INNOVATOR IN ELECTRONICS

Datasheet of SAW Device

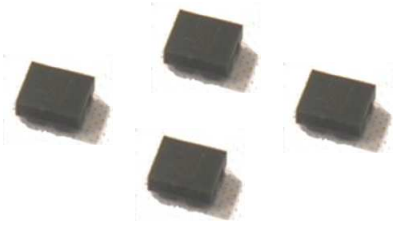
SAW Quadplexer

for Band25_Band66 / Unbalanced / 2520

Murata PN: SAHQV1G74BA1G0A

■ Feature

- I.H.P. SAW
- Low Insertion Loss
- High-Q Performance



Note : This Murata SAW Component is Consumer grade product and applicable for Cellular phone or similar end devices.
Please also read Important Notice at the end of this document.

Revision
O

SAHQV1G74BA1G0A (Band25_Band66 / Unbalanced / 2520)

General Information

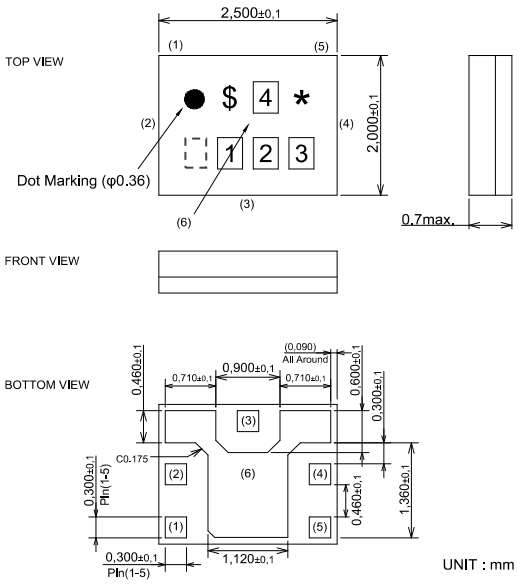
- Operating temperature	: -20 to +85 deg.C
- Storage temperature	: -40 to +85 deg.C
- Input Power	: +30.0dBm 5000h +50deg.C (1) +28.0dBm 5000h +50deg.C (2) (1) applicable for W-CDMA, SC-FDMA, DFT-s-OFDM (2) applicable for CP-OFDM
- D.C. Volatage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

The input power shall be applied to Tx-port within own Tx passband frequency range.

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

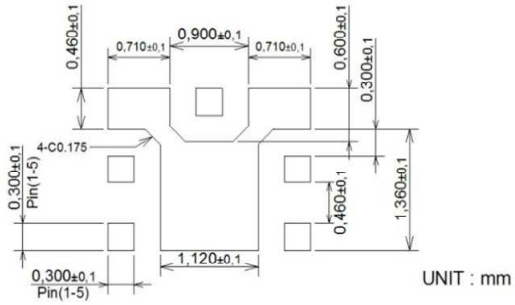


Marking : Laser Printing
* : Month code
$: Date code
1 : S
2 : 2
3 : 5
4 : 0

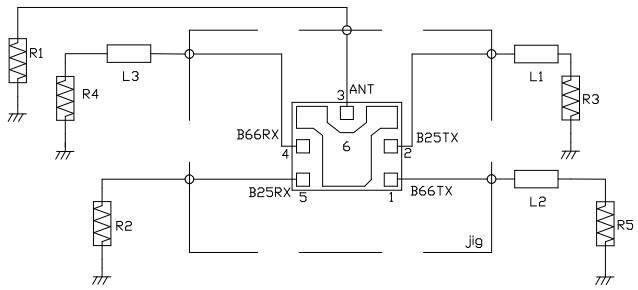
Terminal Number
(3) : ANT. Port (B25/66)
(1) : TX Port (B66)
(5) : RX Port (B25)
(2) : TX Port (B25)
(4) : RX Port (B66)
others : GND.

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	
R2 : 50 ohm	
R3 : 50 ohm	L1 :3.6nH(Ideal inductor)
R4 : 50 ohm	L3 :1nH(Ideal inductor)
R5 : 50 ohm	L2 :1.2nH(Ideal inductor)

Electrical Characteristic < Band25 TX → ANT. >

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Center Frequency					1882.5		MHz	
Insertion Loss	1850.15 to 1911.		MHz		1.6	2.7	dB	
	1911. to 1914.85		MHz		2.3	3.2	dB	
	1852.5 to 1907.5		MHz		1.5	2.3	dB_{INT}	B2 Any 4.5MHz
	1852.5 to 1912.5		MHz		1.8	3.0	dB_{INT}	B25 Any 4.5MHz
Ripple Deviation	1850.15 to 1914.85		MHz		0.8	1.5	dB	Any 5MHz
VSWR	1850.15 to 1914.85		MHz		1.6	2.3		TX
	1850.15 to 1914.85		MHz		1.8	2.3		ANT.
Absolute Attenuation	10. to 728.		MHz	30	52		dB	
	728. to 768.		MHz	44	55		dB	700 MHz Rx band
	869. to 894.		MHz	44	60		dB	US-cell Rx band
	1226. to 1250.		MHz	45	51		dB	GPS L2
	1559. to 1563.		MHz	40	47		dB	Compass
	1565.4 to 1573.4		MHz	40	46		dB	Wideband GPS, lower side lobe
	1573.4 to 1577.5		MHz	40	46		dB	Regular GPS, main lobe
	1577.5 to 1585.4		MHz	40	46		dB	Wideband GPS, upper side lobe
	1597.6 to 1605.9		MHz	40	47		dB	GLONASS
	1605.89 to 1680.		MHz	39	44		dB	
	1930. to 1995.		MHz	44	49		dB	PCS Rx band
	2110. to 2200.		MHz	44	56		dB	AWS Rx band
	2350. to 2360.		MHz	40	48		dB	WCS Rx band
	2400. to 2485.		MHz	27	37		dB	
	2485. to 2700.		MHz	23	33		dB	
	3700. to 3830.		MHz	25	36		dB	2fo
	5150. to 5350.		MHz	20	41		dB	
	5254. to 5455.		MHz	30	41		dB	WLAN coexistence
	5520. to 5845.		MHz	25	43		dB	WLAN coexistence and 3fo
	7400. to 7660.		MHz	15	27		dB	4fo

* Typical value at 25±2deg.C

Electrical Characteristic < ANT. → Band25 RX >

ANT. → RX			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.*	max.		
Center Frequency				1962.5		MHz	
Insertion Loss	1930.15 to 1994.85	MHz		3.0	3.8	dB	
	1932.4 to 1987.5	MHz		2.7	3.2	dB_{INT}	B2 Any 4.5MHz
	1932.4 to 1992.6	MHz		2.7	3.2	dB_{INT}	B25 Any 4.5MHz
Ripple Deviation	1930.15 to 1994.85	MHz		1.0	2.0	dB	Any 5MHz
VSWR	1930.15 to 1994.85	MHz		1.9	2.1		RX
	1930.15 to 1994.85	MHz		2.0	2.2		ANT.
Absolute Attenuation	1. to 1850.	MHz	40	58		dB	
	80. to 80.	MHz	50	75		dB	Rx - Tx
	699. to 716.	MHz	50	61		dB	B12 Tx CA
	777. to 787.	MHz	50	61		dB	B13 Tx CA
	814. to 849.	MHz	50	60		dB	B26 Tx CA
	1710. to 1780.	MHz	50	61		dB	B66 Tx CA
	1850. to 1915.	MHz	50	56		dB	Tx
	2055. to 2080.	MHz	25	43		dB	
	2080. to 6000.	MHz	40	44		dB	
	2305. to 2315.	MHz	50	68		dB	WCS Tx CA
	2400. to 2500.	MHz	45	53		dB	ISM 2.4G
	3860. to 3990.	MHz	40	72		dB	B25 Rx 2H
	4900. to 5950.	MHz	40	63		dB	ISM 5G
	5610. to 5845.	MHz	48	65		dB	WLAN coexistence with DL CA
	5790. to 5985.	MHz	40	63		dB	3x LO
	7720. to 7980.	MHz	30	51		dB	4x LO

* Typical value at 25±2deg.C

Electrical Characteristic < Band66 TX → ANT. >

TX → ANT.				Characteristics (-20 to +85 deg.C) min.	typ.*	max.	Unit	Note
Center Frequency					1745		MHz	
Insertion Loss	1710.48	to	1779.52 MHz		2.0	2.3	dB	
	1712.5	to	1752.5 MHz		1.9	2.2	dB_{INT}	B4 Any 4.5MHz
	1712.4	to	1777.6 MHz		1.9	2.2	dB_{INT}	B66 Any 4.5MHz
Ripple Deviation	1710.48	to	1779.52 MHz		0.3	1.0	dB	Any 5MHz
VSWR	1710.48	to	1779.52 MHz		1.4	2.0		TX
	1710.48	to	1779.52 MHz		1.4	2.0		ANT.
Absolute Attenuation	10.	to	728. MHz	30	54		dB	
	699.	to	716. MHz	30	55		dB	B12 Tx CA
	704.	to	716. MHz	30	56		dB	B17 Tx CA
	777.	to	787. MHz	30	56		dB	B13 Tx CA
	824.	to	849. MHz	30	59		dB	B5 Tx CA
	1226.	to	1250. MHz	43	59		dB	GPS L2
	1559.	to	1563. MHz	45	69		dB	Compass
	1565.42	to	1573.37 MHz	45	65		dB	Wideband GPS, lower side lobe
	1573.37	to	1577.47 MHz	45	65		dB	Regular GPS, main lobe
	1577.47	to	1585.42 MHz	45	63		dB	Wideband GPS, upper side lobe
	1597.55	to	1605.89 MHz	45	61		dB	GLONASS
	1805.	to	1880. MHz	5.0	27.0		dB	Emissions in protected DCS bar
	2110.	to	2200. MHz	40	62		dB	Rx Rejection
	2350.	to	2360. MHz	20	51		dB	WCS Rx band
	2400.	to	2500. MHz	20	46		dB	ISM band
	2440.	to	2494. MHz	20	46		dB	WLAN coexistence
	2500.	to	2570. MHz	30	48		dB	B7 Tx CA
	3410.	to	3520. MHz	30	46		dB	2fo
	4900.	to	5950. MHz	20	28		dB	5 GHz ISM, 3fo
	4905.	to	5267. MHz	20	28		dB	WLAN coexistence
	6830.	to	7030. MHz	10	17		dB	4fo

* Typical value at 25±2deg.C

Electrical Characteristic < ANT. → Band66 RX >

ANT. → RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Center Frequency					2155		MHz	
Insertion Loss	2110.48	to	2199.52 MHz		2.4	2.7	dB	
	2112.5	to	2152.5 MHz		2.4	2.6	dB_{INT}	B4 Any 4.5MHz
	2112.4	to	2197.6 MHz		2.4	2.6	dB_{INT}	B66 Any 4.5MHz
Ripple Deviation	2110.48	to	2199.52 MHz		0.3	1.0	dB	Any 5MHz
VSWR	2110.48	to	2199.52 MHz		1.9	2.1		RX
	2110.48	to	2199.52 MHz		1.7	2.0		ANT.
Absolute Attenuation	1.	to	1710. MHz	40	50		dB	
	400.	to	400. MHz	50	58		dB	Rx - Tx
	699.	to	716. MHz	45	60		dB	B12 Tx CA
	777.	to	787. MHz	40	64		dB	B13 Tx CA
	824.	to	849. MHz	40	66		dB	B5 Tx CA
	1310.	to	1355. MHz	40	54		dB	2Tx - Rx
	1710.	to	1755. MHz	45	58		dB	Tx rejection
	1755.	to	2025. MHz	15	42		dB	
	1910.	to	1955. MHz	30	42		dB	(Rx + Tx)/2
	2255.	to	6000. MHz	30	43		dB	
	2305.	to	2315. MHz	40	55		dB	WCS Tx CA
	2400.	to	2500. MHz	40	61		dB	2.4 GHz ISM
	2500.	to	3820. MHz	30	44		dB	
	3820.	to	3910. MHz	40	47		dB	Rx + Tx
	4220.	to	4310. MHz	35	44		dB	2x LO
	4900.	to	5950. MHz	35	49		dB	5 GHz ISM
	5510.	to	5685. MHz	45	57		dB	WLAN coexistence
	5530.	to	5665. MHz	40	58		dB	Rx + 2Tx
	6330.	to	6465. MHz	35	42		dB	3x LO
	4310.	to	8000. MHz	15	28		dB	

* Typical value at 25±2deg.C

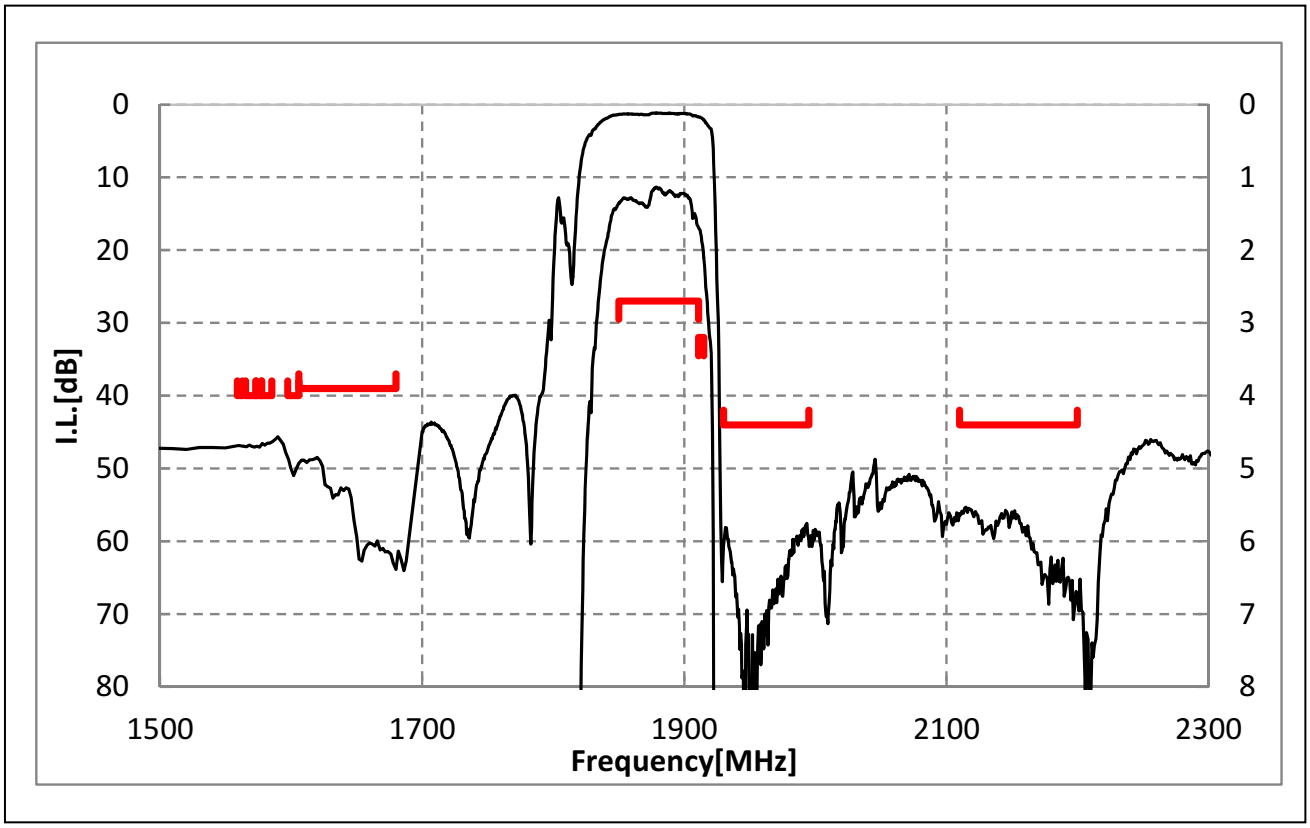
Electrical Characteristic < Isolation >

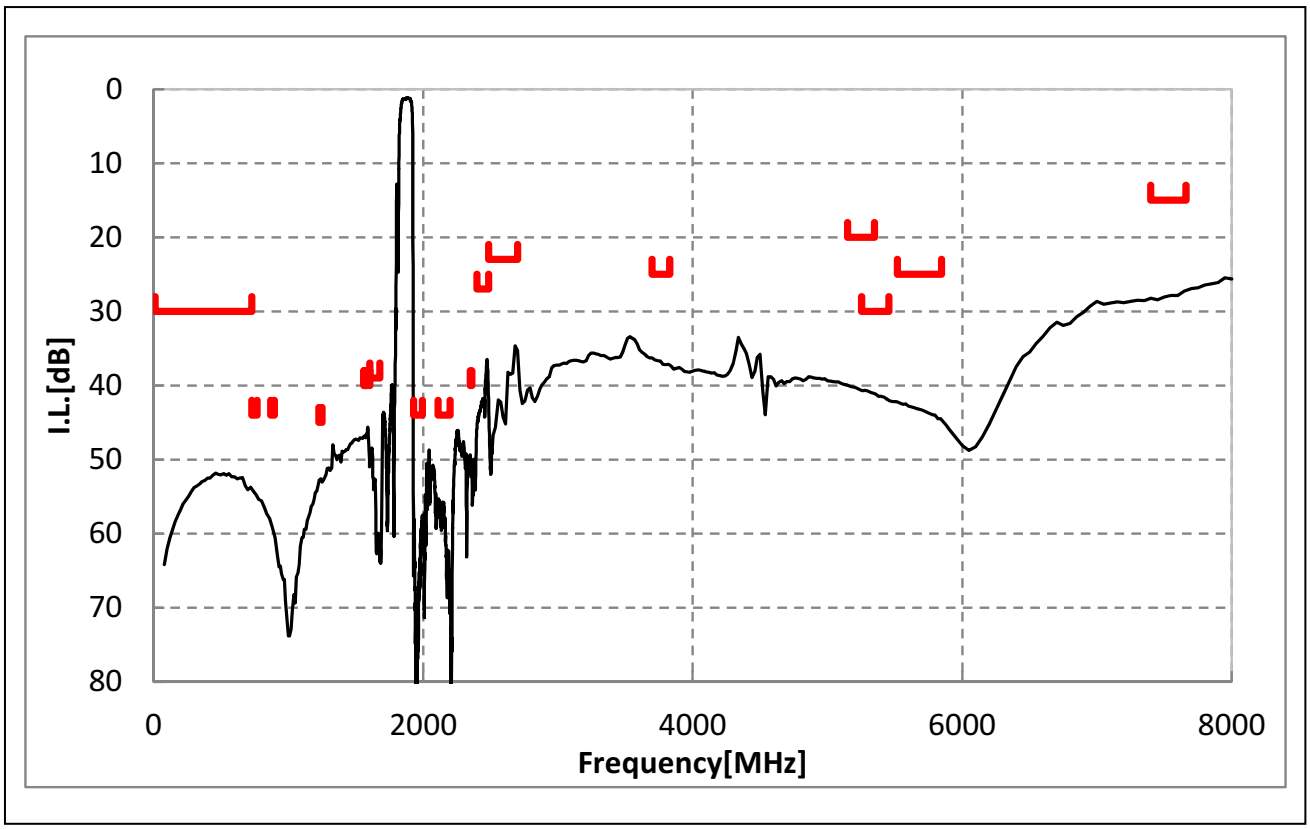
TX → RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Isolation B25	1574. to 1577.	MHz		40	79		dB	
	1850.15 to 1914.85	MHz		54	59		dB	Tx
	1852.5 to 1912.5	MHz		55	59		dB_{INT}	Tx Any 4.5MHz'Tx
	1930.15 to 1994.85	MHz		55	59		dB	Rx
	1932.5 to 1992.5	MHz		55	59		dB_{INT}	Rx Any 4.5MHz
	3700. to 3820.	MHz		20	70		dB	
	5550. to 5850.	MHz		20	73		dB	
Isolation B66	1574. to 1577.	MHz		40	76		dB	
	1710.48 to 1779.52	MHz		55	58		dB	
	1712.4 to 1777.6	MHz		55	58		dB_{INT}	Any 4.5MHz
	2110.48 to 2199.52	MHz		55	60		dB	
	2112.4 to 2197.6	MHz		56	60		dB_{INT}	Any 4.5MHz
	3410. to 3570.	MHz		20	74		dB	
	5120. to 5350.	MHz		20	59		dB	
Isolation B25->B66	1850.15 to 1915.85	MHz		53	57		dB	B25->B66, B25 TX
	1852.5 to 1912.5	MHz		54	58		dB_{INT}	B25->B66, B25 TX Any 4.5MHz
	2110.48 to 2199.52	MHz		53	58		dB	B25->B66, B66 RX
	2112.5 to 2197.5	MHz		54	58		dB_{INT}	B25->B66, B66 RX Any 4.5MHz
Isolation B66->B25	1710.48 to 1779.52	MHz		55	59		dB	B66->B25, B66 TX
	1712.4 to 1777.6	MHz		56	60		dB_{INT}	B66->B25, B66 TX Any 4.5MHz
	1930.15 to 1994.85	MHz		53	57		dB	B66->B25, B25 RX
	1932.4 to 1992.6	MHz		54	57		dB_{INT}	B66->B25, B25 RX Any 4.5MHz

* Typical value at 25±2deg.C

Electrical Characteristic

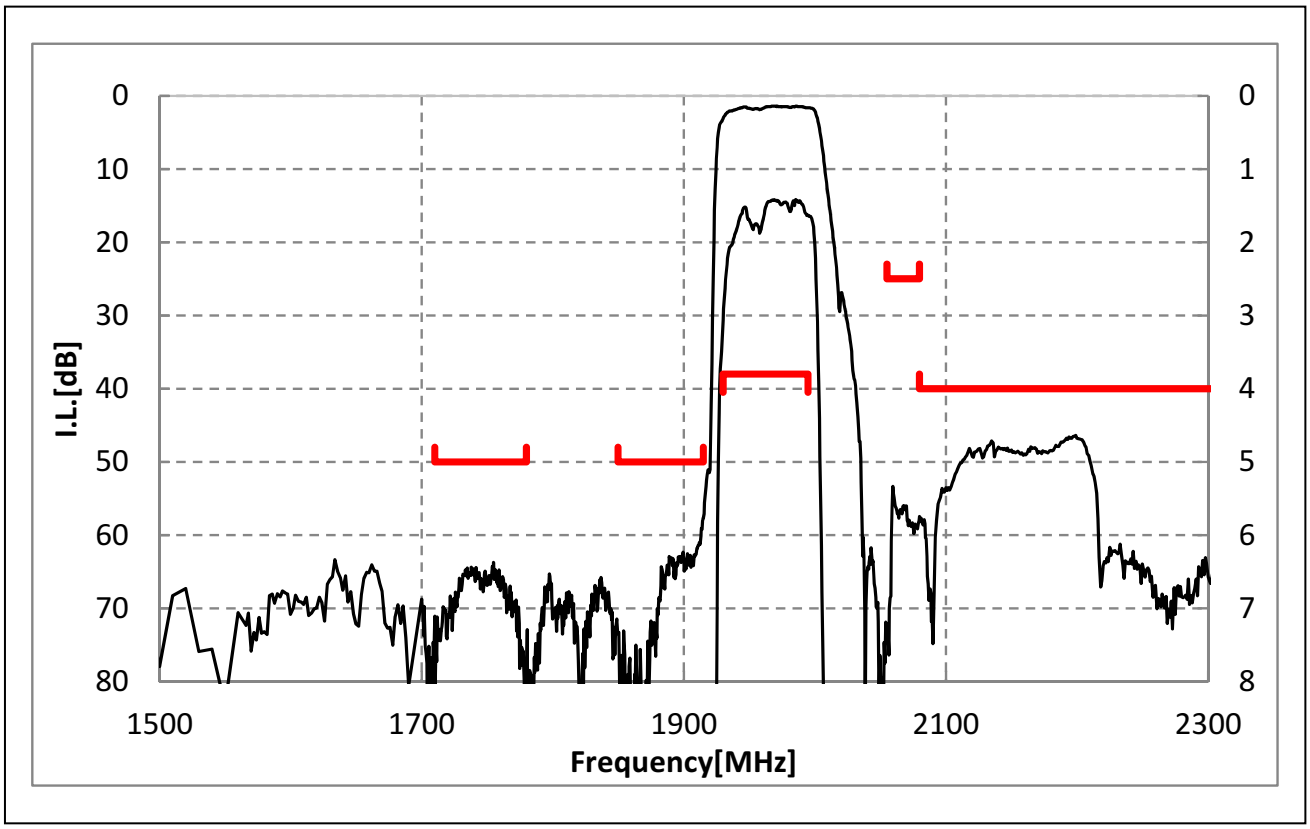
< Band25 TX → ANT. >

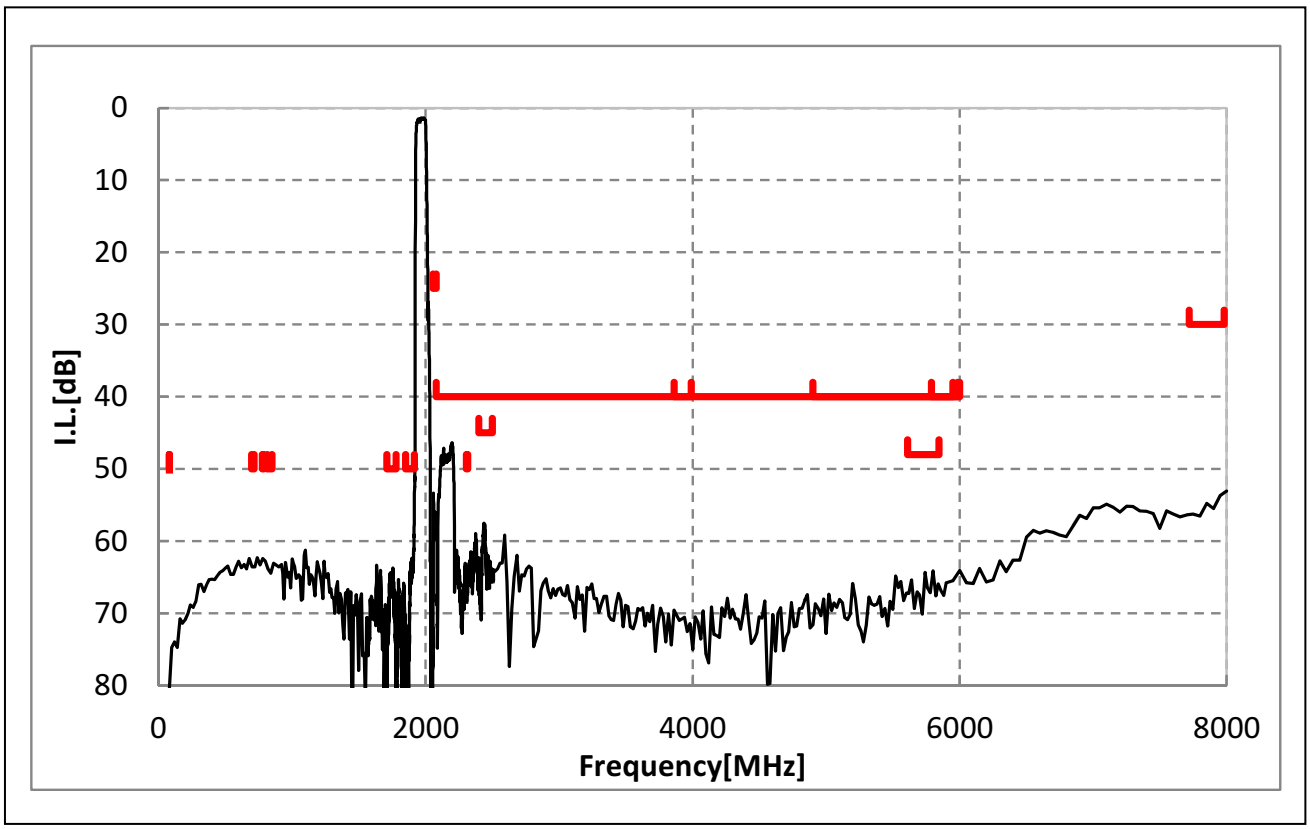




Electrical Characteristic

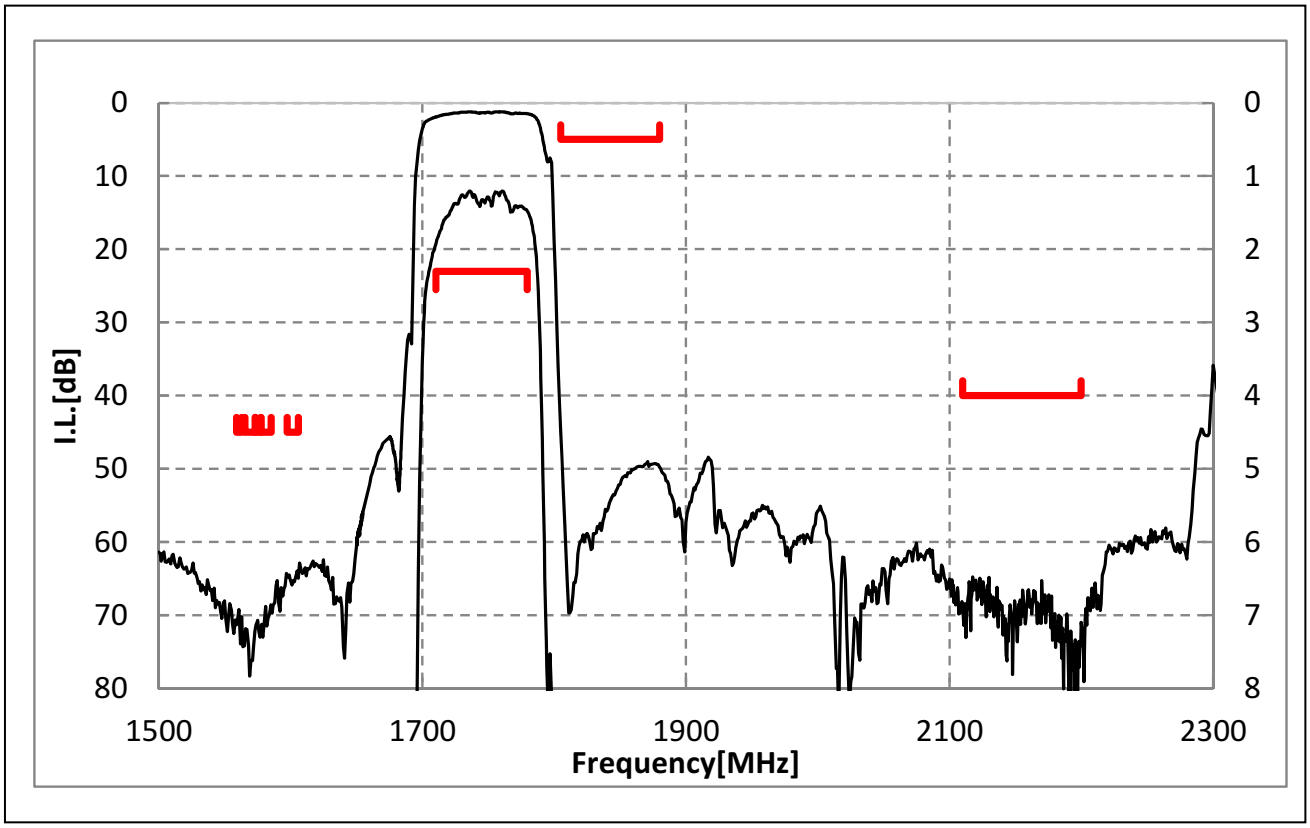
< ANT. → Band25 RX >

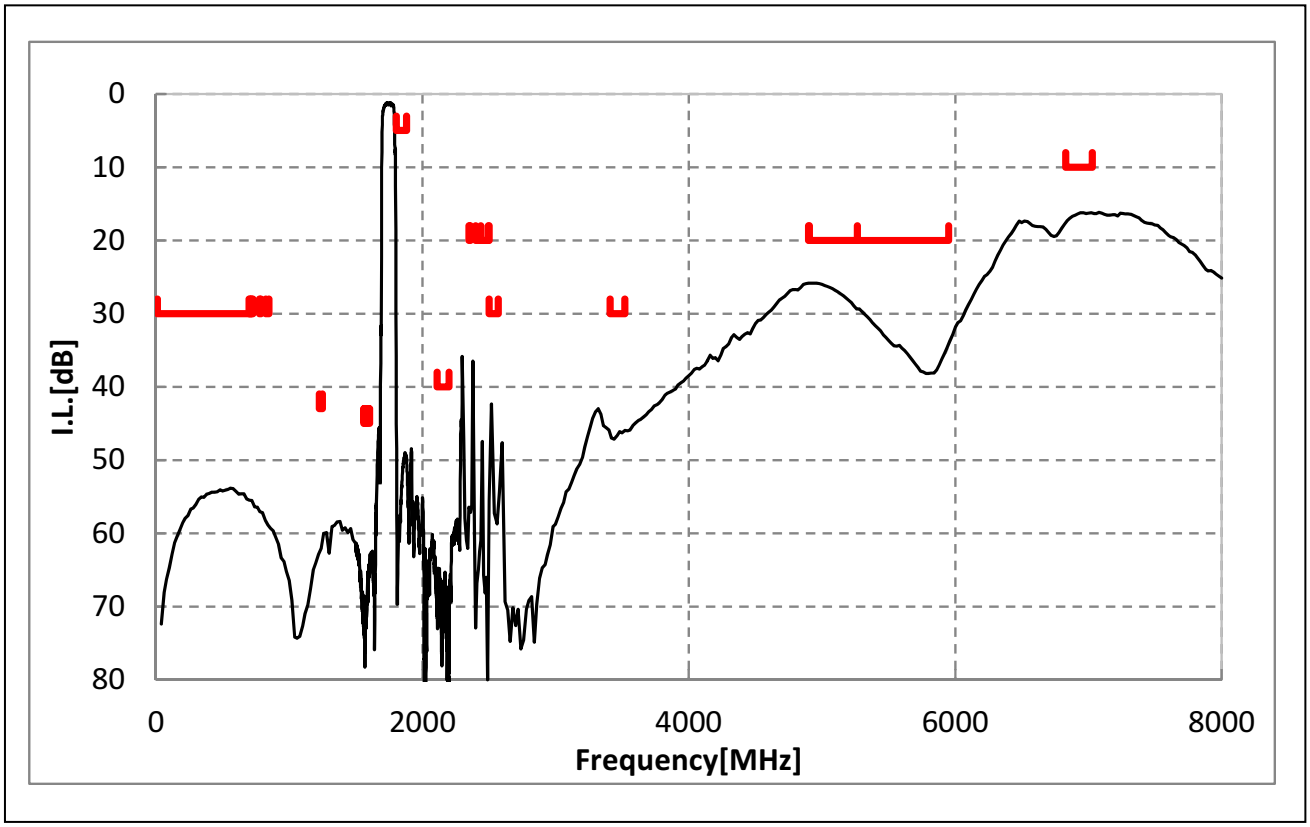




Electrical Characteristic

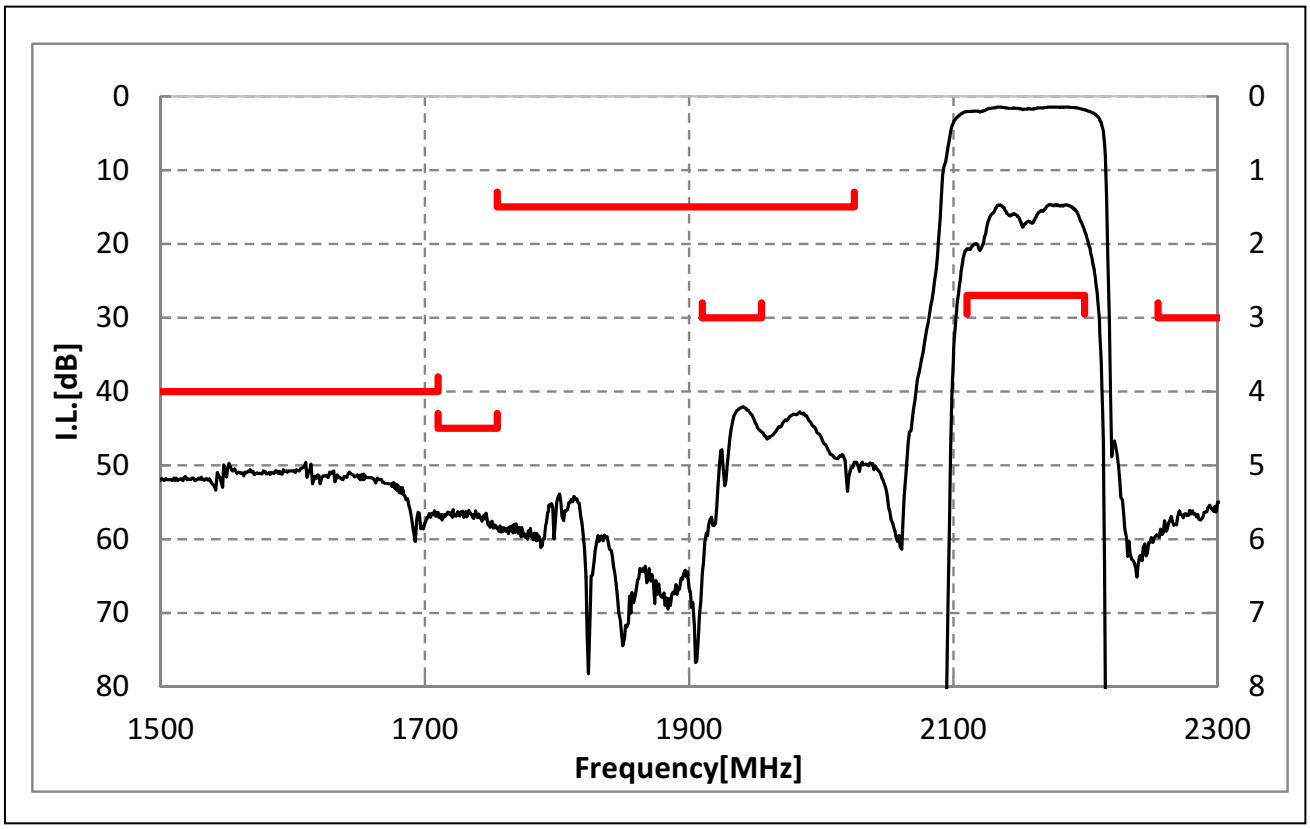
< Band66 TX → ANT. >

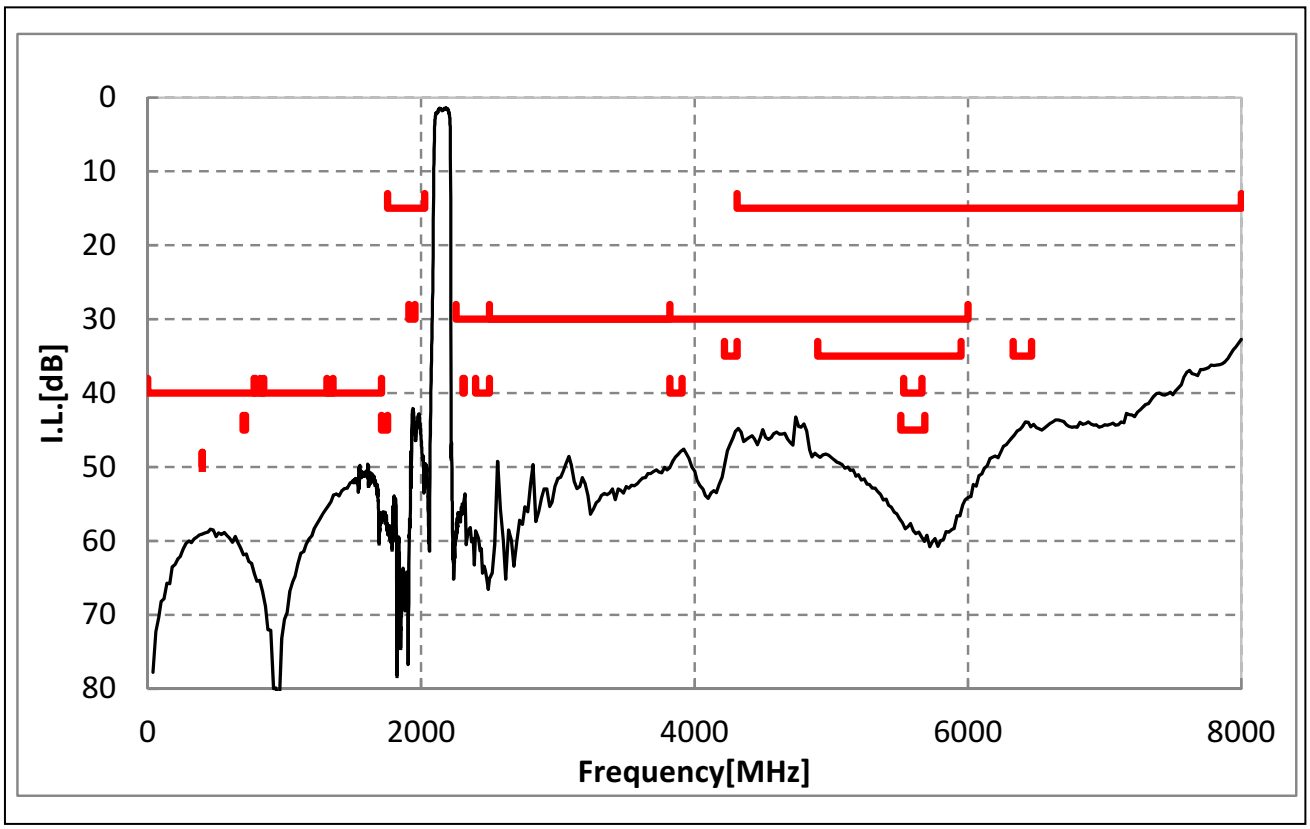




Electrical Characteristic

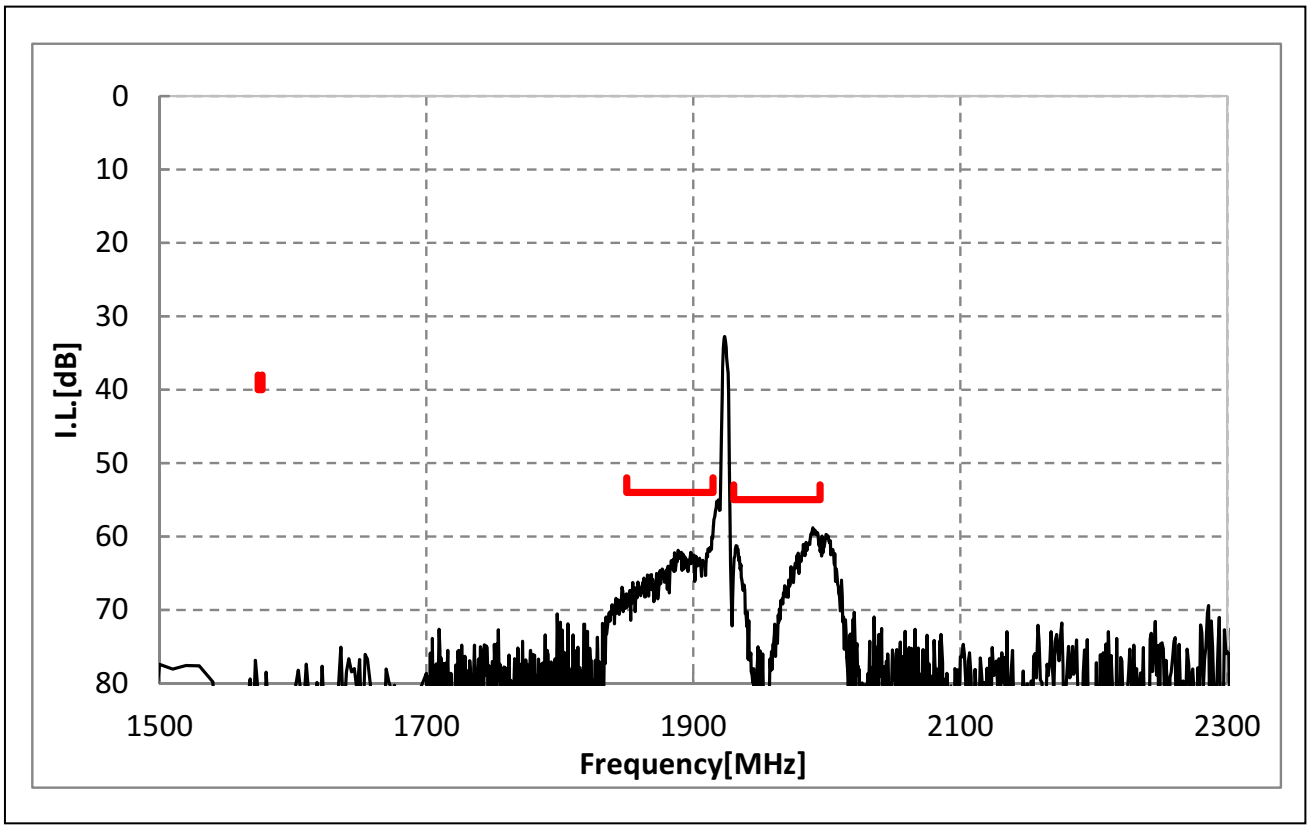
< ANT. → Band66 RX >



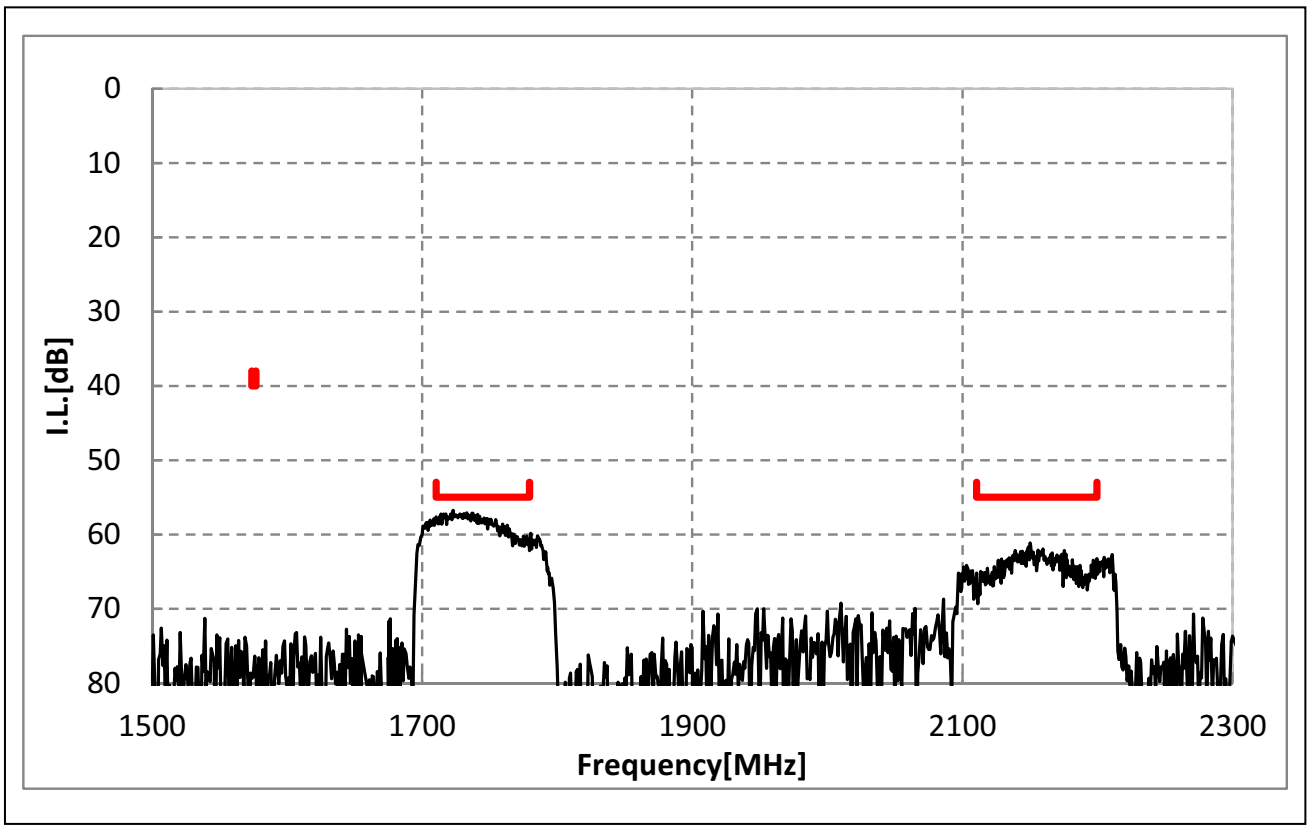


Electrical Characteristic

< Band25 TX→Band25 RX >

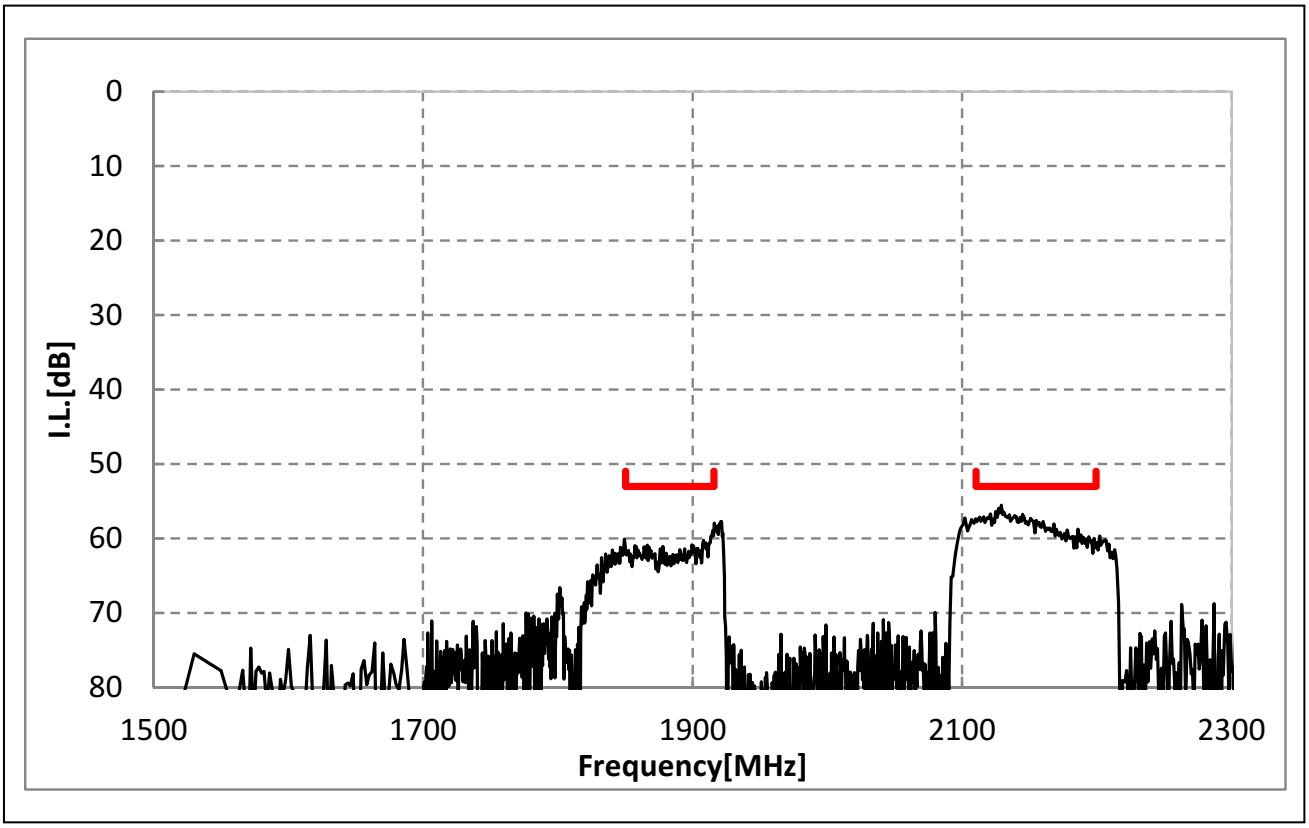


< Band66 TX→Band66 RX >

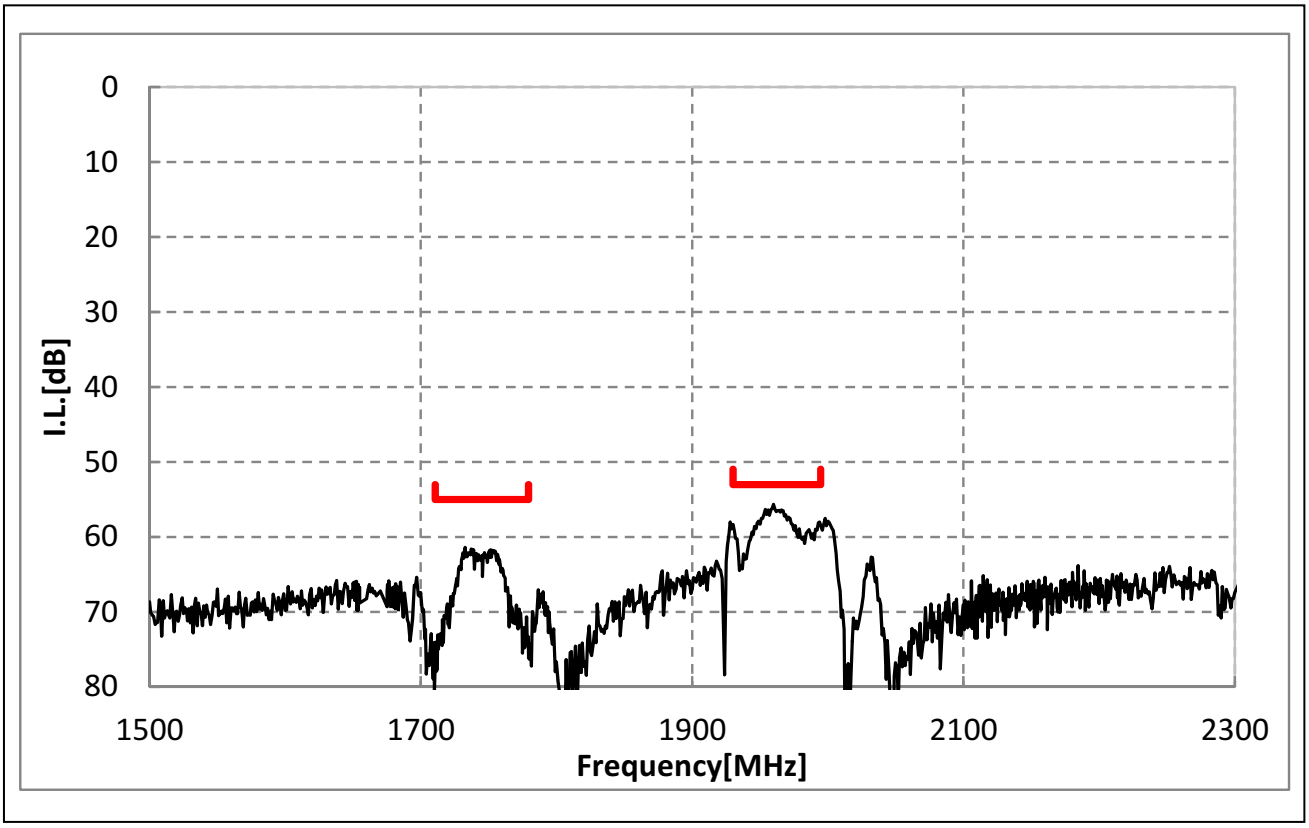


Electrical Characteristic

< Band25 TX→Band66 RX >

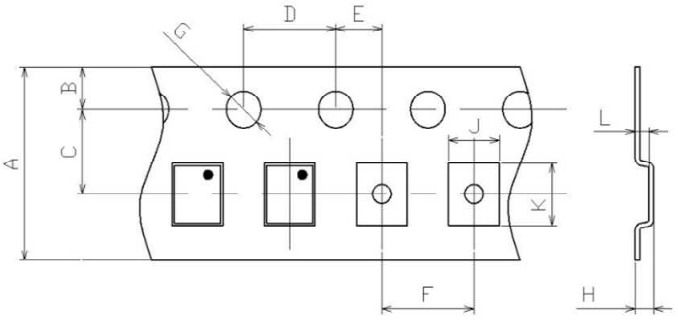


< Band66 TX→Band25 RX >



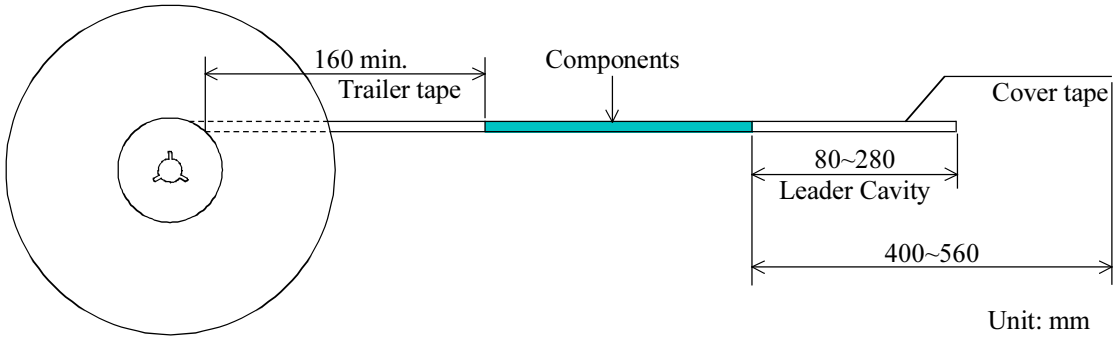
Dimensions of Tape & Reel unit: mm

Carrier Tape

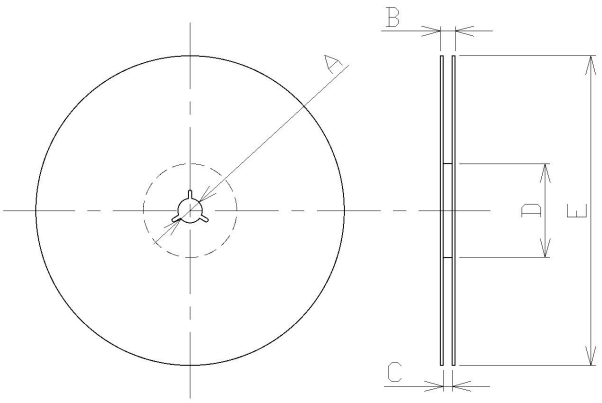


A:	8.0	J:	2.25
B:	1.75	K:	2.75
C:	3.50	L:	0.85
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.1		

Tape



Reel



φ178Reel		φ330Reel	
A:	φ13.0	A:	φ13.0
B:	13.5max	B:	15.5max
C:	9.0	C:	9.5
D:	φ60	D:	φ100
E:	φ178	E:	φ330

SAHQV1G74BA1G0AR00… 10000pcs (φ330)
SAHQV1G74BA1G0AR1S… Sample Order (φ178/330)

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 specified in the front page of this product specifications (the "Product" or "Products") 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 Product 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 for any application which requires especially high reliability or accuracy in order to prevent defect which incurs high possibility of damage to the third party's life, body or property such as the applications listed below as item (a) to (j) (the “Prohibited Application”). You acknowledge and agree that, if you use our Products in the Prohibited Applications, we will not be responsible for any damage caused by such use.

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 THE PROHIBITED APPLICATIONS.

(a) Aircraft equipment.
(b) Aerospace equipment
(c) Undersea equipment.
(d) Power plant control equipment -
(e) Medical equipment.
(f) Transportation equipment (vehicles, automotive, trains, ships, etc.).
(g)Traffic signal equipment.
(h)Disaster prevention / crime prevention equipment.
(i) Burning / explosion control equipment
(j) Application of similar complexity and/ or reliability requirements to the applications listed in the above.

For the avoidance of doubt, the Product is not automotive grade, and will not support such requests for automotive as below, also not support other specific requests for automotive.

- AEC-Q200
- PPAP
- IATF16949,VDA6.3
- Zero Defect program
- Long product life cycle
- Automotive 8D failure analysis and report

Important Notice (2/2)

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 serge 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.