



Data Sheet of SAW Components

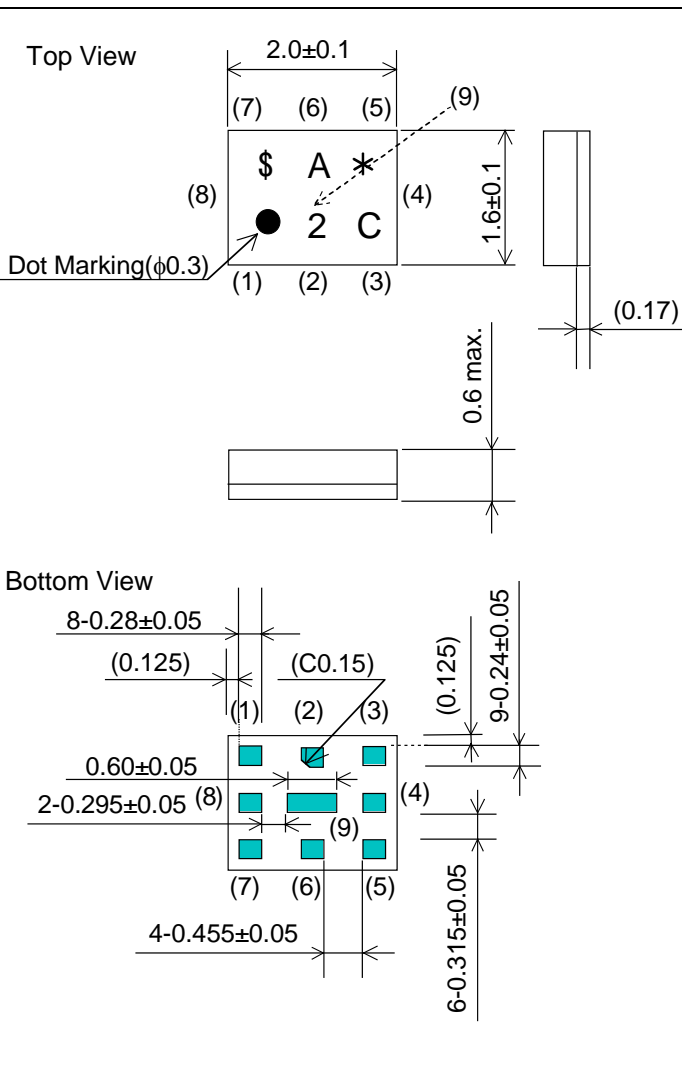


Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.
Please also read caution at the end of this document.

SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A [Tx→ANT]

Package Dimensions



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

Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	1950MHz		
Insertion Loss (1920.48 to 1979.52MHz) (1922.4 to 1977.6MHz)*	2.1 dB max.	2.1 dB max.	1.5 dB
Absolute Attenuation			
1) 10 to 1574 MHz	30 dB min.	30 dB min.	38 dB
2) 10 to 240 MHz	45 dB min.	45 dB min.	65 dB
3) 420 to 710 MHz	38 dB min.	38 dB min.	47 dB
4) 710 to 770 MHz	38 dB min.	38 dB min.	46 dB
5) 843 to 894 MHz	35 dB min.	35 dB min.	44 dB
6) 1565.42 to 1573.374 MHz	35 dB min.	35 dB min.	39 dB
7) 1573.374 to 1577.466 MHz	35 dB min.	35 dB min.	39 dB
8) 1577.466 to 1585.42 MHz	35 dB min.	35 dB min.	39 dB
9) 1597.552 to 1605.886 MHz	35 dB min.	35 dB min.	40 dB
10) 1605.886 to 1805 MHz	25 dB min.	25 dB min.	35 dB
11) 1805 to 1865 MHz	25 dB min.	25 dB min.	33 dB
12) 1865 to 1880 MHz	10 dB min.	10 dB min.	27 dB
13) 2010 to 2025 MHz	10 dB min.	10 dB min.	38 dB
14) 2010 to 2025 MHz (+15~85°C)	20 dB min.	20 dB min.	38 dB
15) 2110 to 2170 MHz	44 dB min.	44 dB min.	49 dB
16) 2400 to 2500 MHz	25 dB min.	25 dB min.	33 dB
17) 2620 to 2690 MHz	20 dB min.	20 dB min.	29 dB
18) 3830 to 3970 MHz	20 dB min.	20 dB min.	28 dB
19) 5150 to 5950 MHz	11 dB min.	11 dB min.	17 dB
20) 7670 to 7930 MHz	6 dB min.	6 dB min.	12 dB
Ripple Deviation (1920.48 to1979.52MHz)	1.3 dB max.	1.0 dB max.	0.6 dB
Ripple Deviation any 5.0MHz (1920 to1980MHz)	0.7 dB max.	0.7 dB max.	0.2 dB
VSWR			
1920.48 to1979.52MHz (ANT)	2.0 max.	2.0 max.	1.5
1920.48 to1979.52MHz (Tx)	2.0 max.	2.0 max.	1.4
ANT Port Matching Impedance(nominal)	50Ω/2.5nH		
Tx Port Matching Impedance(nominal)	50Ω		
Rx Port Matching Impedance(nominal)	100Ω/6.2nH		
Input Signal Level	0.8W, 10000 hours (55°C) at WCDMA modulation		

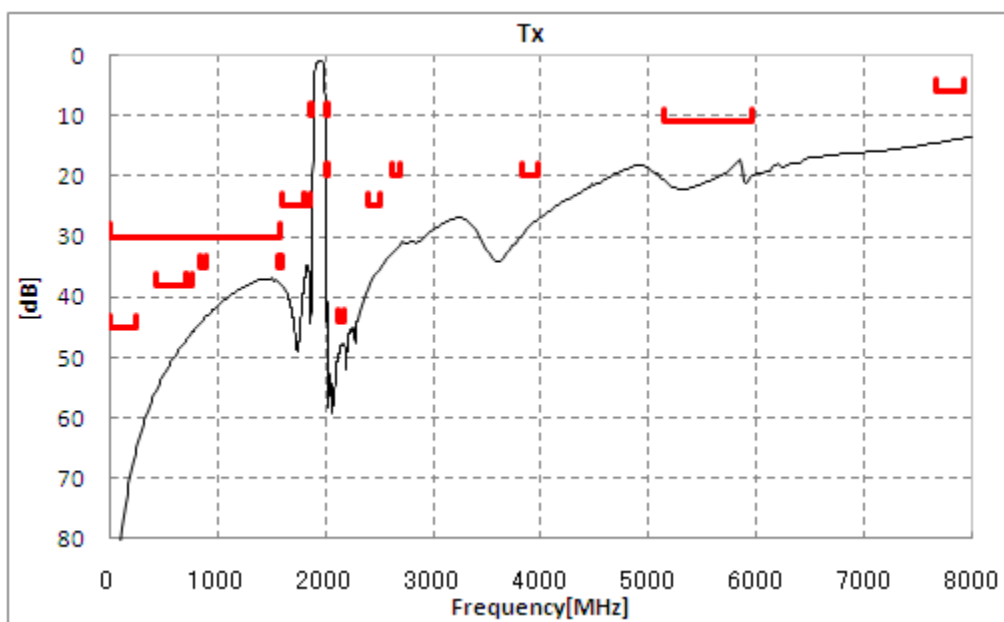
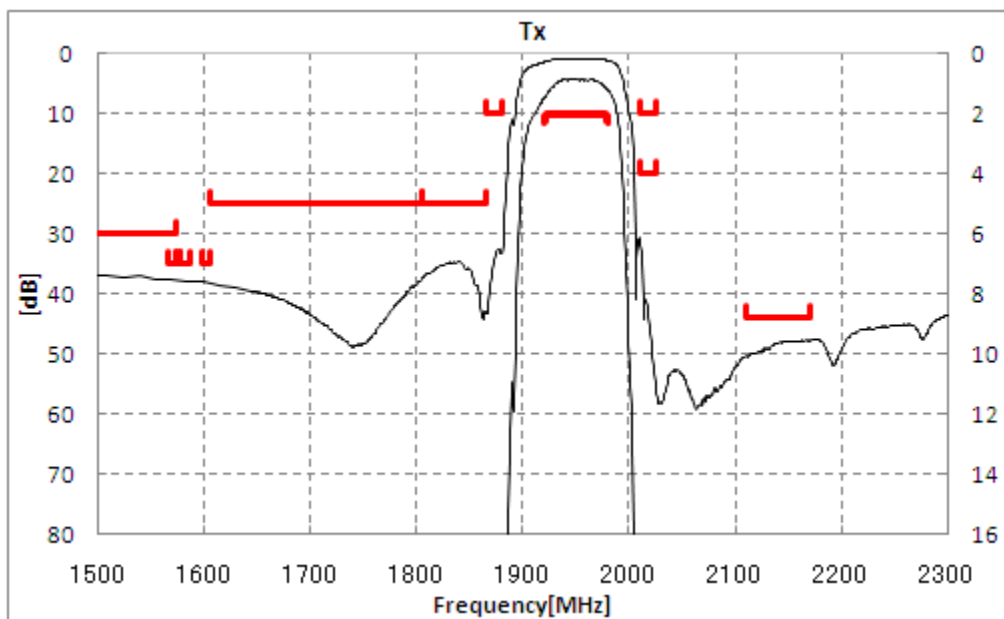
* Integration calculation (dB_{INT}):

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

SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A [Tx→ANT]

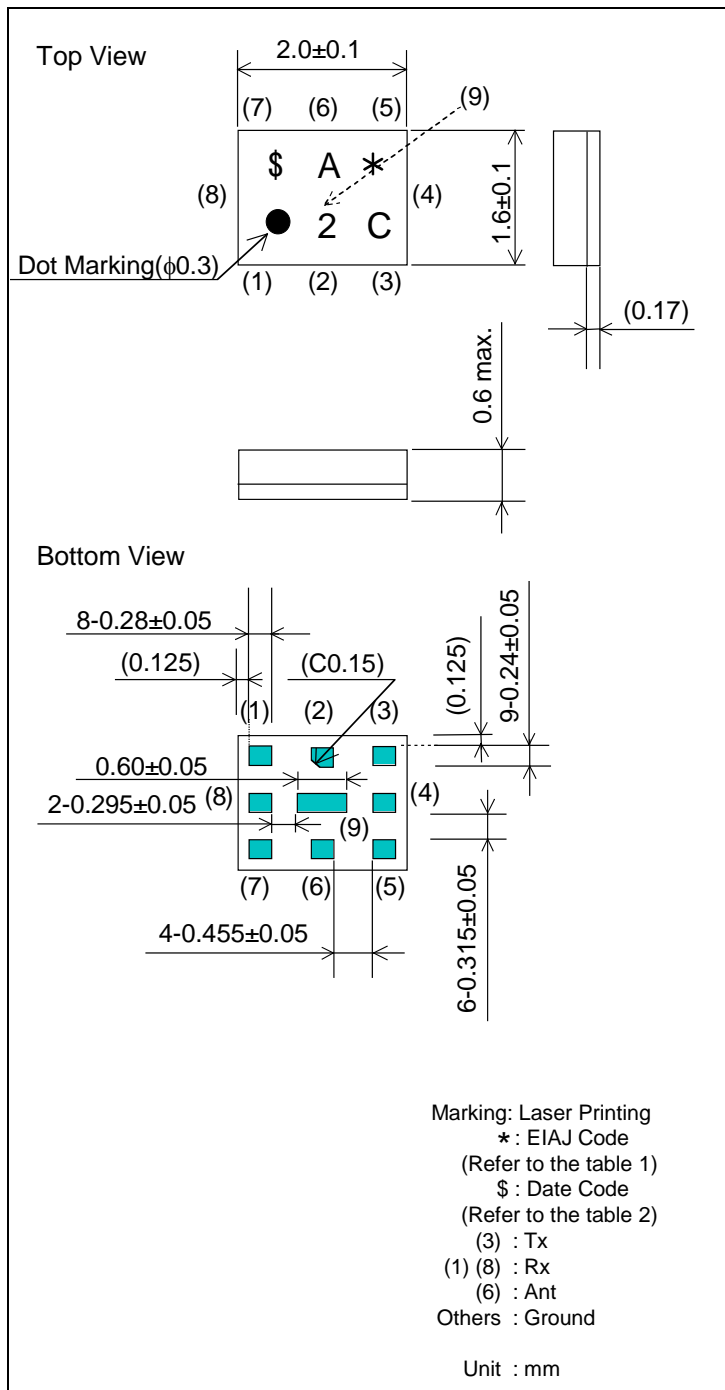
Frequency Performance



SAW DPX FOR UMTS BAND1

Murata part number : SAYRF1G95HG0F0A [ANT → Rx]

Package Dimensions



Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	2140MHz		
Insertion Loss (2110.48 to 2169.52MHz)	2.5 dB max.	2.5 dB max.	2.0 dB
(2112.4 to 2167.6MHz)*	2.4 dB _{INT} max.	2.4 dB _{INT} max.	1.8 dB _{INT}
Absolute Attenuation			
1) 1 to 220 MHz	60 dB min.	60 dB min.	110 dB
2) 1 to 1920 MHz	35 dB min.	35 dB min.	42 dB
3) 1055 to 1085 MHz	45 dB min.	45 dB min.	67 dB
4) 1730 to 1790 MHz	37 dB min.	37 dB min.	43 dB
5) 1920 to 1980 MHz	45 dB min.	45 dB min.	58 dB
6) 1980 to 2025 MHz	25 dB min.	25 dB min.	47 dB
7) 2025 to 2050 MHz	20 dB min.	20 dB min.	44 dB
8) 2050 to 2075 MHz	2 dB min.	2 dB min.	6.2 dB
9) 2255 to 2400 MHz	15 dB min.	15 dB min.	29 dB
10) 2400 to 2484 MHz	30 dB min.	30 dB min.	48 dB
11) 2484 to 6520 MHz	40 dB min.	40 dB min.	52 dB
Ripple Deviation (2110.48 to 2169.52MHz)	1.2 dB max.	1.0 dB max.	0.5 dB
Ripple Deviation any 5.0MHz (2110.48 to 2169.52MHz)	0.9 dB max.	0.9 dB max.	0.3 dB
Amplitude Balance (2110.48 to 2169.52MHz)	±1.5 dB max.	±1.5 dB max.	+0.8 dB
Phase Balance (2110.48 to 2169.52MHz)	180±10deg. max.	180±10deg. max.	180.0+6.2deg.
VSWR			
2110.48 to 2169.52MHz (ANT)	2.0 max.	2.0 max.	1.5
2110.48 to 2169.52MHz (Rx)	2.0 max.	2.0 max.	1.7
ANT Port Matching Impedance(nominal)	50Ω//2.5nH		
Tx Port Matching Impedance(nominal)	50Ω		
Rx Port Matching Impedance(nominal)	100Ω//6.2nH		

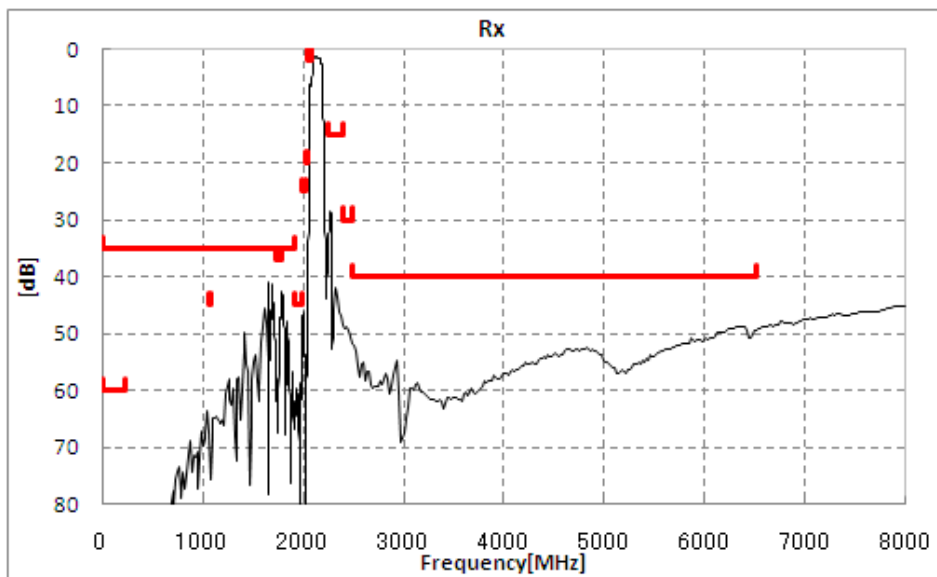
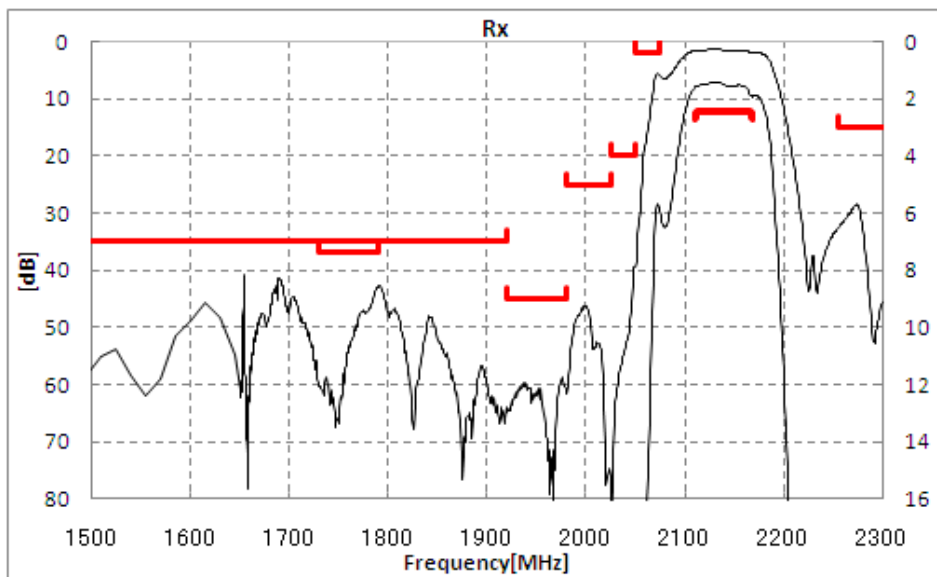
* Integration calculation (dB_{INT}):

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

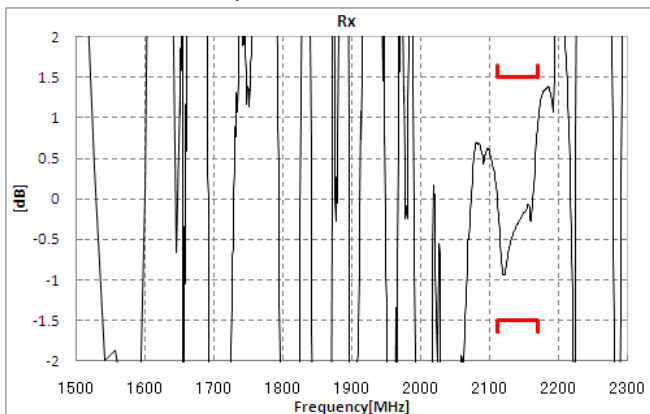
SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A [ANT→Rx]

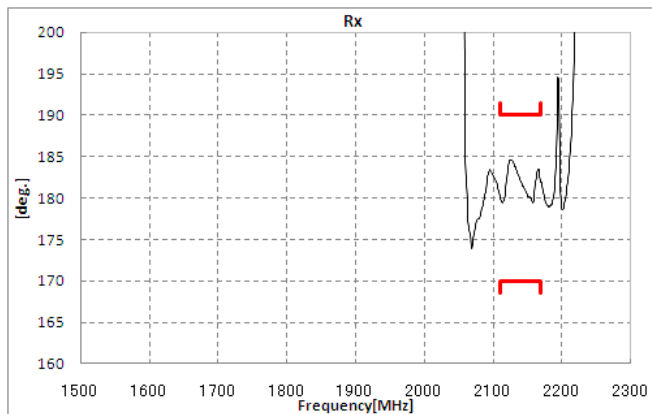
Frequency Performance



Amplitude balance



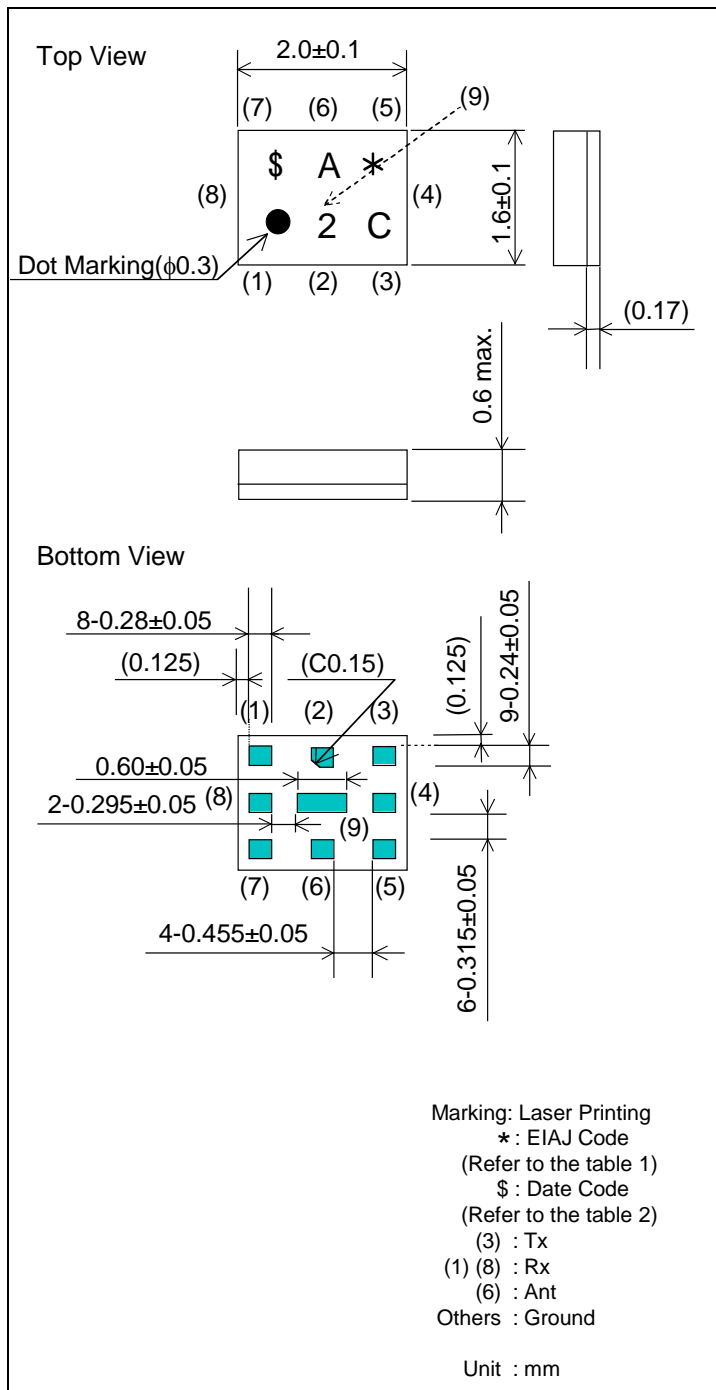
Phase balance



SAW DPX FOR UMTS BAND1

Murata part number : SAYRF1G95HG0F0A [Tx→Rx]

Package Dimensions



Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Isolation (DMI)			
1) 1920.48 to 1979.52 MHz	55 dB min.	55 dB min.	64 dB
2) 1922.4 to 1977.6 MHz*	55 dB _{INT} min.	55 dB _{INT} min.	64 dB _{INT}
3) 2110.48 to 2169.52 MHz	50 dB min.	50 dB min.	58 dB
4) 2112.4 to 2167.6 MHz*	50 dB _{INT} min.	50 dB _{INT} min.	59 dB _{INT}
5) 1574 to 1577 MHz	40 dB min.	40 dB min.	68 dB
6) 3830 to 3970 MHz	40 dB min.	40 dB min.	56 dB
7) 5750 to 5950 MHz	20 dB min.	20 dB min.	49 dB
Isolation (CMI)			
1) 1920.48 to 1979.52 MHz	50 dB min.	50 dB min.	56 dB
2) 1922.4 to 1977.6 MHz*	50 dB _{INT} min.	50 dB _{INT} min.	56 dB _{INT}

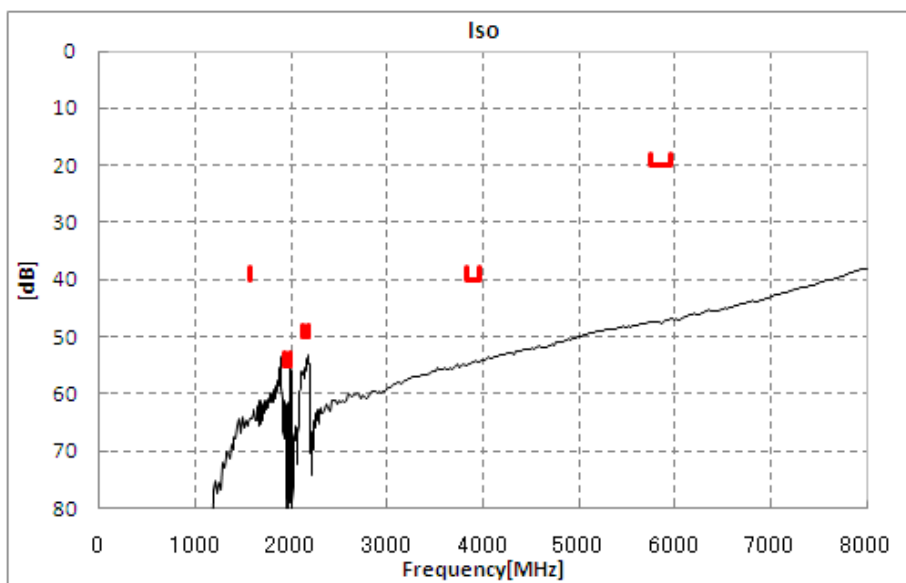
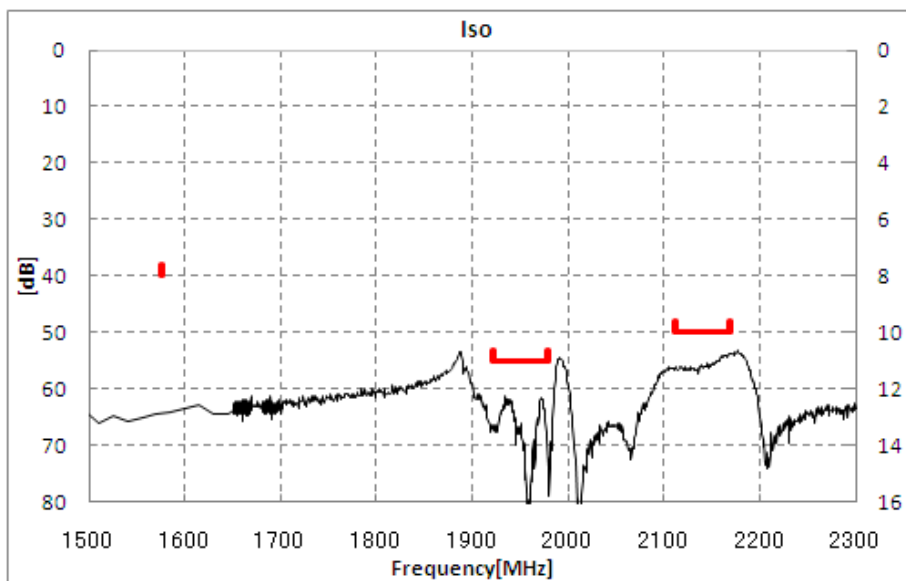
* Integration calculation (dB_{INT}):

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

SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A [Tx→Rx]

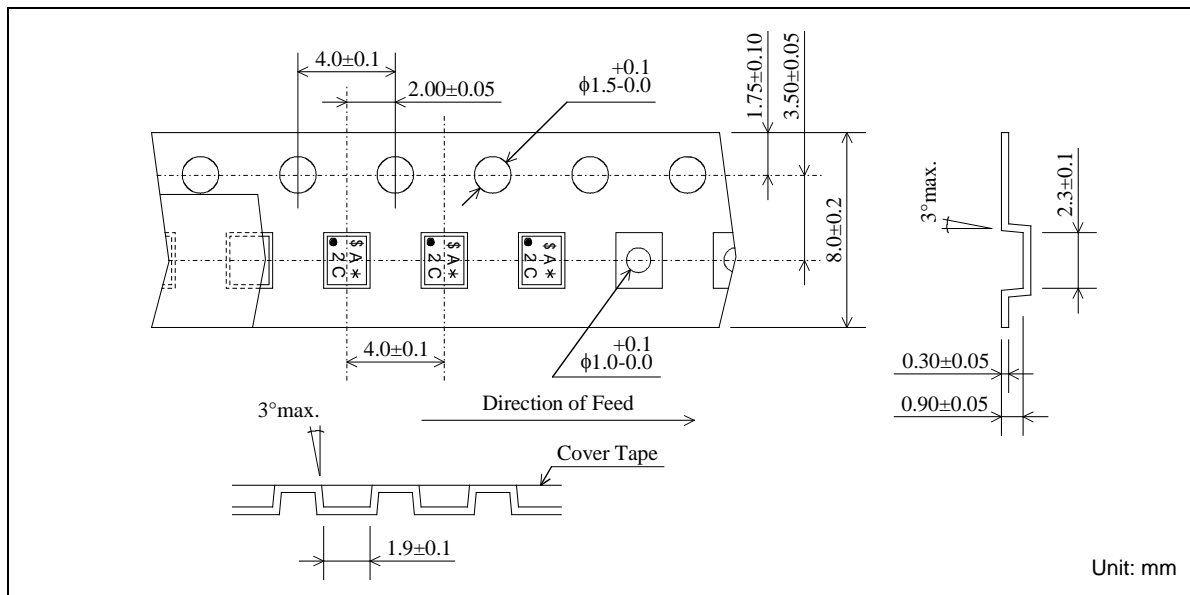
Frequency Performance



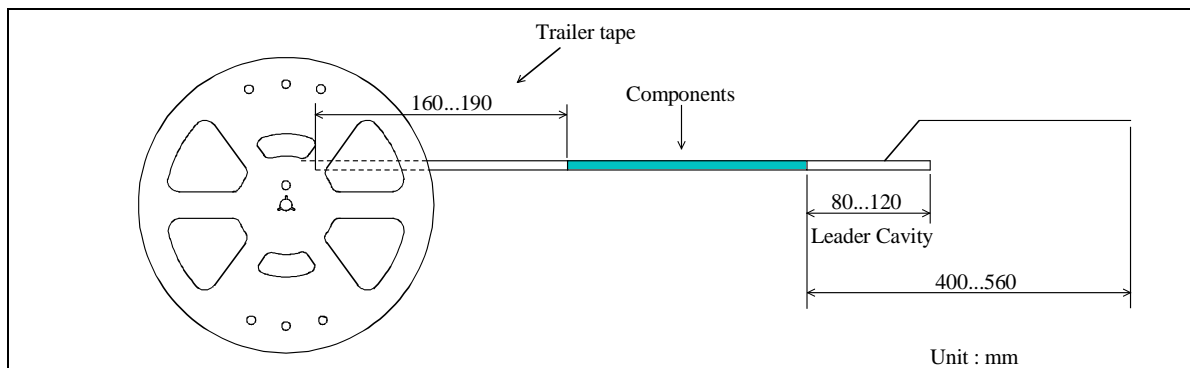
SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A

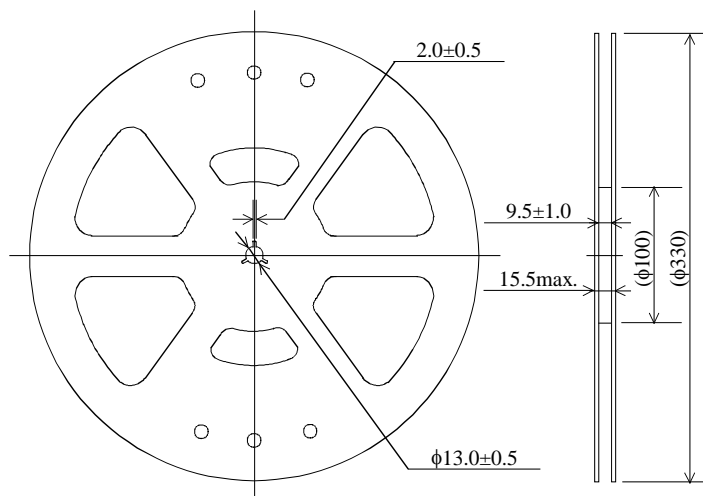
Dimensions of Carrier Tape



Dimensions of Tape



Dimensions of Reel



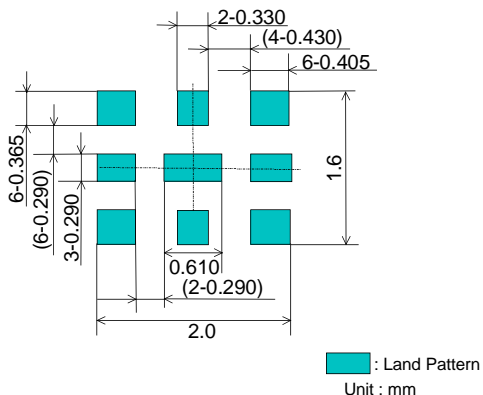
SAYRF1G95HG0F0AR00 ... 10000pcs/reel
SAYRF1G95HG0F0AR05 ... 5000pcs/reel

SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A

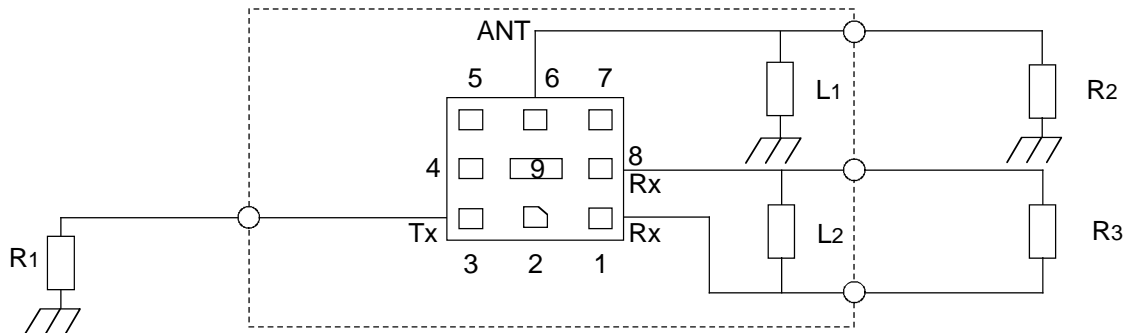
Recommended Land Pattern

Top View



Test Circuit

Bottom View



- R1 : 50Ω
- R2 : 50Ω
- R3 : 100Ω
- L1 : 2.5nH(ideal)
- L2 : 6.2nH(ideal)

SAW DPX FOR UMTS BAND1

Murata part number :SAYRF1G95HG0F0A

■ 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