB min.	30 dB min.	47 dB
12) 2110 to 2155 MHz	25 dB min.	25 dB min.	37 dB
13) 2400 to 2500 MHz	15 dB min.	15 dB min.	20 dB
14) 3690 to 3830 MHz	10 dB min.	10 dB min.	19 dB
15) 5150 to 5350 MHz	5 dB min.	5 dB min.	10 dB
16) 5540 to 5860 MHz	5 dB min.	5 dB min.	8 dB
17) 7390 to 7650 MHz	5 dB min.	5 dB min.	8 dB
Ripple Deviation any 5MHz (1850.48 to 1909.52MHz)	1.8 dB max.	1.0 dB max.	0.4 dB
VSWR 1850.48 to 1909.52MHz (Tx)	2.2 max.	2.0 max.	1.7
1850.48 to 1909.52MHz (ANT)	2.2 max.	2.0 max.	1.5
ANT Port Matching Impedance (nominal)	50Ω// 3.0nH(ideal)		
Tx Port Matching Impedance (nominal)	50Ω		
Rx Port Matching Impedance (nominal)	100Ω// 18 nH(ideal)		
Input Signal Level	0.8W(+29dBm), 5000 hours(50°C) at WCDMA/NCDMA Modulation		

\*<sup>1</sup> Integration calculation (dB<sub>INT</sub>): WCDMA modulation (3.84MHz)

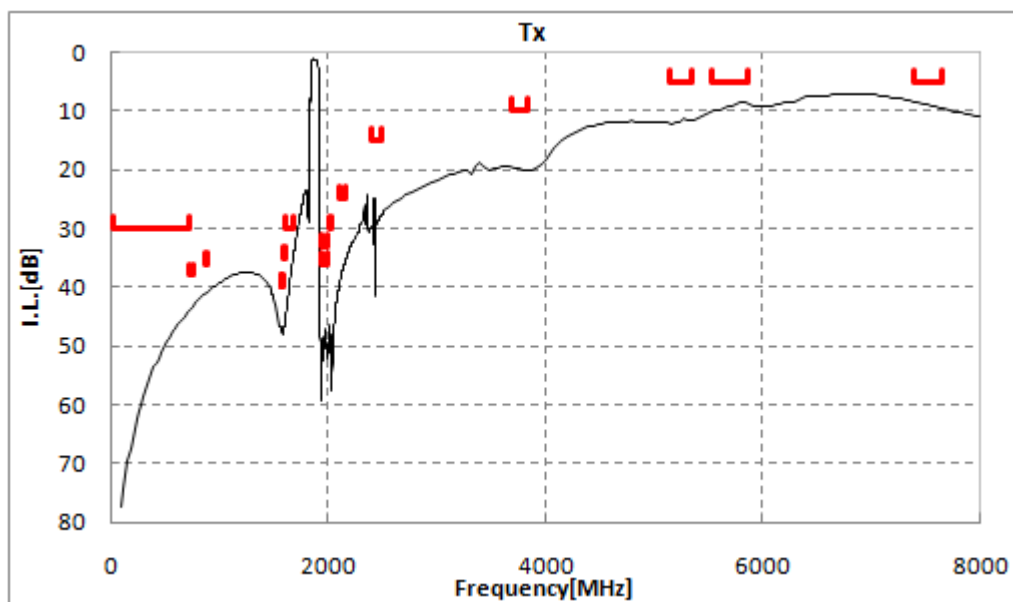
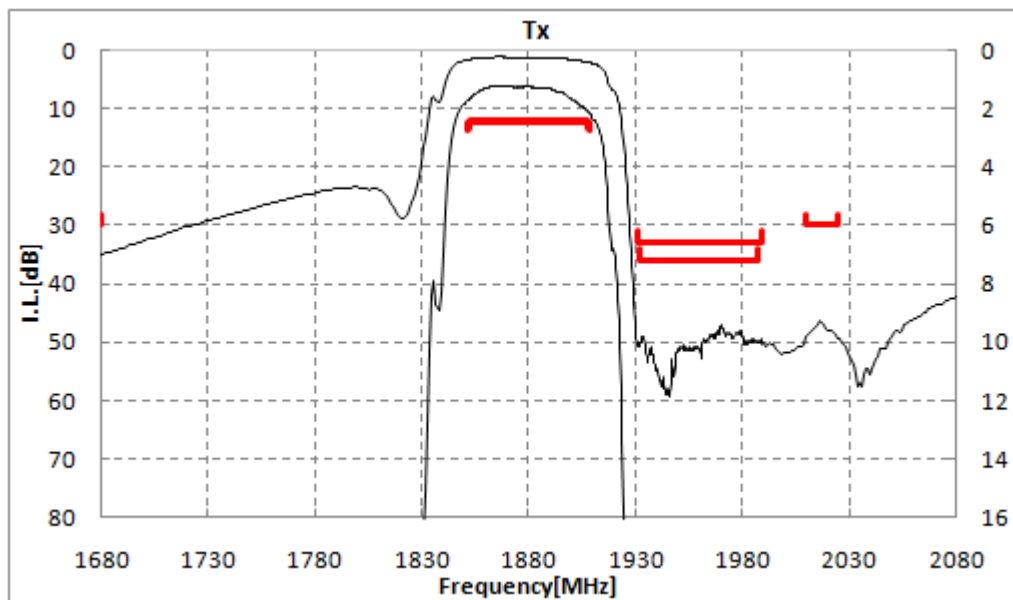
\*<sup>2</sup> Integration calculation (dB<sub>INT</sub>): NCDMA modulation (1.23MHz)

$$dB_{INT} = 10 \log \left[ \frac{\sum_{n=2}^N \left[ \frac{(10^{(Loss(f_{n-1})/10)} + 10^{(Loss(f_n)/10)})}{2} \times (F_n - F_{n-1}) \right]}{F_N - F_1} \right]$$

# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→ANT]

## Frequency Performance



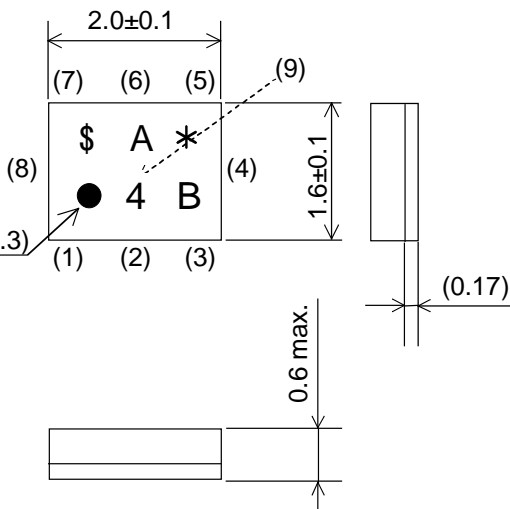
# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number : SAYRF1G88CA0B0A [ANT → Rx]

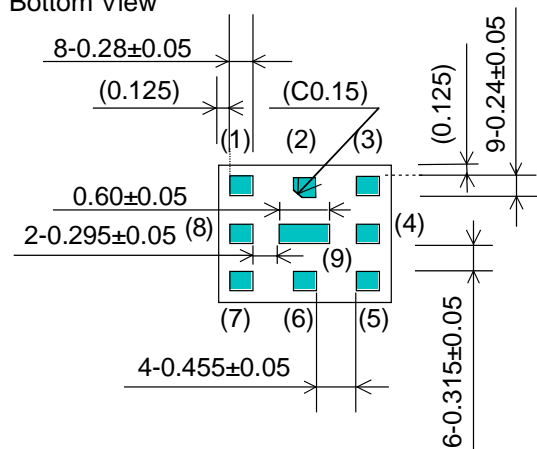
## Package Dimensions

## Target Specification

Top View



Bottom View



Marking: Laser Printing

\* : EIAJ Code

(Refer to the table 1)

\$ : Date Code

(Refer to the table 2)

(3) : Tx

(1)(8) : Rx

(6) : Ant

Others : Ground

Unit : mm

Item	Specification		
	-10 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	1960MHz		
Insertion Loss (1930 to 1990MHz)	4.7 dB max.	4.6 dB max.	3.0 dB
(1932.4 to 1987.6MHz)*1	3.6 dB <sub>INT</sub> max.	3.0 dB <sub>INT</sub> max.	2.5 dB <sub>INT</sub>
(1931.25 to 1988.75Hz)*2	4.0 dB <sub>INT</sub> max.	3.4 dB <sub>INT</sub> max.	2.7 dB <sub>INT</sub>
Absolute Attenuation			
1) 30 to 1850 MHz	20 dB min.	20 dB min.	44 dB
2) 1765 to 1835 MHz	25 dB min.	25 dB min.	52 dB
3) 1852.4 to 1907.6 MHz*1	48 dB <sub>INT</sub> min.	49 dB <sub>INT</sub> min.	55 dB <sub>INT</sub>
4) 1851.25 to 1908.75 MHz*2	47 dB <sub>INT</sub> min.	46 dB <sub>INT</sub> min.	55 dB <sub>INT</sub>
5) 2005 to 2050 MHz	3 dB min.	5 dB min.	15 dB
6) 2050 to 2075 MHz	25 dB min.	25 dB min.	38 dB
7) 2400 to 2484 MHz	30 dB min.	30 dB min.	52 dB
8) 2810 to 2910 MHz	25 dB min.	25 dB min.	55 dB
9) 3775 to 3905 MHz	25 dB min.	25 dB min.	64 dB
10) 5625 to 5815 MHz	25 dB min.	25 dB min.	58 dB
Ripple Deviation any 5MHz (1930.48 to 1989.52MHz)	4.8 dB max.	1.8 dB max.	0.9 dB
Amplitude Balance (1930.48 to 1989.52MHz)	2.0 dB max.	2.0 dB max.	1.0 dB
Phase Balance (1930.48 to 1989.52MHz)	180±20 deg.max.	180±20 deg.max.	180+15 deg.
VSWR			
1930.48 to 1989.52MHz (ANT)	2.2 max.	2.0 max.	1.5
1930.48 to 1989.52MHz (Rx)	2.1 max.	1.9 max.	1.5
ANT Port Matching Impedance (nominal)	50Ω// 3.0 nH(ideal)		
Tx Port Matching Impedance (nominal)	50Ω		
Rx Port Matching Impedance (nominal)	100Ω// 18nH(ideal)		

\*1 Integration calculation (dB<sub>INT</sub>): WCDMA modulation (3.84MHz)

\*2 Integration calculation (dB<sub>INT</sub>): NCDMA modulation (1.23MHz)

$$dB_{INT} = 10 \log \left[ \frac{\sum_{n=2}^N \left[ \frac{(10^{(Loss_{f_{n-1}})/10}) + 10^{(Loss_{f_n})/10}}{2} \right] \times (F_n - F_{n-1})}{F_N - F_1} \right]$$

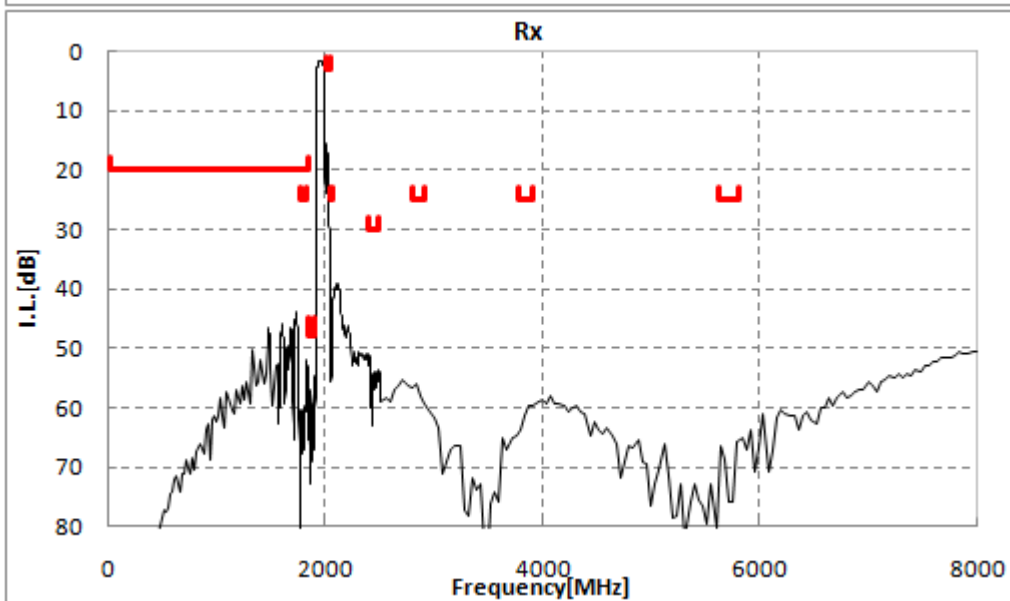
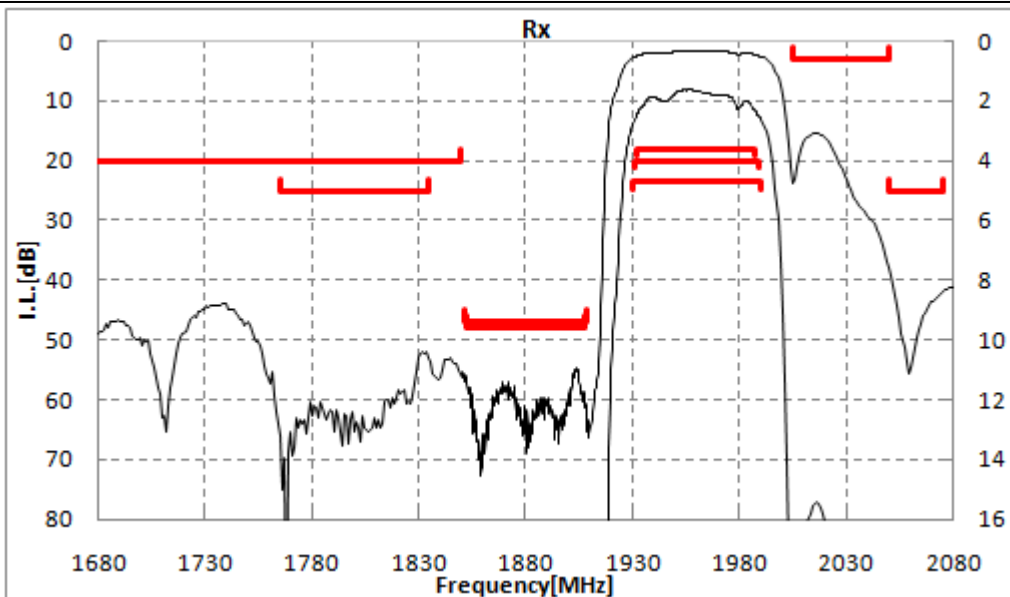
\*3 Amplitude Balance: 20 log |S<sub>21</sub>| - 20 log |S<sub>31</sub>|

\*4 Phase Balance: Phase (S<sub>21</sub>) - Phase (S<sub>31</sub>)

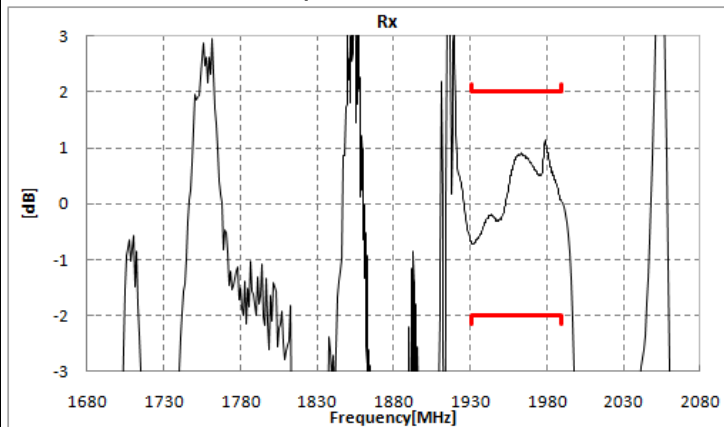
# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [ ANT→Rx]

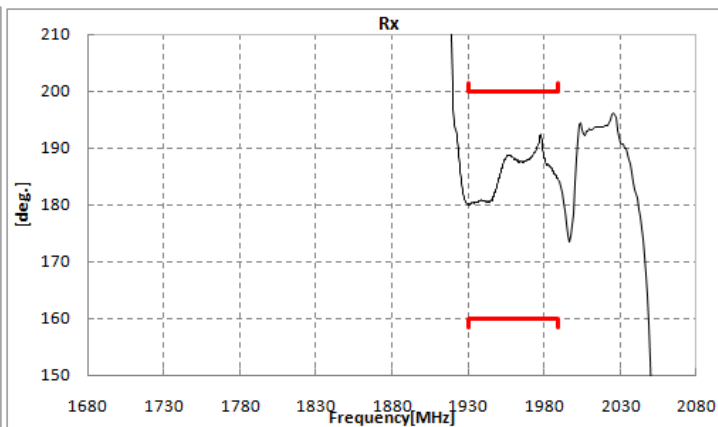
## Frequency Performance



### Amplitude Balance



### Phase Balance

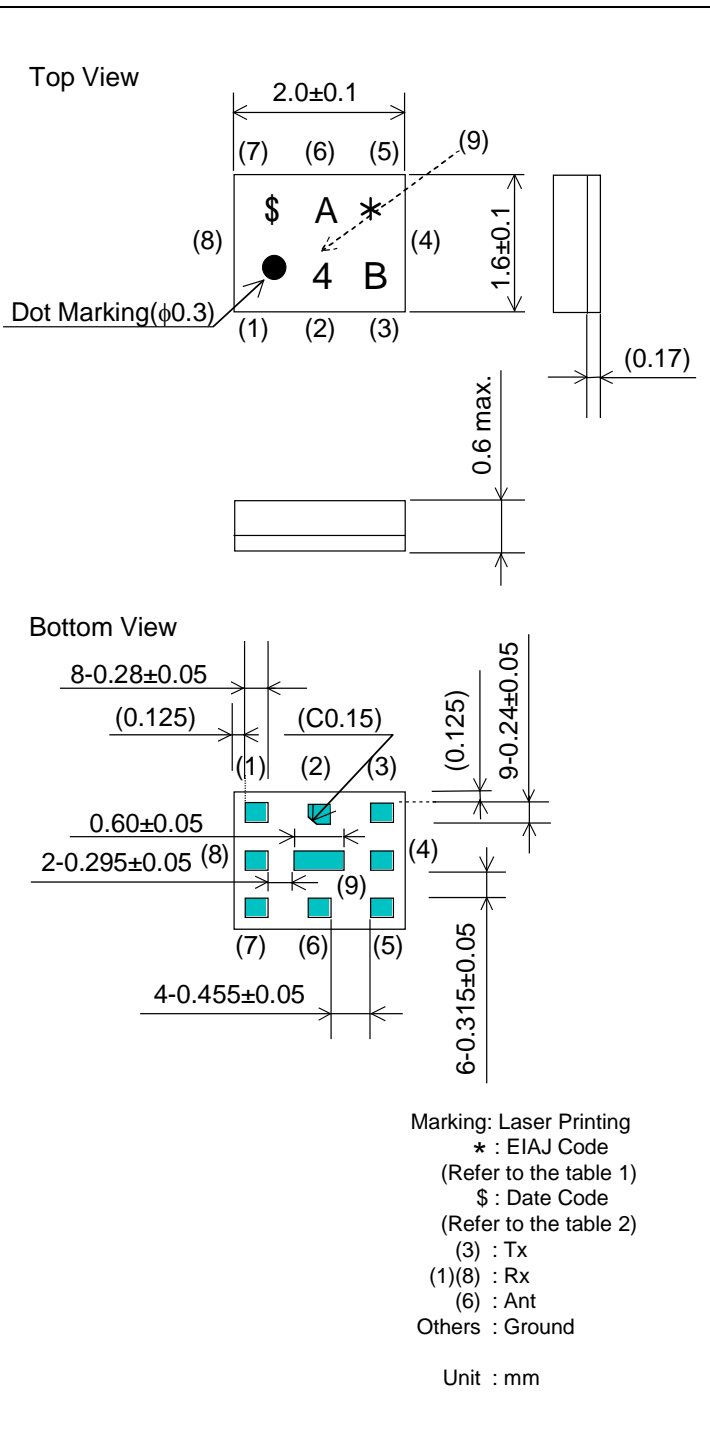


# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number : SAYRF1G88CA0B0A [Tx→Rx]

## Package Dimensions

## Target Specification



Item	Specification		
	-10 to 85°C	25±2°C	typ.
<b>Isolation (DMI)</b>			
1) 1574 to 1577 MHz	40 dB min.	40 dB min.	70 dB
2) 1852.4 to 1907.6 MHz <sup>*1</sup>	54 dB <sub>INT</sub> min.	54 dB <sub>INT</sub> min.	59 dB <sub>INT</sub>
3) 1851.25 to 1908.75 MHz <sup>*2</sup>	53 dB <sub>INT</sub> min.	53 dB <sub>INT</sub> min.	58 dB <sub>INT</sub>
4) 1932.4 to 1987.6 MHz <sup>*1</sup>	45 dB <sub>INT</sub> min.	45 dB <sub>INT</sub> min.	51 dB <sub>INT</sub>
5) 1931.25 to 1988.75 MHz <sup>*2</sup>	42 dB <sub>INT</sub> min.	42 dB <sub>INT</sub> min.	51 dB <sub>INT</sub>
6) 3700 to 3820 MHz	20 dB min.	20 dB min.	57 dB
7) 5550 to 5850 MHz	20 dB min.	20 dB min.	54 dB
<b>Isolation (CMI)</b>			
1) 1852.4 to 1907.6 MHz <sup>*1</sup>	46 dB <sub>INT</sub> min.	46 dB <sub>INT</sub> min.	51 dB <sub>INT</sub>
2) 1851.25 to 1908.75 MHz <sup>*2</sup>	46 dB <sub>INT</sub> min.	46 dB <sub>INT</sub> min.	51 dB <sub>INT</sub>

<sup>\*1</sup> Integration calculation (dB<sub>INT</sub>): WCDMA modulation (3.84MHz)

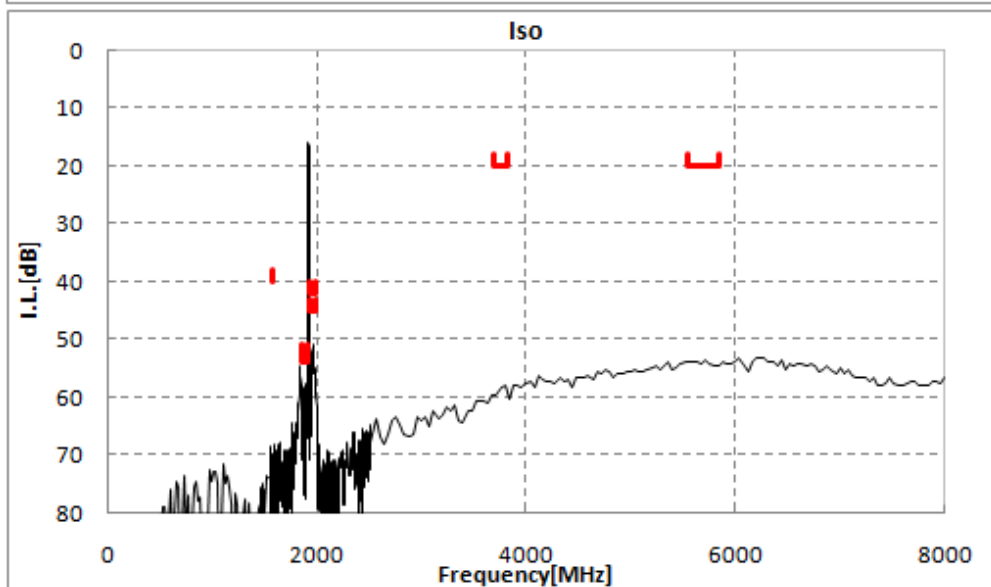
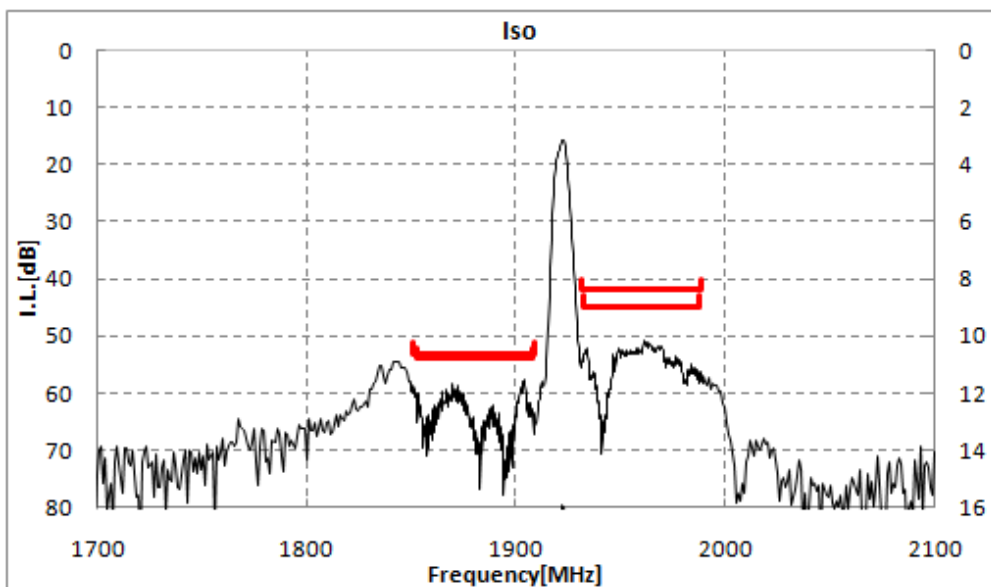
<sup>\*2</sup> Integration calculation (dB<sub>INT</sub>): NCDMA modulation (1.23MHz)

$$dB_{INT} = 10 \log \left[ \frac{\sum_{n=2}^N \left[ \frac{10^{(Loss(f_{n-1})/10)} + 10^{(Loss(f_n)/10)}}{2} \times (F_n - F_{n-1}) \right]}{F_N - F_1} \right]$$

# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→Rx]

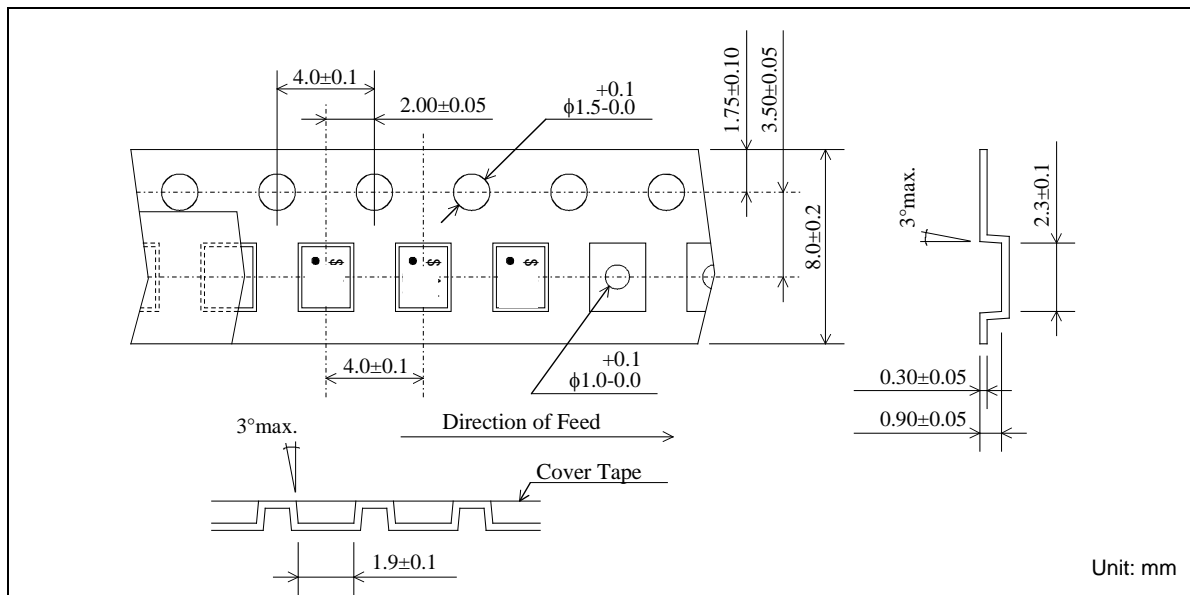
■ Frequency Performance



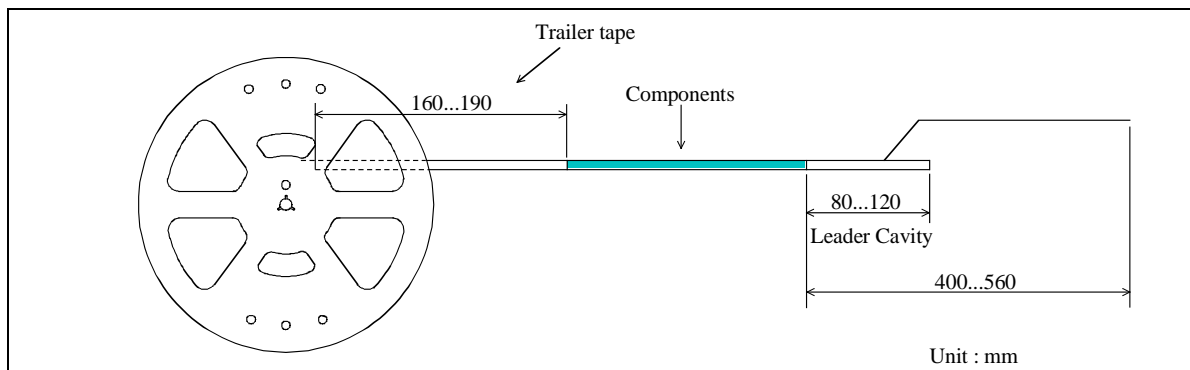
# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number : SAYRF1G88CA0B0A

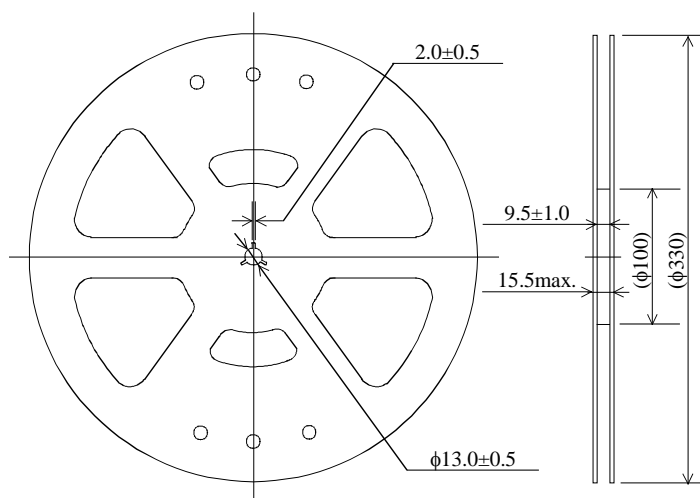
## Dimensions of Carrier Tape



## Dimensions of Tape



## Dimensions of Reel



SAYRF1G88CA0B0AR00 ... 10000pcs/reel  
SAYRF1G88CA0B0AR05 ... 5000pcs/reel

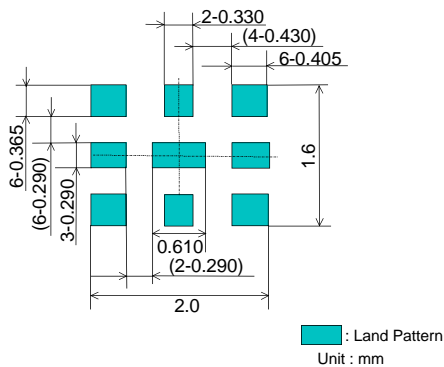


# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

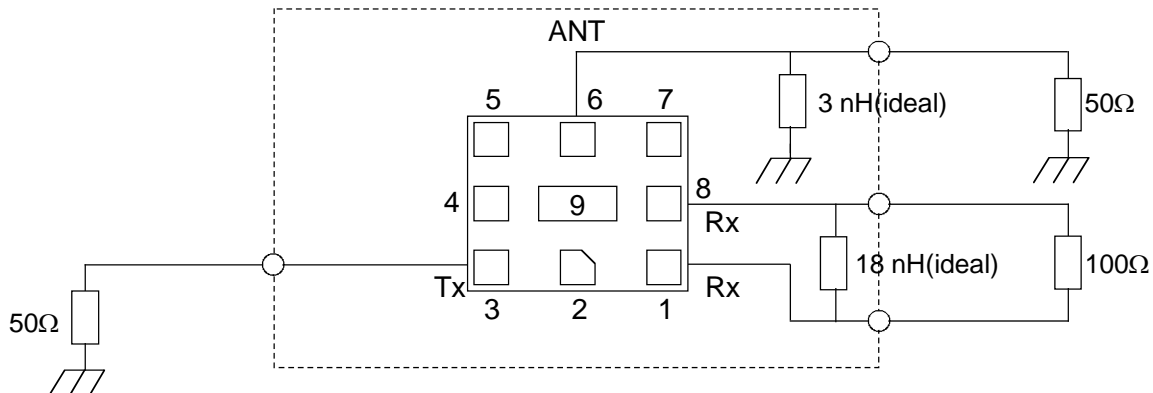
## Recommended Land Pattern

Top View



## Test Circuit

Bottom View



# SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

## RoHS Compliance

This component is compliant with RoHS directive.  
This component was always RoHS compliant from the first date of manufacture.

### • Caution - Limitation of Applications

This product is intended for the following applications only; however, please do not use this product in these applications where defects might directly cause damage to a third party's life, body or property.

- a. Mobile Telephone
- b. Cordless phone (except for Automotive use)
- c. PC (Including Notebook PC, Netbook PC, Tablet)
- d. Game
- e. Camera (except for Business/security use)
- f. Set Top Box
- g. Electronic dictionary
- h. Digital audio equipment

This catalog is for reference only and not an official product specification document, therefore, please review and approve our official product specification before ordering this product.

## Marking code

Table 1 \* : EIAJ Code

This rule of code is applied repeatedly every four year.

2009 2013 2017	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2010 2014 2018	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2011 2015 2019	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c̄	d	e	f	g	h	j	k	l	m
2012 2016 2020	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	n	p	q	r	s	t	u	v	w	x	y	z

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

# SAW DPX for WCDMA Band2/N-CDMA BC1

## Murata part number :SAYRF1G88CA0B0A

### ■ Important notice

PLEASE READ THIS NOTICE BEFORE USING OUR PRODUCTS.

Please make sure that your product has been evaluated and confirmed from the aspect of the fitness for the specifications of our product when our product is mounted to your product.

All the items and parameters in this product specification/datasheet/catalog have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment specified in this specification. You are requested not to use our product deviating from the condition and the environment specified in this specification. Please note that the only warranty that we provide regarding the products is its conformance to the specifications provided herein. Accordingly, we shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this specification.

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The product shall not be used in any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property. You acknowledge and agree that, if you use our products in such applications, we will not be responsible for any failure to meet such requirements. Furthermore, YOU AGREE TO INDEMNIFY AND DEFEND US AND OUR AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF OUR PRODUCTS IN SUCH APPLICATIONS.

- Aircraft equipment.
- Aerospace equipment
- Undersea equipment.
- Power plant control equipment - Medical equipment.
- Transportation equipment (vehicles, trains, ships, elevator, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Burning / explosion control equipment
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.

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Please do not use our products, our technical information and other data provided by us for the purpose of developing of mass-destruction weapons and the purpose of military use. Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

Please note that we may discontinue the manufacture of our products, due to reasons such as end of supply of materials and/or components from our suppliers.

# **SAW DPX for WCDMA Band2/N-CDMA BC1**

## **Murata part number :SAYRF1G88CA0B0A**

Customer acknowledges that Murata will, if requested by you, conduct a failure analysis for defect or alleged defect of Products only at the level required for consumer grade Products, and thus such analysis may not always be available or be in accordance with your request (for example, in cases where the defect was caused by components in Products supplied to Murata from a third party).

The product shall not be used in any other application/model than that of claimed to Murata.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.

We reject any liability or product warranty for engineering samples.

In particular we disclaim liability for damages caused by

- the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the product to be sold by you,
- deviation or lapse in function of engineering sample,
- improper use of engineering samples.

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