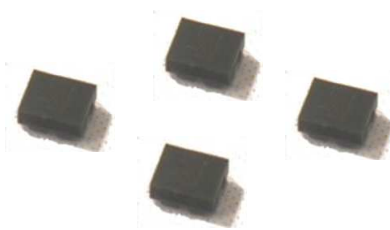


Datasheet of SAW Device

SAW Duplexer
for Band1 / Unbalanced / LR /1814

Murata PN: SAYEY1G95GA0F0A

- Feature
 - LTE-A



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

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

General Information

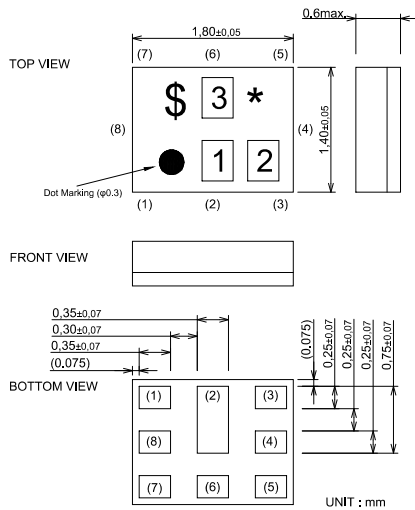
- Operating temperature	: -20 to +85 deg.C
- Storage temperature	: -40 to +85 deg.C
- Input Power	: +30.0dBm 5000h +50deg.C (1) +28.5dBm 5000h +50deg.C (2) (1) applicable for W-CDMA, SC-FDMA, DFT-s-OFDM (2) applicable for CP-OFDM
- D.C. Volatage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions



Marking : Laser Printing

* : Month code(Refer to the table A)

\$: Date code(Refer to the table B)

1 : 5

2 : Q

3 : A

Terminal Number

(6) : Ant

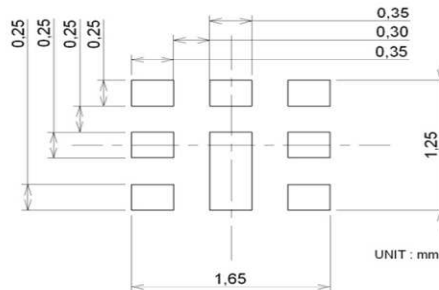
(3) : TX

(1) : RX

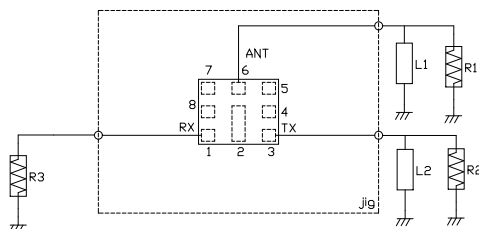
Others : GND

Notice) Please refer to Measurement Circuit for Port information in detail.

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :2.8nH(Ideal inductor)
	:3.3nH(LQP03TN3N3)
	<Reference>
R2 : 50 ohm	L2 :8nH(Ideal inductor)
R3 : 50 ohm	

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Electrical Characteristic < TX → ANT. >

TX → ANT.	Characteristics (-20 to +85 deg.C)			Unit	Note	
	min.	typ.*	max.			
	Center Frequency		1950			
Insertion Loss	1920.48 to 1979.52	MHz	1.5	1.8	dB	S21
	1920.48 to 1979.52	MHz	1.5	1.8	dB	+23 to +27deg.C
	1920. to 1980.	MHz	1.5	1.8	dB	S21
	1920. to 1980.	MHz	1.5	1.8	dB	+23 to +27deg.C
	1922.4 to 1977.6	MHz	1.3	1.8	dB _{INT}	Any 3.84MHz
Ripple Deviation	1920. to 1980.	MHz	0.2	0.5	dB	Over any 5MHz in-band
VSWR	1920. to 1980.	MHz	1.3	2.0		TX
	1920. to 1980.	MHz	1.4	2.0		ANT.
Absolute Attenuation	10. to 1574.	MHz	29	32	dB	
	420. to 494.	MHz	41	46	dB	450MHz RX Att.
	815. to 830.	MHz	29	32	dB	B18 TX CA
	824. to 849.	MHz	29	32	dB	B5 TX CA
	830. to 845.	MHz	29	32	dB	B19 TX CA
	843. to 894.	MHz	29	32	dB	JCDMA/CELL RX Att.
	880. to 915.	MHz	29	32	dB	B8 TX CA
	925. to 960.	MHz	29	32	dB	WLAN and DL CA
	1226. to 1250.	MHz	30	34	dB	GPS L2
	1447.9 to 1462.9	MHz	30	38	dB	B21 TX CA
	1475. to 1496.	MHz	36	39	dB	B11 RX band
	1496. to 1511.	MHz	36	40	dB	B21 RX band
	1559. to 1563.	MHz	38	43	dB	Compass
	1565.42 to 1573.37	MHz	38	43	dB	Wideband GPS lower side
	1573.37 to 1577.47	MHz	38	43	dB	Regular GPS main lobe
	1577.47 to 1585.42	MHz	38	43	dB	Wideband GPS upper side
	1597.55 to 1605.89	MHz	40	45	dB	GLONASS
	1605.88 to 1805.	MHz	25	36	dB	
	1805. to 1865.	MHz	21	26	dB	Protected DCS band
	1865. to 1880.	MHz	10	25	dB	Protected DCS band
	1880. to 1895.	MHz	5.0	20.0	dB	
	2010. to 2025.	MHz	20	22	dB	+15 to +85deg.C
	2110. to 2170.	MHz	42	46	dB	IMT Att.
	2400. to 2500.	MHz	40	45	dB	ISM2.4
	2620. to 2690.	MHz	33	38	dB	Protected 2.6GHz band
	3840. to 3960.	MHz	23	28	dB	2f
	4900. to 5950.	MHz	16	21	dB	3f
4905. to 5845.	MHz	16	21	dB	WLAN 801.11a	
7680. to 7920.	MHz	10	15	dB	4f	
9600. to 9900.	MHz	9.8	12.0	dB	5f	
11520. to 11880.	MHz	9.8	15.0	dB	6f	

* Typical value at 25±2deg.C

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Electrical Characteristic < ANT. → RX >

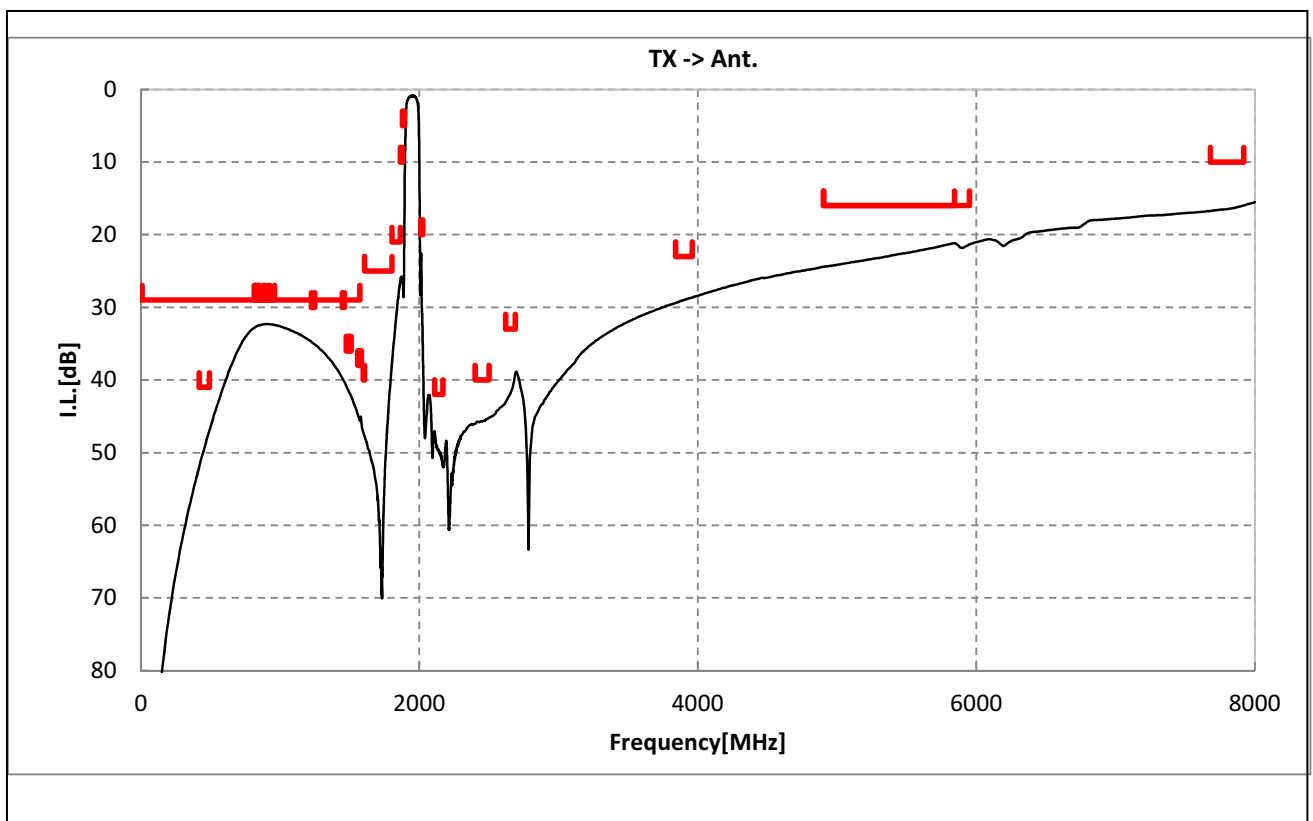
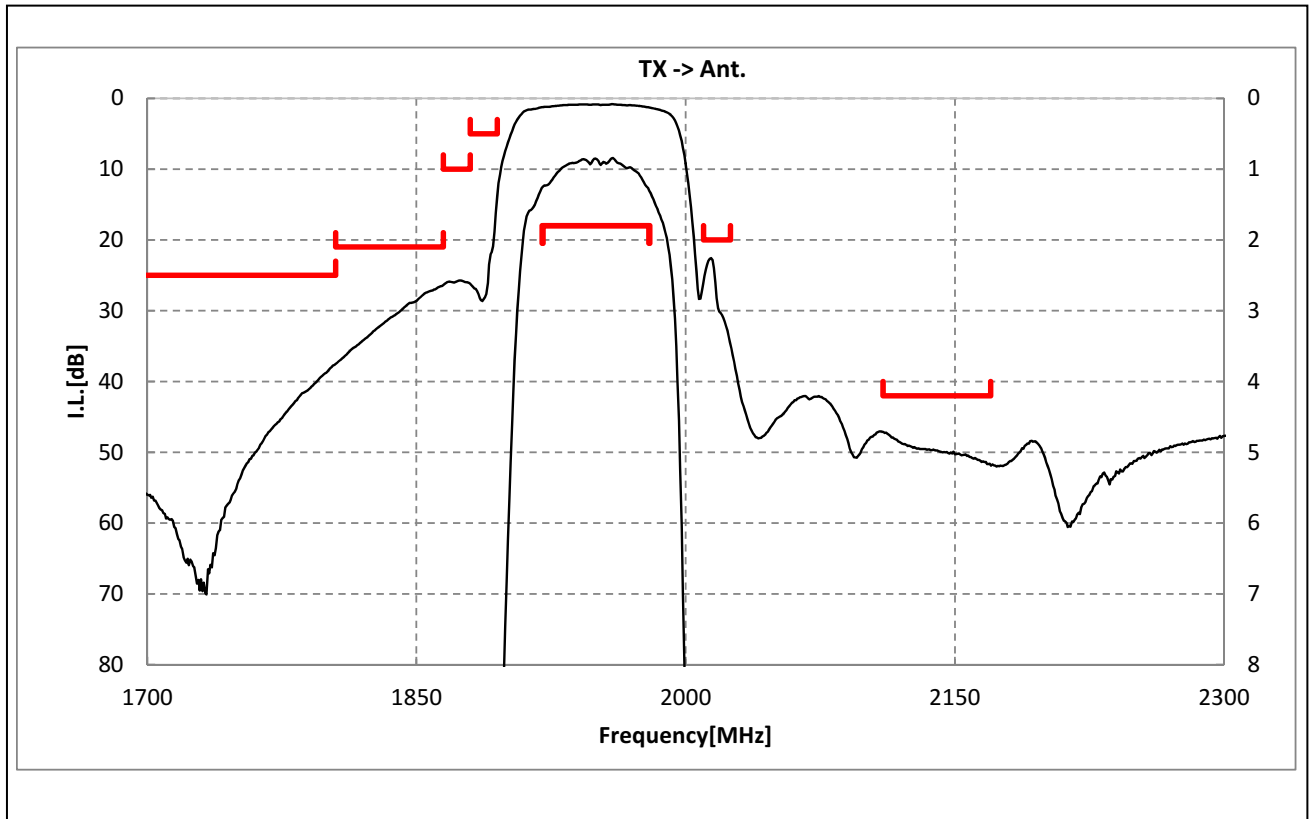
ANT. → RX		Characteristics (-20 to +85 deg.C)			Unit	Note		
		min.	typ.*	max.				
							2140	
Center Frequency			2140	1.8	2.3	MHz		
Insertion Loss	2110.48 to 2169.52	MHz		1.8	2.2	dB	+23 to +27deg.C	
	2110. to 2170. MHz			1.8	2.3			
	2110. to 2170. MHz			1.8	2.2			
Ripple Deviation	2110. to 2170. MHz			0.3	1.0	dB	Over any 5MHz in-band	
VSWR	2110. to 2170. MHz			1.7	2.0			
VSWR	2110. to 2170. MHz			1.7	2.0	dB	RX	
	2110. to 2170. MHz			1.7	2.0		ANT.	
Absolute Attenuation	1. to 1920. MHz			32	41	dB		
	190. MHz			50	79		RX-TX	
	718. to 748. MHz			40	56		B28-B TX CA	
	814. to 849. MHz			40	54		B26 TX CA	
	880. to 915. MHz			40	53		B8 TX CA	
	1427. to 1447. MHz			40	46		B11 TX CA	
	1447. to 1463. MHz			40	45		B21 TX CA	
	1730. to 1790. MHz			39	44		2TX-RX	
	1710. to 1785. MHz			37	42		B3 TX CA	
	1920. to 1980. MHz			45	51		TX	
	1980. to 2015. MHz			15	46			
	2015. to 2075. MHz			7.0	10.0			(RX+TX)/2
	2255. to 6130. MHz			27	32			
	2400. to 2500. MHz			30	35			ISM2.4
	2500. to 2570. MHz			38	43			B7 TX CA
	4030. to 4150. MHz			38	43			RX+TX
	4220. to 4340. MHz			37	42			2f
	4340. to 13025. MHz			15	19			
	4900. to 5950. MHz			33	38			ISM 5G
	5950. to 6130. MHz			32	37			RX+2TX
	6130. to 6330. MHz			32	37			
	6330. to 6510. MHz			32	37			3f
	8440. to 8680. MHz			20	27			4f
	10550. to 10850. MHz			20	27			5f
12660. to 13020. MHz			15	19		6f		

* Typical value at 25±2deg.C

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Electrical Characteristic

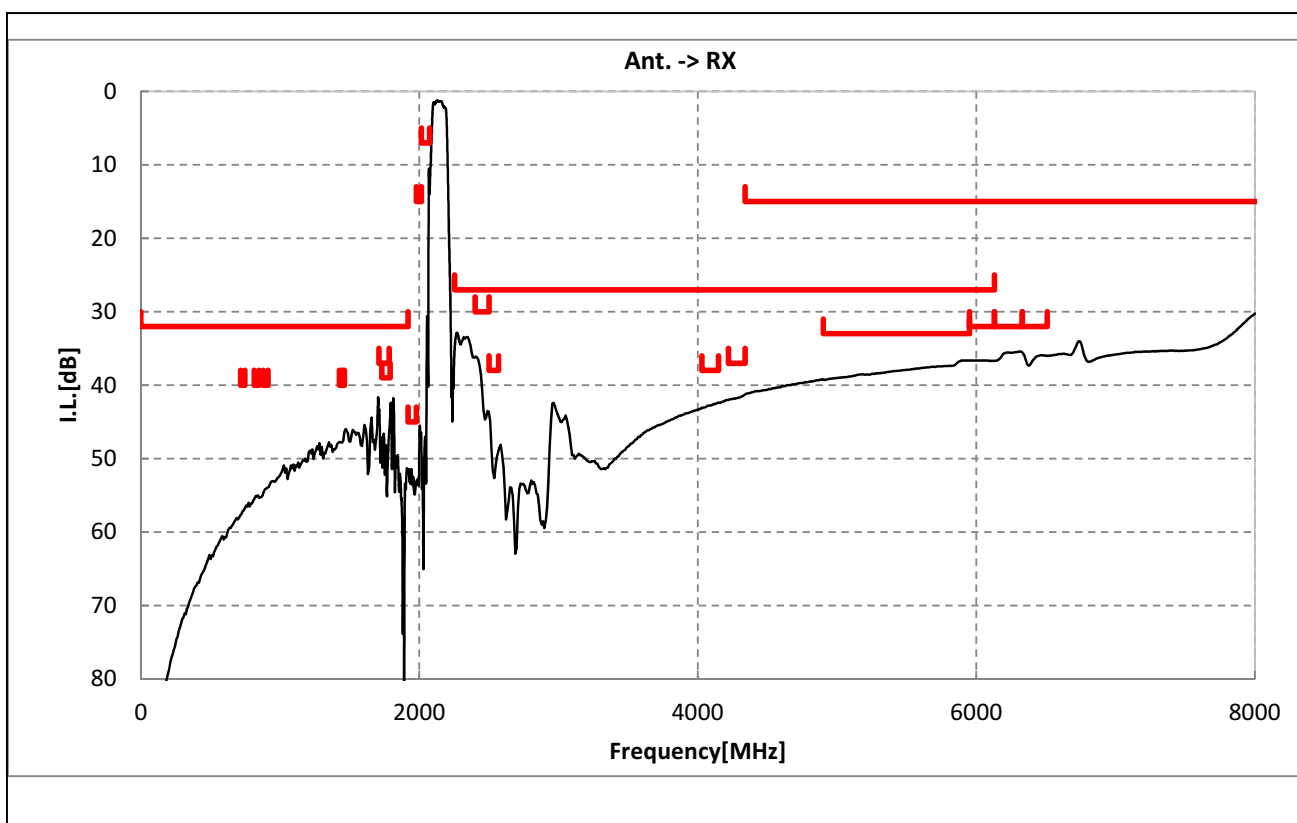
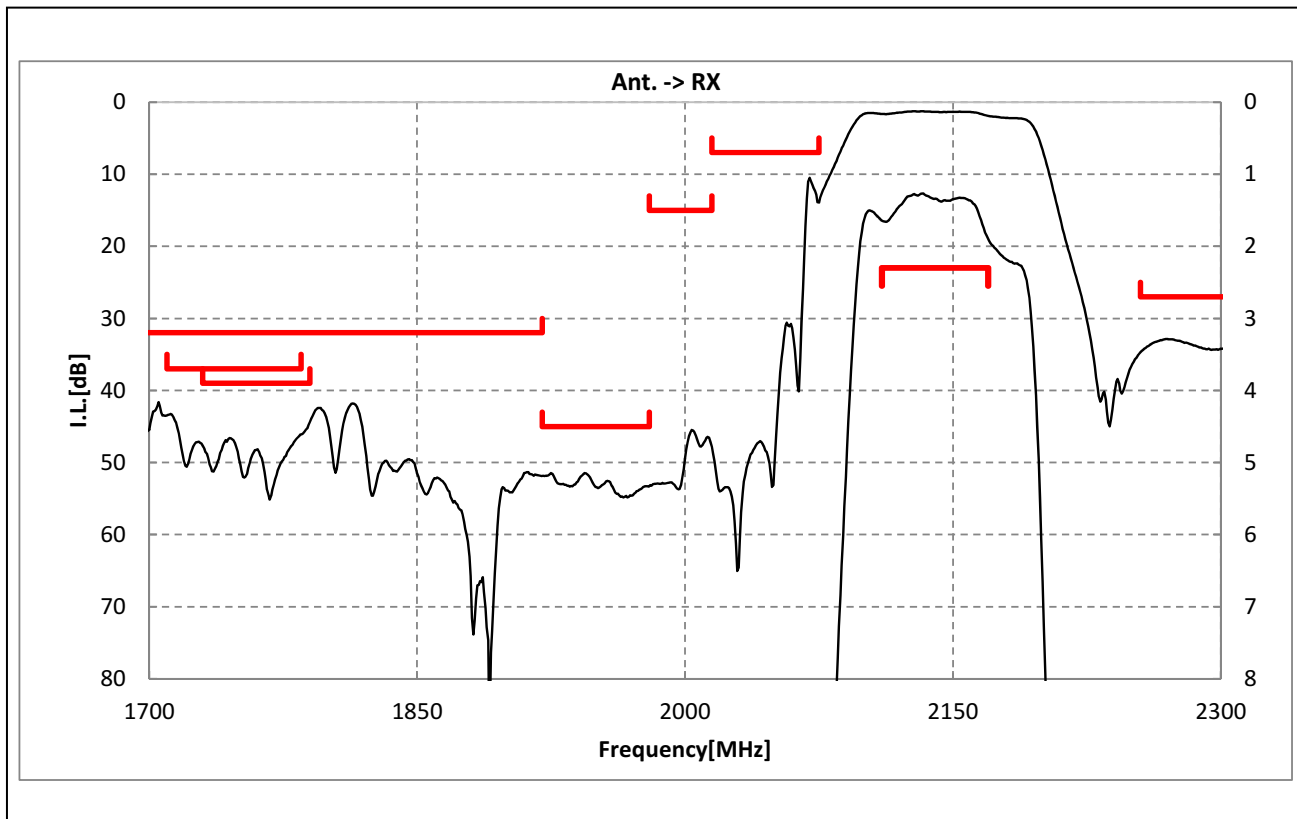
< TX → ANT. >



SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Electrical Characteristic

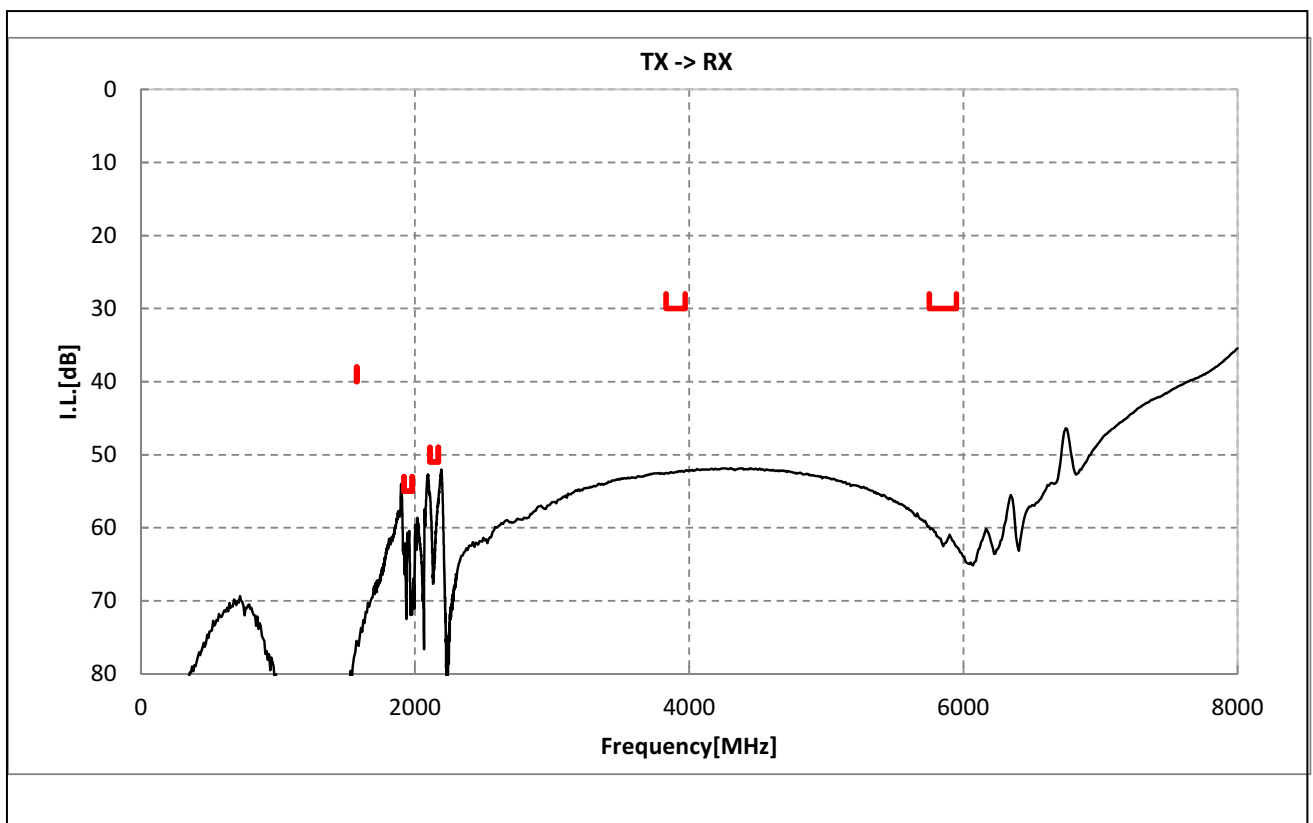
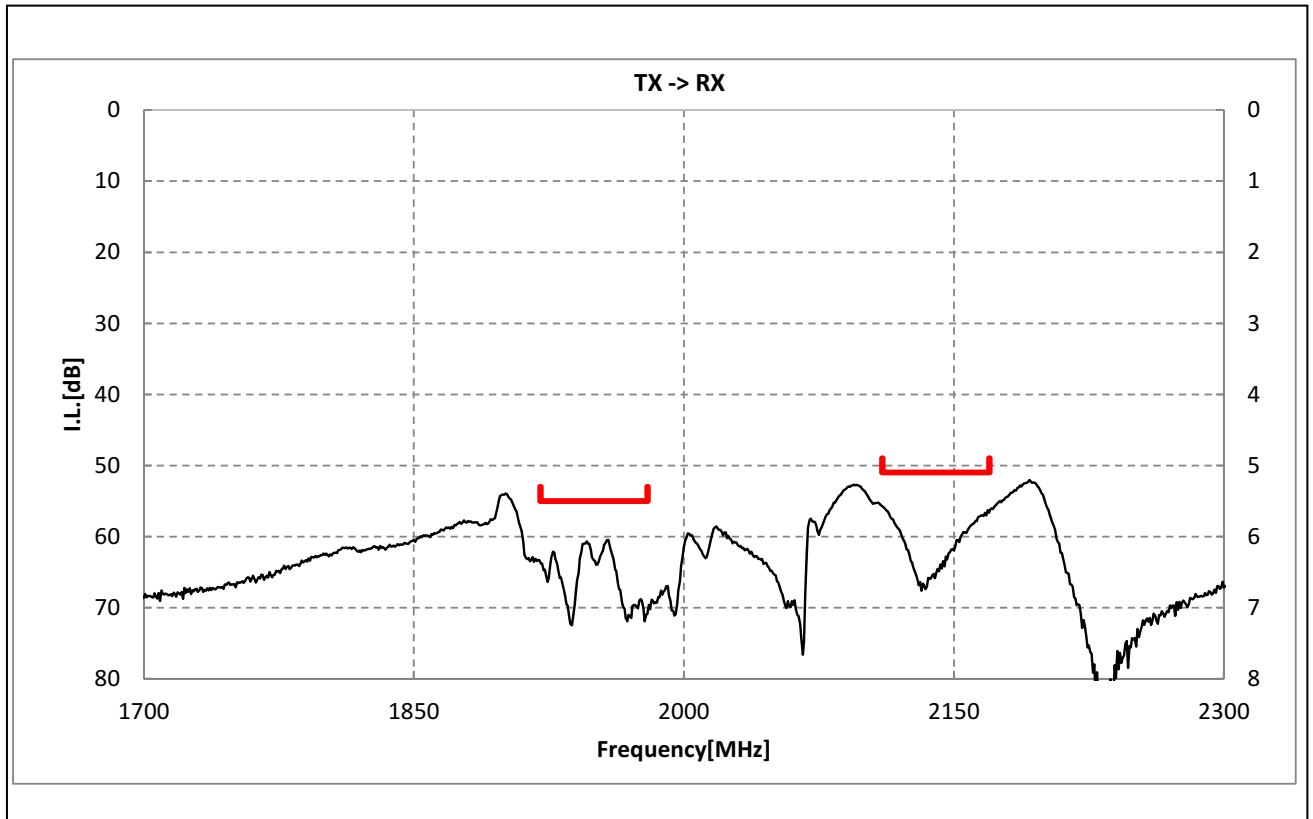
< ANT. → RX >



SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Electrical Characteristic

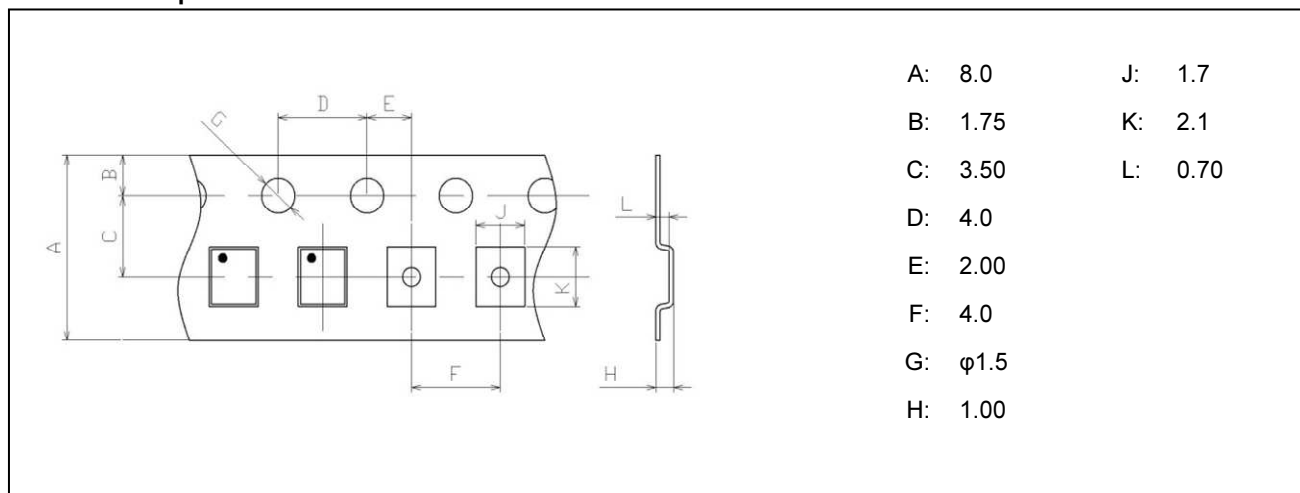
< TX → RX >



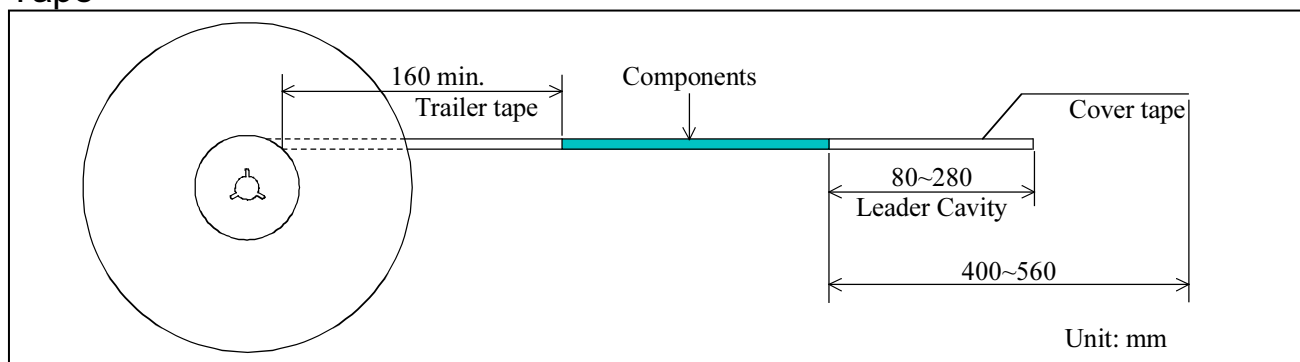
SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Dimensions of Tape & Reel unit: mm

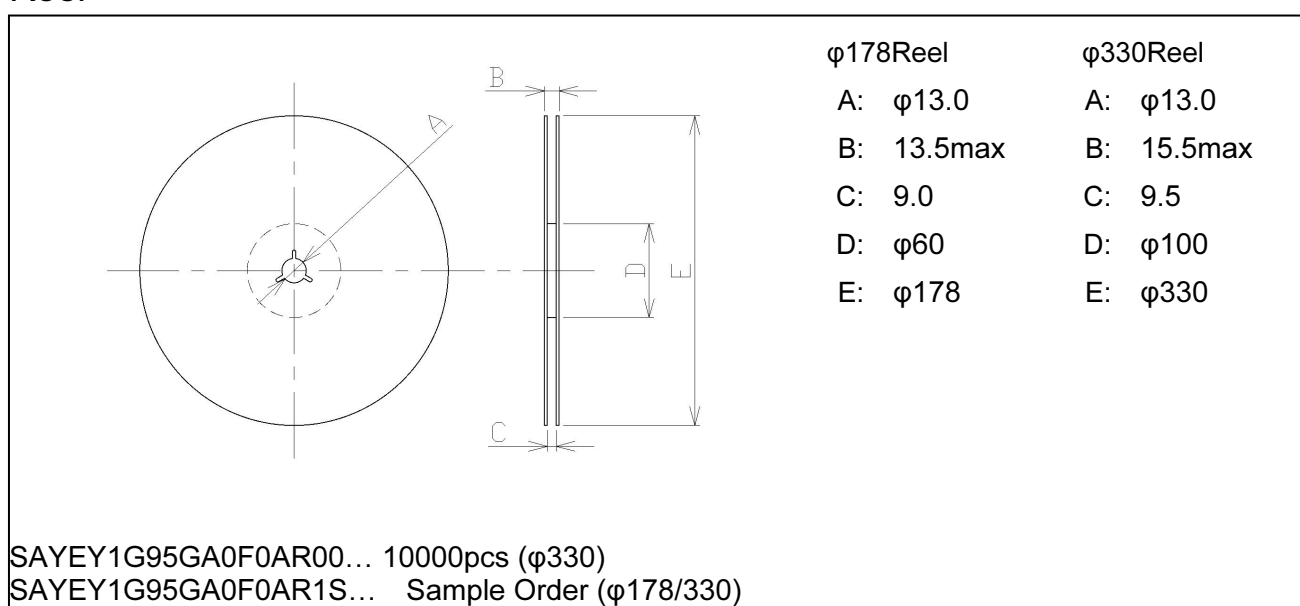
Carrier Tape



Tape



Reel



SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Marking Code

Table A: Month Code

2017 2021 2025	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2018 2022 2026	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019 2023 2027	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c̄	d	e	f	g	h	j	k	l	m
2020 2024 2028	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 B: 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

Important Notice (1/2)

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.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

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.

SAYEY1G95GA0F0A (Band1 / Unbalanced / LR / 1814)

Important Notice (2/2)

- 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.

We expressly prohibit you from analyzing, breaking, Reverse-Engineering, remodeling altering, and reproducing our product. Our product cannot be used for the product which is prohibited from being manufactured, used, and sold by the regulations and laws in the world.

Please do not use the product in molding condition.

This product is ESD (ElectroStatic Discharge) sensitive device.

When you install or measure this, you should be careful not to add antistatic electricity or high voltage. Please be advised that you had better check anti surge voltage.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

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.

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.

We disclaim any liability for consequential and incidental damages.

If you can't agree the above contents, you should inquire our sales.