

KYOCERA SAW Duplexer
- 1612size Band71 Unbalanced-Rx -
Type Name : SD16-0680R8UUA1

Dec., 27, 2024

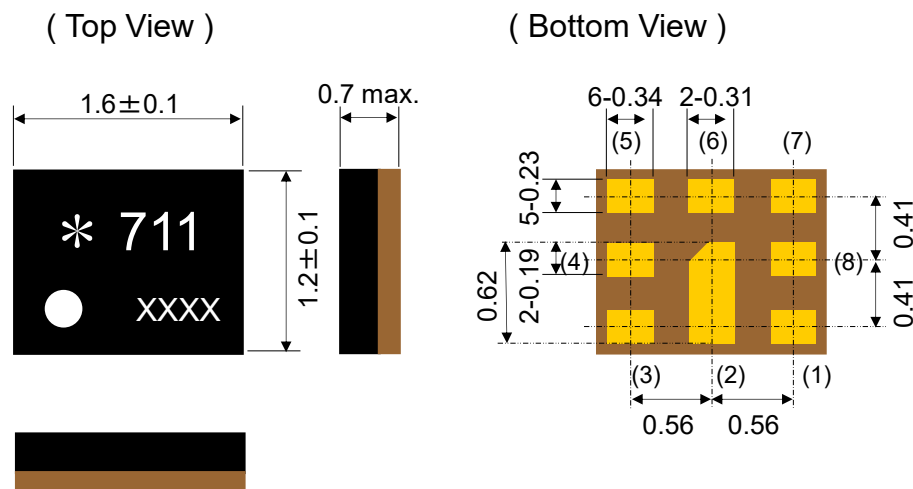
KYOCERA Corporation

Corporate Electronic Components Group

Electronic Devices Division

Dimensions & Test Circuit of SAW Duplexer

■ Dimensions

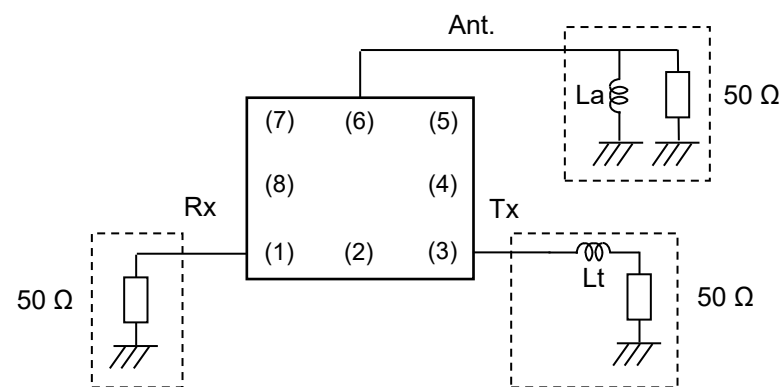


Unit : mm
 * : Identification logo
 711 : Identification no.
 ● : Index mark of pin 1
 XXXX : Production code

Pin allocation

No.	Function
(1)	Rx
(2)	GND
(3)	Tx
(4)	GND
(5)	GND
(6)	Ant
(7)	GND
(8)	GND

■ Test Circuit



La : 21nH (Ideal)

Lt : 8.2nH (Ideal)

Port extension(Time) : 105ps

Port extension(Loss) : 0.1dB

Table 1

Items		Rating	Unit	Note
Operating Temperature Range		-30 to +85	deg.C	
Storage Temperature Range		-40 to +85	deg.C	
Max Input Power	Tx Band	+31	dBm	5,000Hours,DFT-s-OFDM-QPSK,Ta=50deg.C
ESDLevel	Machine Model	50	Volt	Complied to JESD22-A115
Moisture Sensitivity Level		3		Complied to J-STD-033B.1
Tx Port Nominal Impedance		50 with8.2nH(series)	ohm	Unbalance
Ant. Port Nominal Impedance		50 with21nH(shunt)	ohm	Unbalance
Rx Port Nominal Impedance		50	ohm	Unbalance

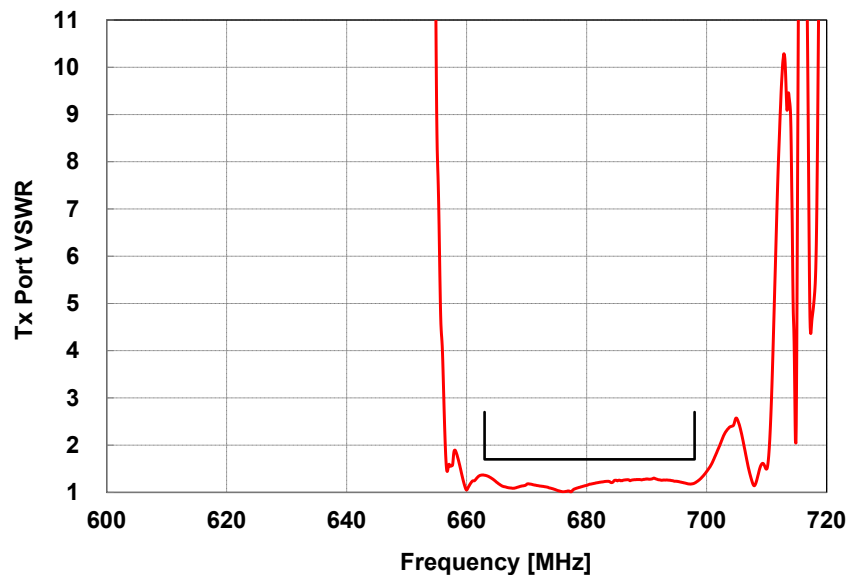
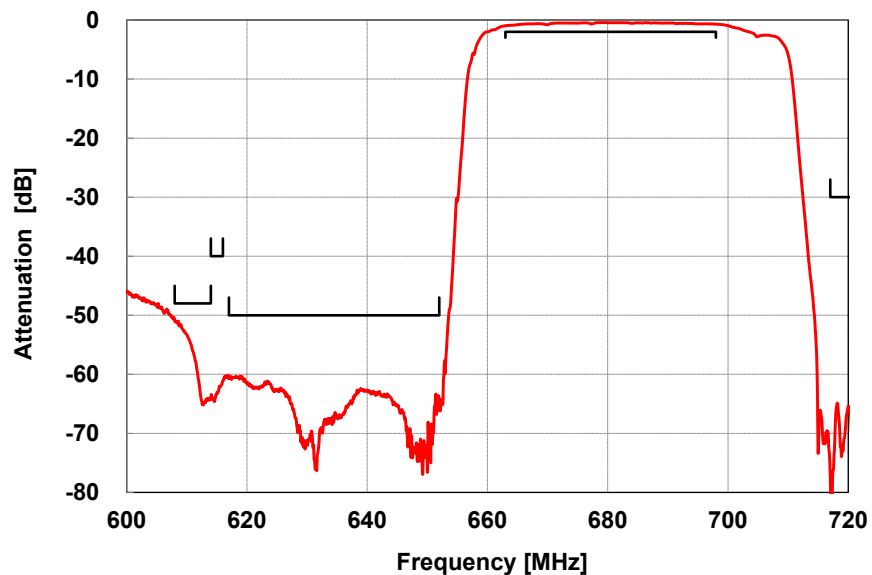
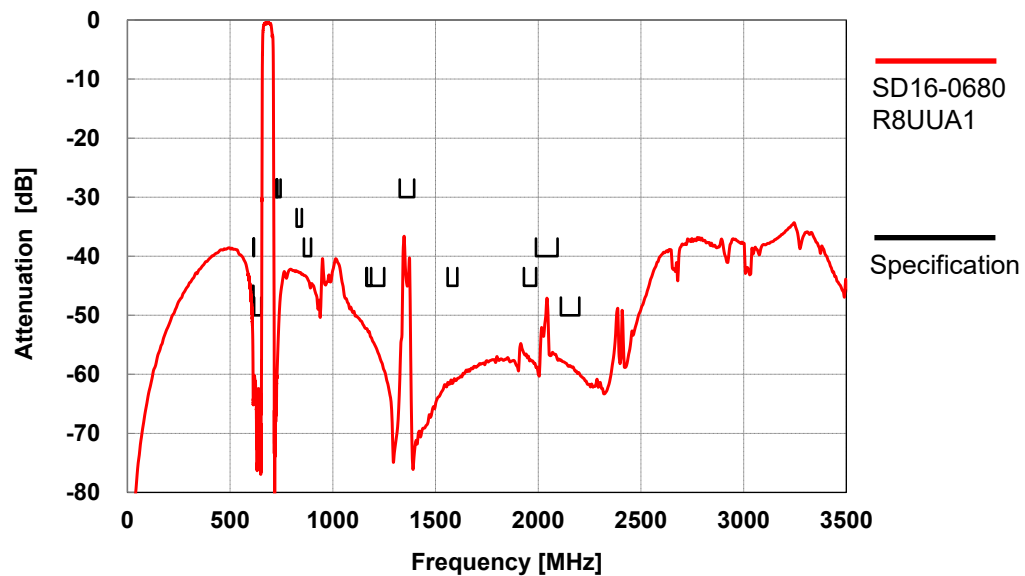
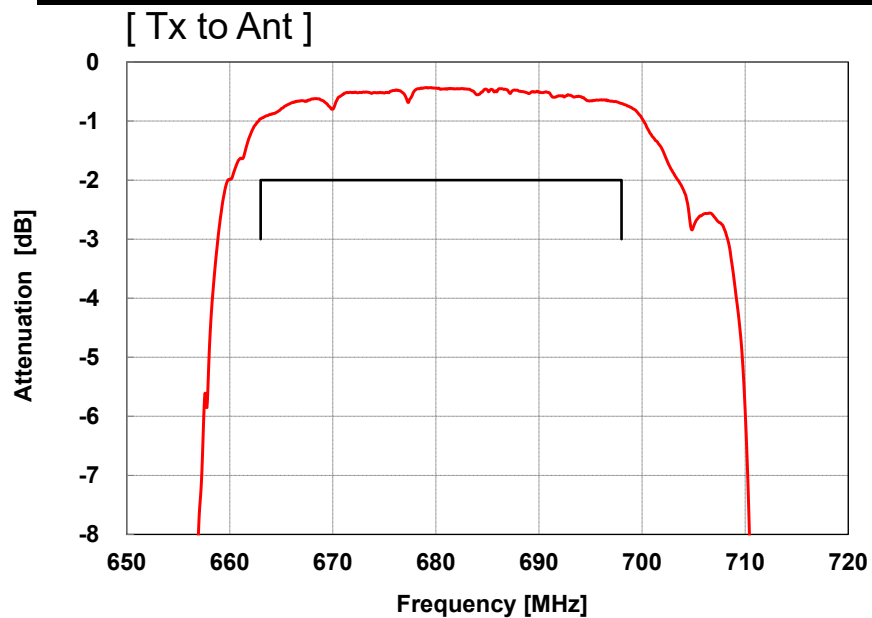
Characteristic table

Items		Kyocera Specification								
		Frequency[MHz]			Unit	min	typ	max	Note	
Tx to Ant	Insertion Loss	663	-	698	dB	-	1.0	2.0		
	Ripple	663	-	698	dB	-	0.6	2.0		
	VSWR	Tx	663	-	698	-	-	1.4	1.7	
		Ant	663	-	698	-	-	1.4	1.8	
	Attenuation		608	-	614	dB	48	51	-	
			614	-	616	dB	40	62	-	
			617	-	652	dB	50	60	-	Rx
			717	-	728	dB	30	60	-	B29Rx
			729	-	746	dB	30	47	-	B12Rx
			824	-	849	dB	35	43	-	B5Tx
			859	-	894	dB	40	43		B26Rx
			1166.22	-	1186.68	dB	45	53		GNSS L5
			1164	-	1250	dB	45	53	-	GNSS L2
			1326	-	1396	dB	30	37	-	2f
			1559	-	1606	dB	45	62	-	GNSS
			1930	-	1990	dB	45	57	-	B2Rx
			1989	-	2094	dB	40	49	-	
			2110	-	2200	dB	50	58	-	B66Rx
			4900	-	5950	dB	20	47	-	WiFi5GHz

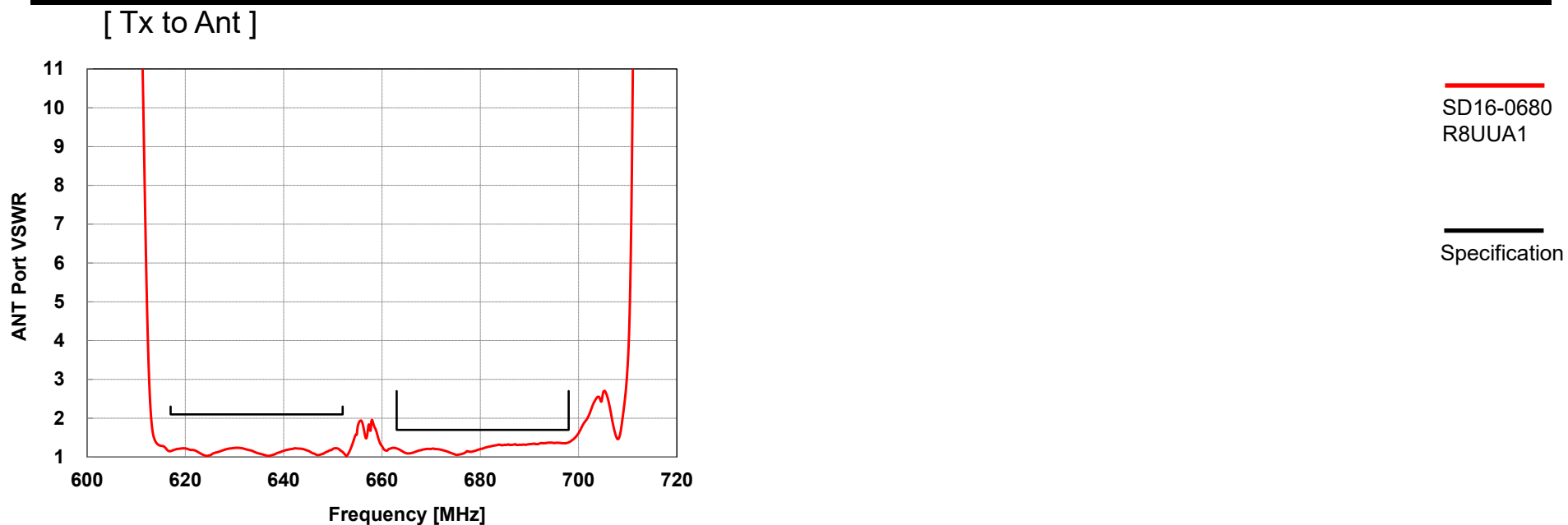
Characteristic table

Items		Kyocera Specification								
		Frequency[MHz]		Unit	min	typ	max	Note		
Ant to Rx	Insertion Loss	617	-	652	dB	-	1.3	2.5		
	Ripple	617	-	652	dB	-	0.6	2.2		
	VSWR	Rx	617	-	652	-	-	1.3	1.8	
		Ant	617	-	652	-	-	1.5	1.9	
	Attenuation		663	-	698	dB	50	58	-	Tx
			709	-	740	dB	20	54		
			793	-	805	dB	35	52		
			824	-	849	dB	40	45	-	BC0 Tx
			1058	-	1138	dB	25	31		
			1163	-	1204	dB	30	34		
			1233	-	1281	dB	28	33		
			1461	-	1484	dB	30	35		
			1653	-	1698	dB	30	35		
			1710	-	1755	dB	30	35	-	B66Tx
			1850	-	1920	dB	30	34		B2Tx
			1851	-	1956	dB	30	34		
			2305	-	2315	dB	30	37	-	B30Tx
			2327	-	2407	dB	30	37		
			2400	-	2500	dB	30	37	-	WiFi2.4GHz
			2468	-	2608	dB	20	37		
			2922	-	2967	dB	20	38		
			4037	-	4162	dB	20	37		
		4317	-	4472	dB	20	34			
		4900	-	7125	dB	25	34	-	WiFi5GHz	
Tx to Rx	Isolation	663	-	698	dB	55	58	-		
		617	-	652	dB	55	59	-		

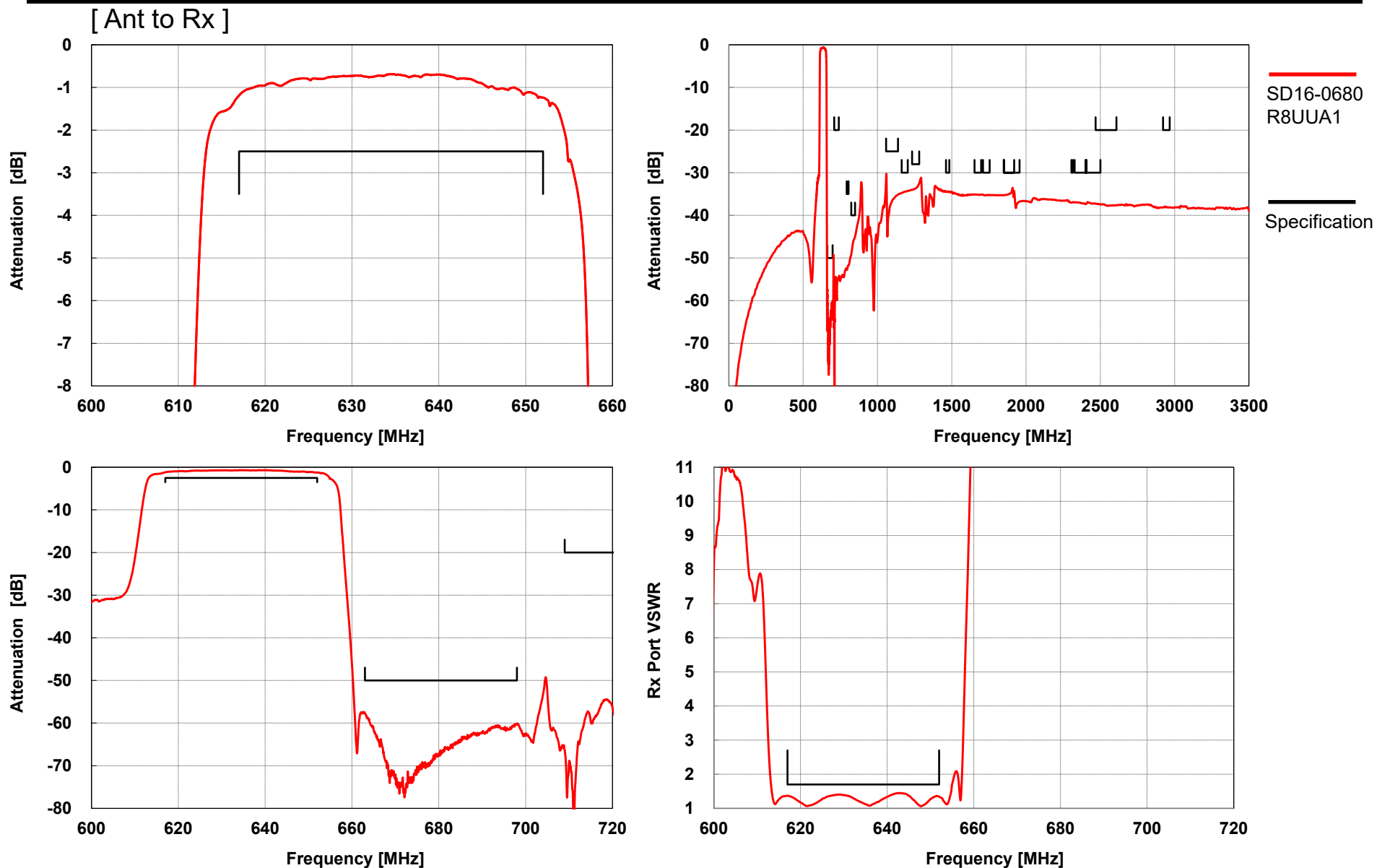
Typical Curve Data



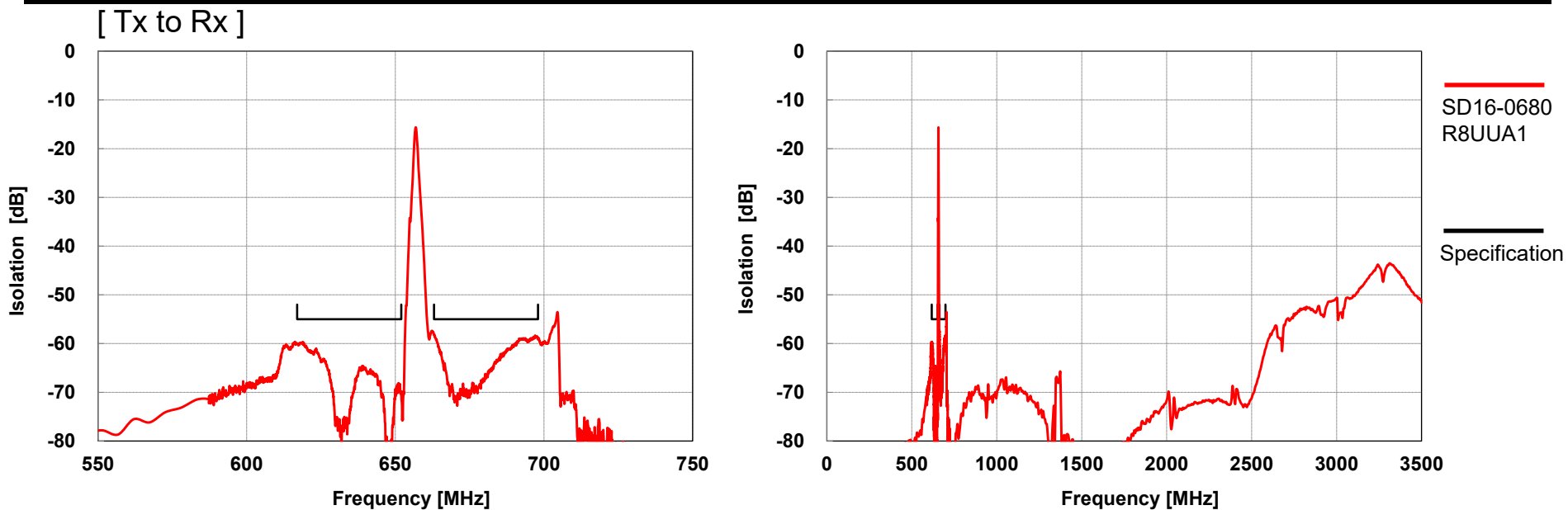
Typical Curve Data



Typical Curve Data

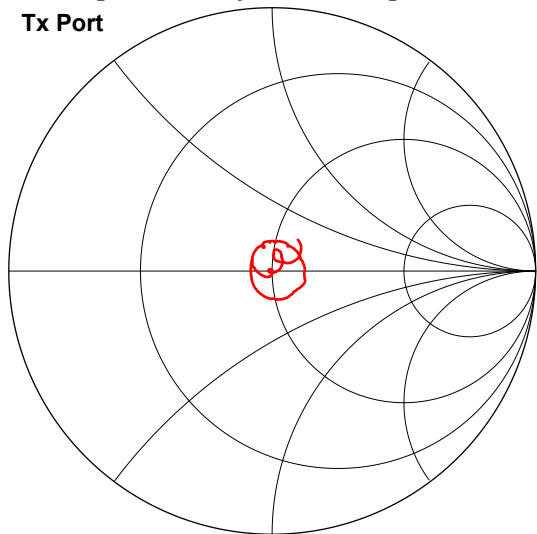


Typical Curve Data

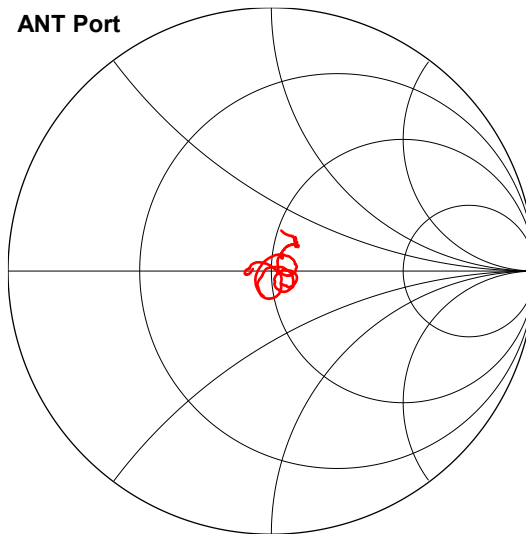


[Port Impedance]

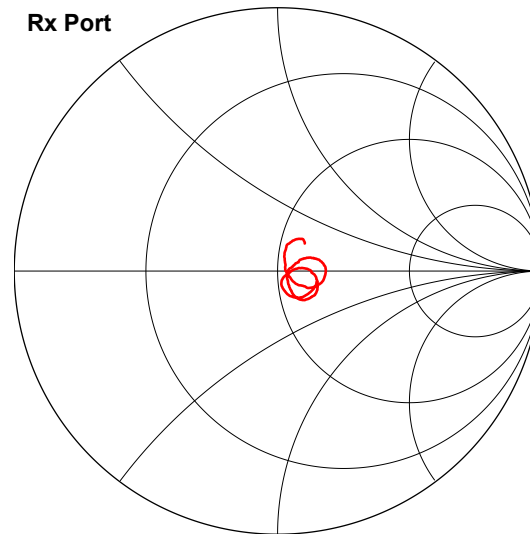
Tx Port



ANT Port



Rx Port



1. Characteristics described in this datasheet are for references specifications shall be based on written documents agreed by each party.
2. Contents in this datasheet are subject to change without notice. It is recommended to confirm the latest information at the time of usage. Also, this datasheet is revised once a year. We may not be able to accept requests based on old datasheets.
3. Products in this datasheet are intended to be used in general electronic equipment such as office equipment, audio and visual equipment, communication equipment, measurement instrument and home appliances. It is absolutely recommended to consult with our sales representatives in advance upon planning to use our products in applications which require extremely high quality and reliability such as aircraft and aerospace equipment, traffic systems, safety systems, power plant and medical equipment including life maintenance systems.
4. Even though we strive for improvements of quality and reliability of products, it is requested to design with enough safety margin in equipment or systems in order not to threaten human lives directly or damage human bodies or properties by an accidental result of products.
5. It is requested to design based on guaranteed specifications for such as maximum ratings, operating voltage and operating temperature. It is not the scope of our guarantee for unsatisfactory results due to misuse or inadequate usage of products in the datasheet.
6. Operation summaries and circuit examples in this datasheet are intended to explain typical operation and usage of the product. It is recommended to perform circuit and assembly design considering surrounding conditions upon using products in this datasheet.
7. Technical information described in this datasheet is meant to explain typical operations and applications of products, and it is not intended to guarantee or license intellectual properties or other industrial rights of the third party or Kyocera.
8. Trademarks, logos and brand names used in this datasheet are owned by Kyocera or the corresponding third party.
9. Certain products in this datasheet are subject to the Foreign Exchange and Foreign Trade Control Act of Japan, and require the license from Japanese Government upon exporting the restricted products and technical information under the law. Besides, it is requested not to use products and technical information in the datasheet for the development and/or manufacture of weapons of mass destruction or other conventional weapons, nor to provide them to any third party with the possibility of having such purposes.
10. It is prohibited to reprint and reproduce a part or whole of this datasheet without permission.