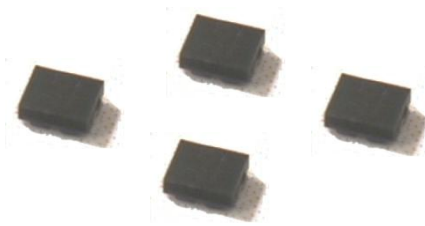




Data Sheet of SAW Components



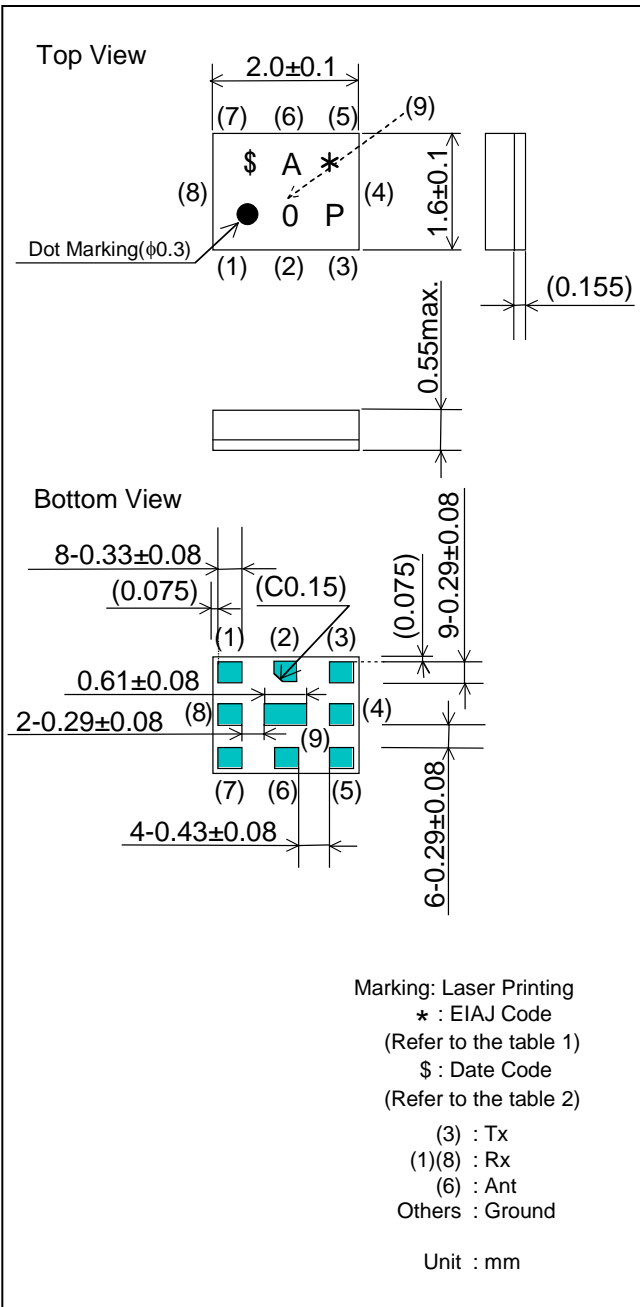
Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.

Please also read caution at the end of this document.

SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00 [Tx→ANT]

Package Dimensions



Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	836.5MHz		
Insertion Loss (824 to 849MHz)	1.9 dB max.	1.7 dB max.	1.4 dB
(826.4 to 846.6MHz)*	1.8 dB _{INT} max.	1.6 dB _{INT} max.	1.3 dB _{INT}
Absolute Attenuation			
1) 0.1 to 470 MHz	35 dB min.	35 dB min.	43 dB
2) 470 to 770 MHz	32 dB min.	32 dB min.	38 dB
3) 779 to 804 MHz	30 dB min.	30 dB min.	45 dB
4) 810 to 828 MHz	0.5 dB min.	0.5 dB min.	1.1 dB
5) 860 to 869 MHz	3.2 dB min.	6.5 dB min.	10 dB
6) 860 to 869 MHz(+15...+85°C)	6.5 dB min.	6.5 dB min.	10 dB
7) 869 to 894 MHz	44 dB min.	44 dB min.	51 dB
8) 921 to 960 MHz	25 dB min.	25 dB min.	40 dB
9) 1475.9 to 1500.9 MHz	25 dB min.	25 dB min.	46 dB
10) 1565.4 to 1605.8 MHz	40 dB min.	40 dB min.	44 dB
11) 1648 to 1698 MHz	25 dB min.	25 dB min.	43 dB
12) 1805 to 2170 MHz	30 dB min.	30 dB min.	39 dB
13) 2400 to 2547 MHz	30 dB min.	30 dB min.	39 dB
14) 2620 to 2690 MHz	20 dB min.	20 dB min.	40 dB
15) 3296 to 3396 MHz	10 dB min.	10 dB min.	24 dB
16) 4120 to 4245 MHz	5 dB min.	5 dB min.	15 dB
17) 4944 to 12750 MHz	3 dB min.	3 dB min.	9 dB
Ripple Deviation (824 to 849MHz)	1.1 dB max.	1.0 dB max.	0.4 dB
Ripple Deviation any 5MHz (824 to 849MHz)	1.0 dB max.	1.0 dB max.	0.2 dB
VSWR			
824 to 849MHz (Tx)	1.9 max.	1.9 max.	1.5
824 to 849MHz (ANT)	1.9 max.	1.9 max.	1.5
ANT Port Matching Impedance(nominal)	50Ω/6.8nH (ideal)		
Tx Port Matching Impedance(nominal)	50Ω		
Rx Port Matching Impedance(nominal)	100Ω		

* Integration calculation (dB_{INT}):

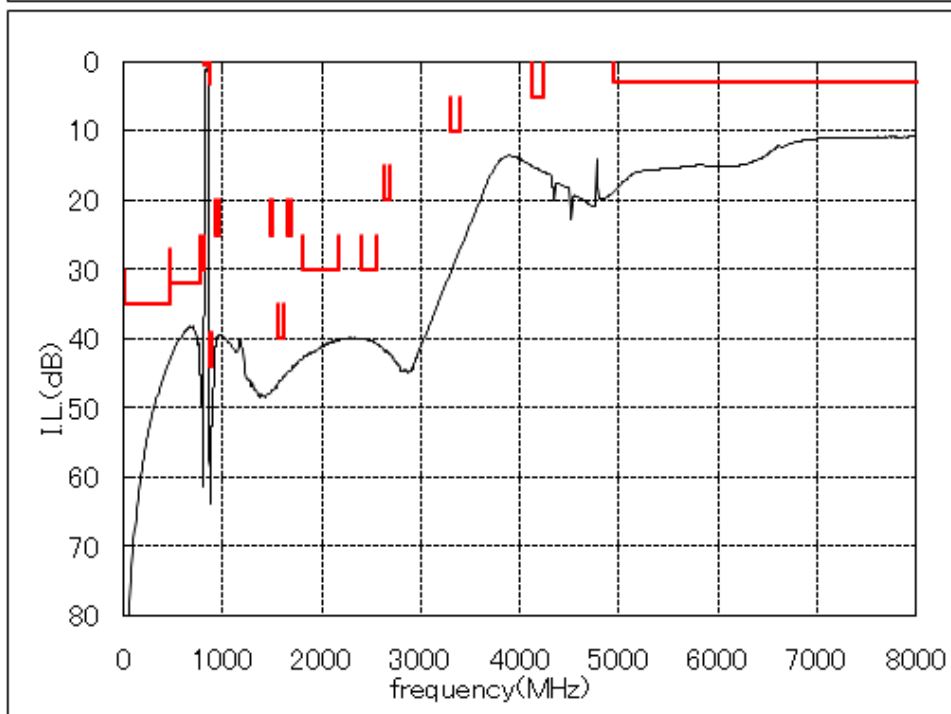
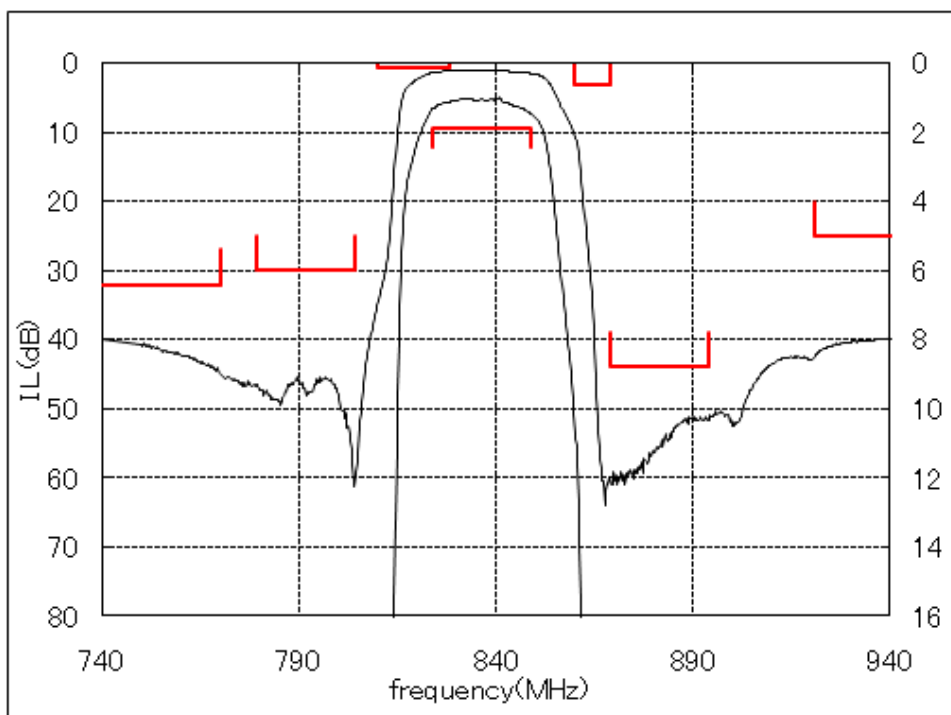
$$dB_{INT} = 10 \log \left[\frac{\sum_{n=2}^N \left[\frac{10^{(Loss(f_{n-1})/10)} + 10^{(Loss(f_n)/10)}}{2} \right] \times (F_n - F_{n-1})}{F_N - F_1} \right]$$

(*): Reference value for actual inductor : 7.5nH (LQW15AN7N5G00D)
(Please refer to Test Circuit page for more detailed information.)

SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00 [Tx→ANT]

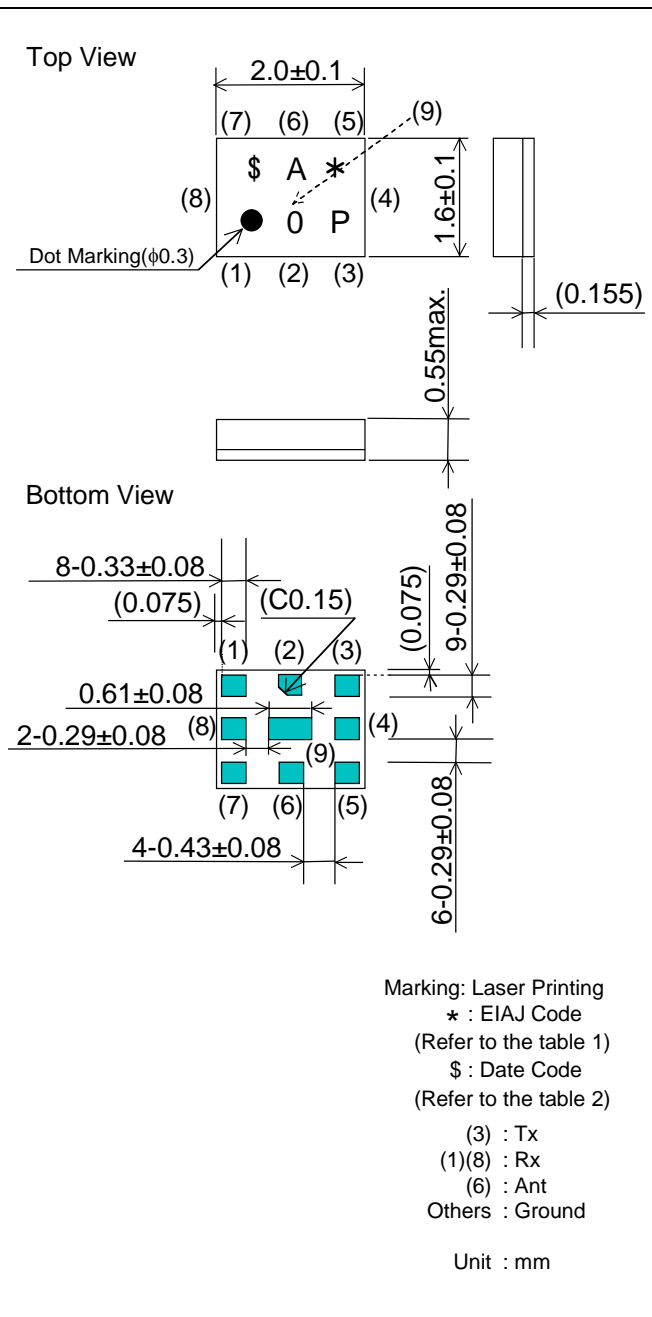
Frequency Performance



SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00 [ANT→Rx]

Package Dimensions



Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	881.5MHz		
Insertion Loss (869 to 894MHz)	2.5 dB max.	2.0 dB max.	1.7 dB
(871.4 to 891.6MHz)*	2.4 dB _{INT} max.	2.0 dB _{INT} max.	1.6 dB _{INT}
Absolute Attenuation			
1) 0.1 to 779 MHz	45 dB min.	45 dB min.	64 dB
2) 779 to 824 MHz	45 dB min.	45 dB min.	63 dB
3) 824 to 849 MHz	52 dB min.	52 dB min.	63 dB
4) 846.5 to 860 MHz	4 dB min.	4 dB min.	10 dB
5) 914 to 1693 MHz	20 dB min.	20 dB min.	26 dB
6) 1693 to 1788 MHz	40 dB min.	40 dB min.	55 dB
7) 1788 to 2400 MHz	40 dB min.	40 dB min.	52 dB
8) 2400 to 2500 MHz	40 dB min.	40 dB min.	51 dB
9) 2500 to 2592 MHz	40 dB min.	40 dB min.	51 dB
10) 2607 to 2682 MHz	35 dB min.	35 dB min.	51 dB
11) 2682 to 5150 MHz	33 dB min.	33 dB min.	48 dB
12) 5150 to 12750 MHz	5 dB min.	5 dB min.	15 dB
Ripple Deviation (869 to 894MHz)	1.6 dB max.	1.4 dB max.	0.3 dB
Ripple Deviation any 5MHz (869 to 894MHz)	1.2 dB max.	1.2 dB max.	0.3 dB
Amplitude Balance (869 to 894MHz)	±1.0 dB max.	±1.0 dB max.	+0.4 dB
Phase Balance (869 to 894MHz)	180±10deg. max.	180±10deg. max.	180+5deg.
VSWR			
869 to 894MHz (Rx)	2.0 max.	2.0 max.	1.6
869 to 894MHz (ANT)	2.0 max.	2.0 max.	1.5
ANT Port Matching Impedance(nominal)	50Ω/6.8nH (ideal)		
Tx Port Matching Impedance(nominal)	50Ω		
Rx Port Matching Impedance(nominal)	100Ω		

(*) : Reference value for actual inductor : 7.5nH (LQW15AN7N5G00D)
(Please refer to Test Circuit page for more detailed information.)

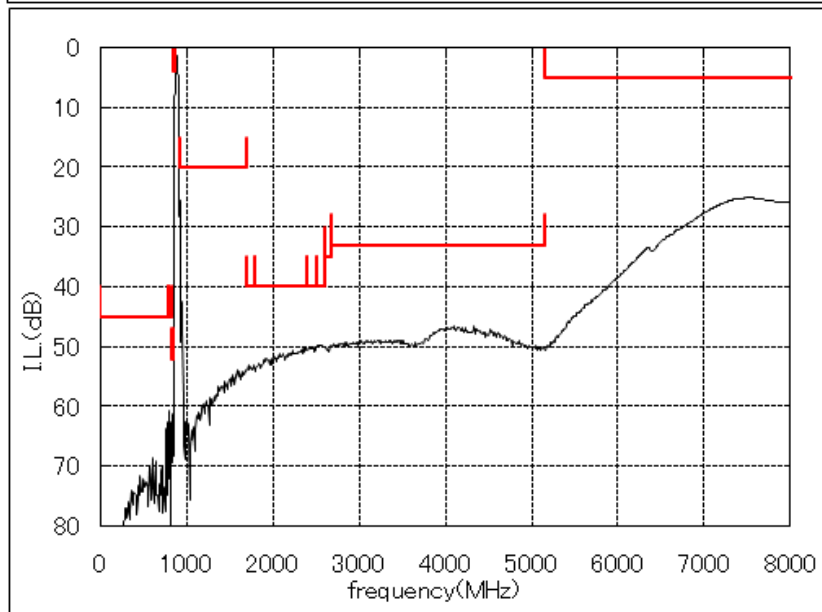
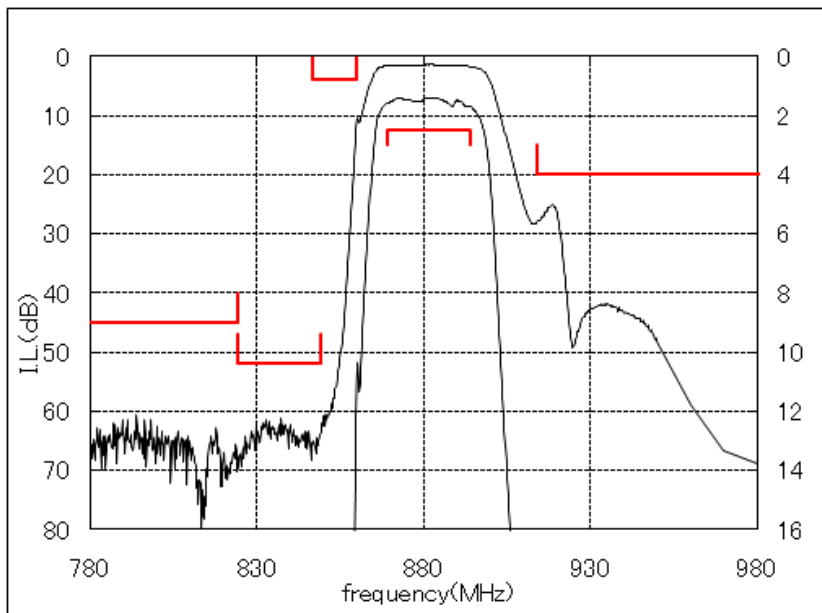
* Integration calculation (dB_{INT}):

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

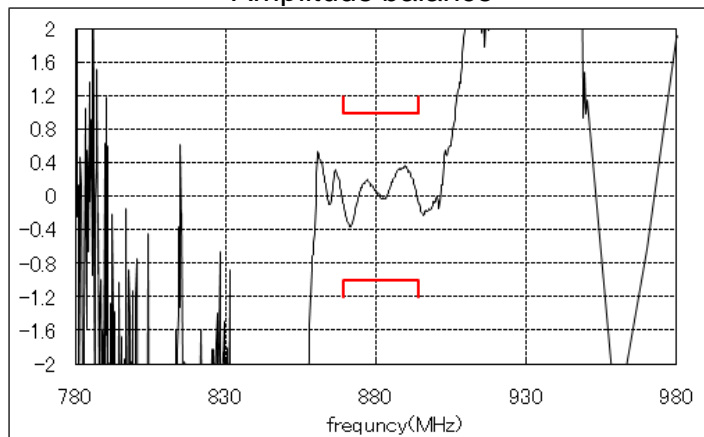
SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00 [ANT→ Rx]

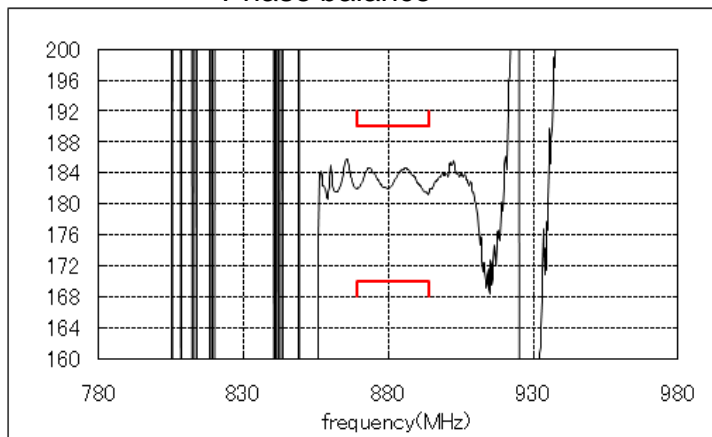
Frequency Performance



Amplitude balance



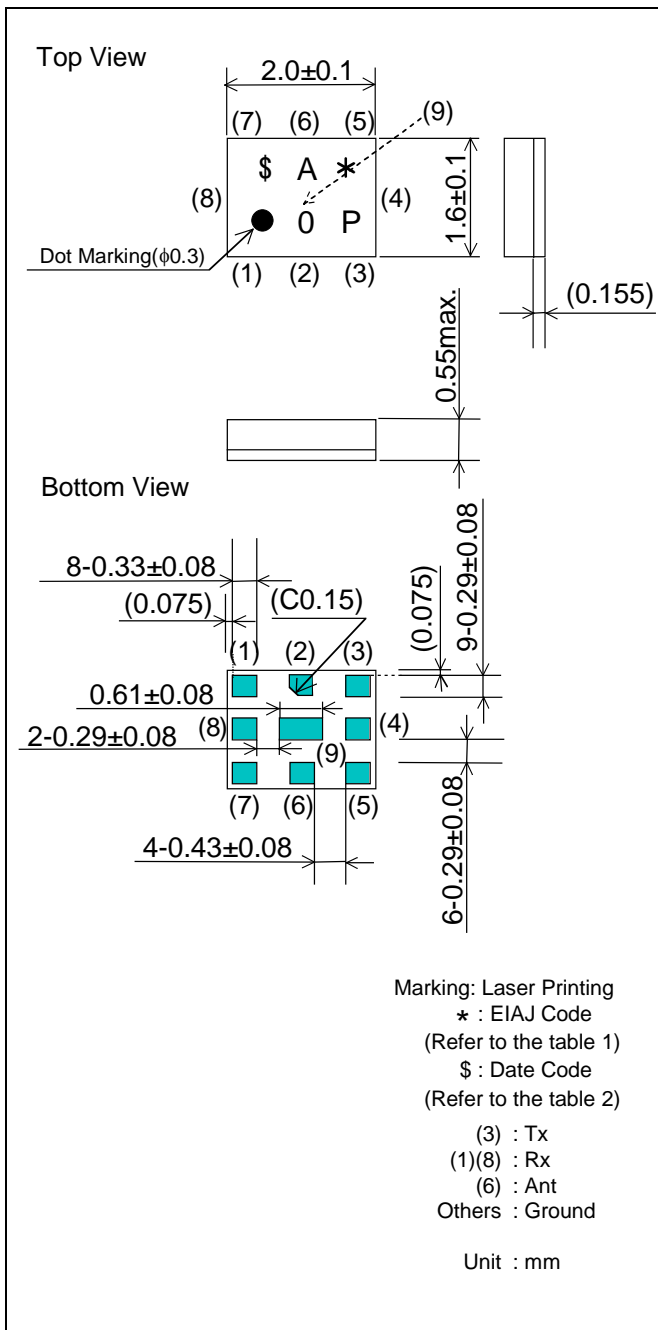
Phase balance



SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00 [Tx → Rx]

Package Dimensions



Specification

Item	Specification		
	-30 to 85°C	25±2°C	typ.
Isolation (differential mode)			
1) 824 to 849 MHz	55 dB min.	55 dB min.	64 dB
2) 826.4 to 846.6 MHz*	56 dB _{INT} min.	56 dB _{INT} min.	67 dB _{INT}
3) 869 to 894 MHz	50 dB min.	50 dB min.	53 dB
4) 871.4 to 891.6 MHz*	51 dB _{INT} min.	51 dB _{INT} min.	55 dB _{INT}
5) 1648 to 1698 MHz	40 dB min.	40 dB min.	62 dB
Isolation (common mode)			
1) 824 to 849 MHz	50 dB min.	50 dB min.	57 dB
2) 826.4 to 846.6 MHz*	50 dB _{INT} min.	50 dB _{INT} min.	58 dB _{INT}
3) 869 to 894 MHz	50 dB min.	50 dB min.	58 dB
4) 871.4 to 891.6 MHz*	50 dB _{INT} min.	50 dB _{INT} min.	60 dB _{INT}

* Integration calculation (dB_{INT}):

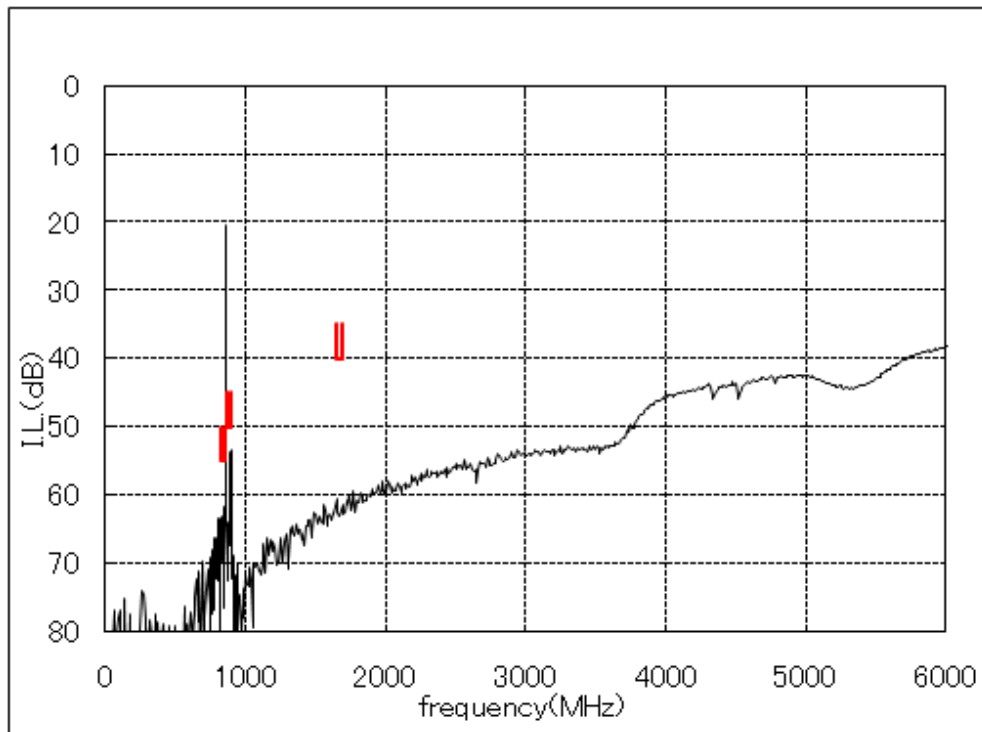
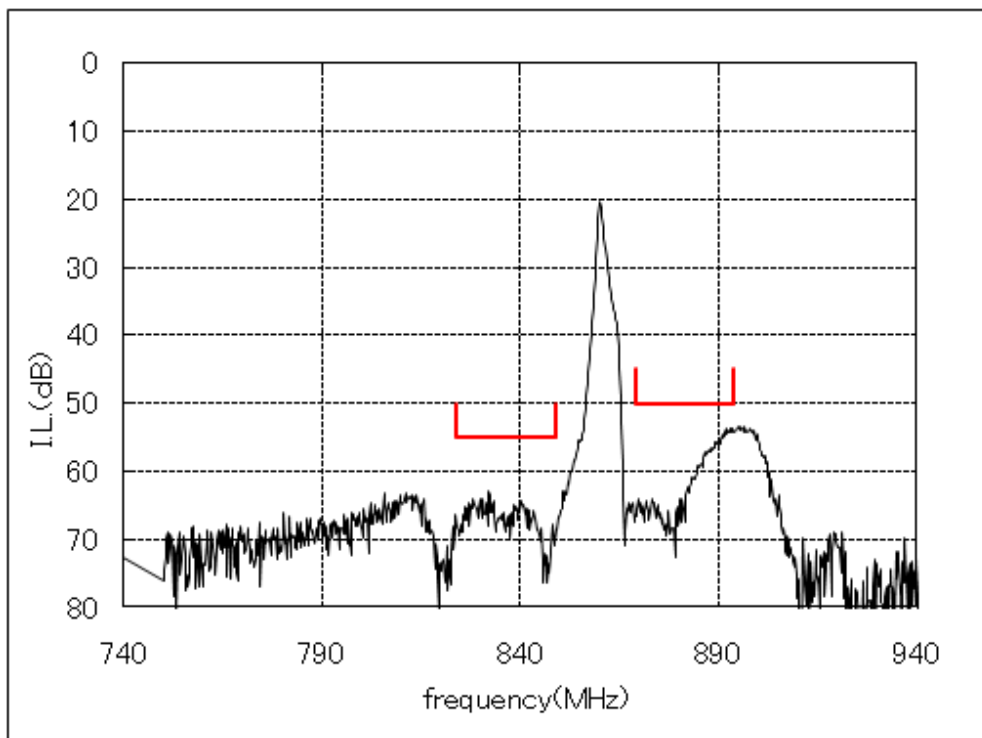
$$dB_{INT} = 10 \log \left[\frac{\sum_{n=2}^N \left[\frac{10^{(Loss(f_{n-1})/10)} + 10^{(Loss(f_n)/10)}}{2} \right] \times (F_n - F_{n-1})}{F_N - F_1} \right]$$

SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00

[Tx→Rx]

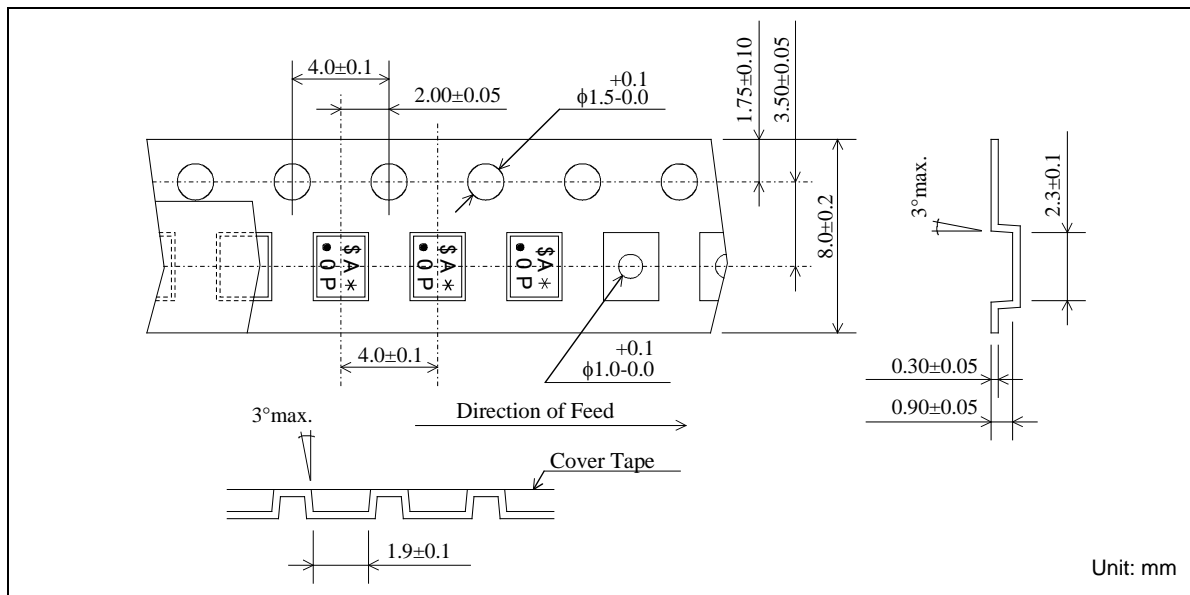
Frequency Performance



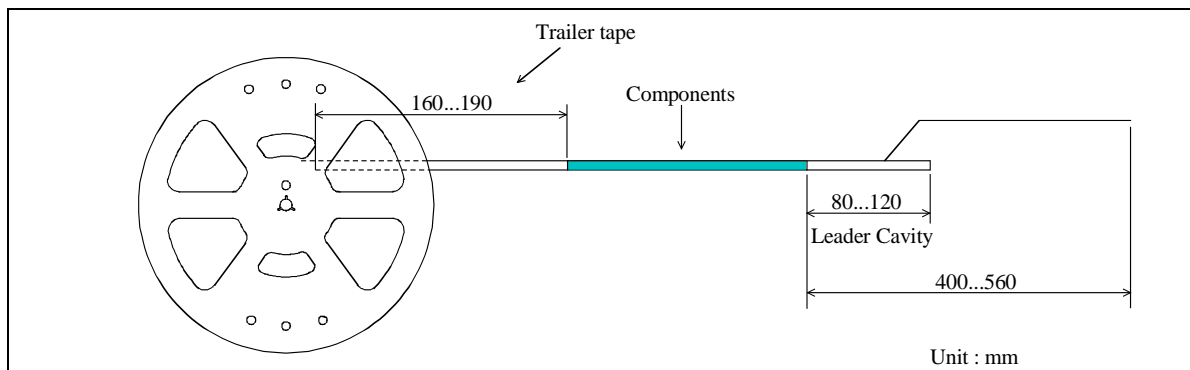
SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00

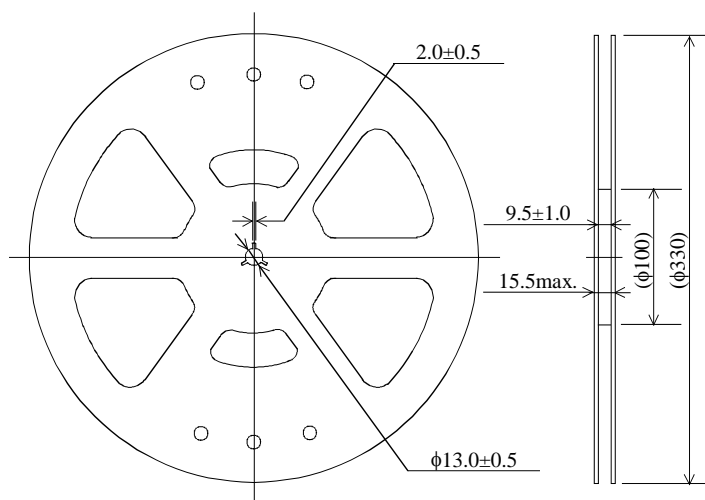
Dimensions of Carrier Tape



Dimensions of Tape



Dimensions of Reel



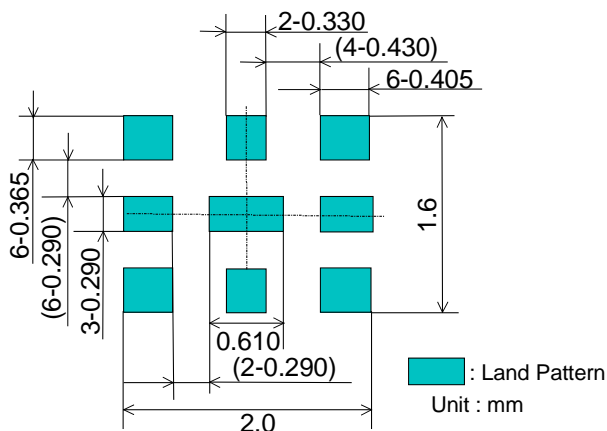
SAYFH836MCA0F00R00 ... 10000pcs/reel
SAYFH836MCA0F00R05 ... 5000pcs/reel

SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00

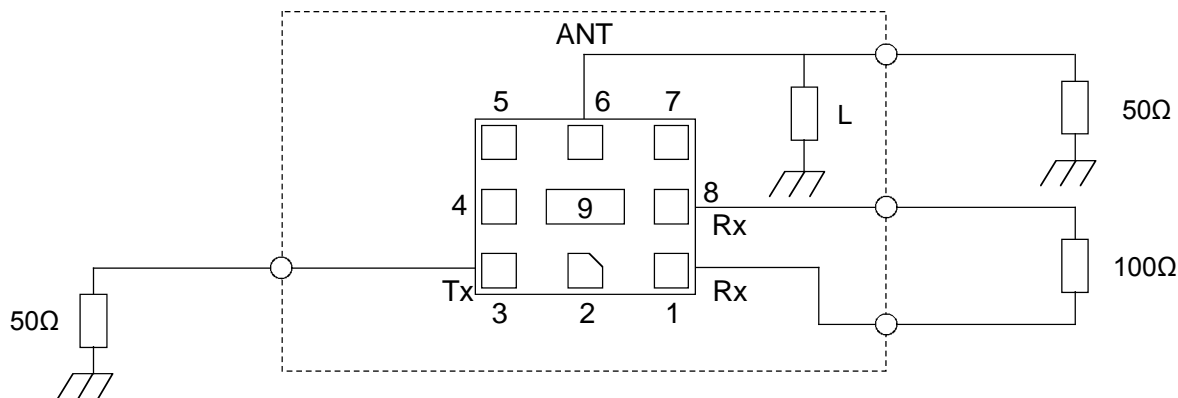
Recommended Land Pattern

Top View



Test Circuit

Bottom view



L : 6.8nH (ideal value)
7.5nH (actual value for your reference : LQW15AN7N5G00D)

- Note :
- 1) Ideal value is to determine its specification or make RF performance same as data-sheet.
 - 2) Actual value is to make similar performance to apply actual P/N or value of inductor.
 - 3) 0.6mm clearance between Ant.port and inductor is suitable to realize DPX performance.

SAW DPX FOR UMTS Band5

Murata part number :SAYFH836MCA0F00

■ 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