

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW Duplexer for femtocell

Band 5 (3G/LTE)

Series/type:	B7925
Ordering code:	B39881B7925P810
Date:	April 12, 2013
Version:	2.1

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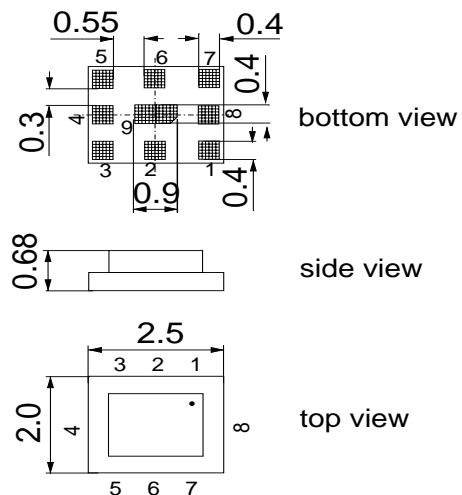
DataSheet

Application

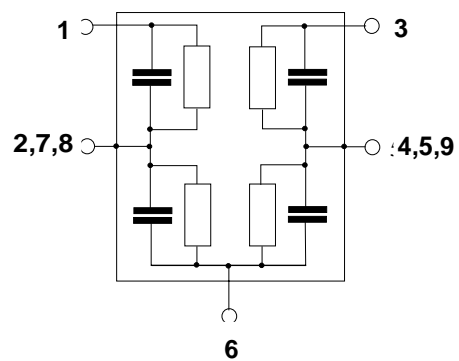
- Low-loss SAW duplexer for WCDMA femtocell systems
- Low insertion attenuation
- Usable passband 25 MHz
- High power durability


Features

- Package size 2.5 * 2.0 * 0.68 mm³
- RoHS compatible
- Package for **Surface Mount Technology (SMT)**
- Ni, Au-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 3**
- Rx = UPLINK = 824-849 MHz
- Tx = DOWNLINK = 869-894 MHz


Pin configuration

- 3 Rx output
- 1 Tx input
- 6 Antenna
- 2, 4, 5, 7, 8, 9 To be grounded



DataSheet

Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
TX terminating impedance:	Z _{Tx} = 50 Ω
ANT terminating impedance:	Z _{Ant} = 50 Ω 8.7 nH
RX terminating impedance:	Z _{Rx} = 50 Ω

Characteristics ANT-Rx		min.	typ. @ 25 °C	max.	
Center frequency	f _c	-	836.5	-	MHz
Maximum insertion attenuation	α				
824 ... 849 MHz		-	2.6	3.0	dB
Amplitude ripple (p-p)	Δα				
824 ... 849 MHz		-	1.2	1.8	dB
Input VSWR (Rx port)					
824 ... 849 MHz		-	1.7	2.1	
Output VSWR (Ant Port)					
824 ... 849 MHz		-	1.7	2.0	
Attenuation	α				
869.0 ... 894.0 MHz		50	54	-	dB
1840.0 ... 1870.0 MHz		25	37	-	dB
1930.0 ... 1990.0 MHz		25	36	-	dB
2110.0 ... 2170.0 MHz		25	35	-	dB
2400.0 ... 2484.0 MHz		25	34	-	dB
1648.0 ... 1698.0 MHz		25	39	-	dB
2472.0 ... 2547.0 MHz		25	34	-	dB
3296.0 ... 3396.0 MHz		20	31	-	dB

DataSheet

Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
TX terminating impedance:	Z _{Tx} = 50 Ω
ANT terminating impedance:	Z _{Ant} = 50 Ω 8.7 nH
RX terminating impedance:	Z _{Rx} = 50 Ω

Characteristics Tx-ANT		min.	typ. @ 25 °C	max.	
Center frequency	f _c	-	881.5	-	MHz
Maximum insertion attenuation	α				
869.0 ... 894.0 MHz		-	1.7	2.5	dB
Amplitude ripple (p-p)	Δα				
869.0 ... 894.0 MHz		-	0.8	1.3	dB
Input VSWR (Tx port)					
869.0 ... 894.0 MHz		-	1.7	2.0	
Output VSWR (Ant Port)					
869.0 ... 894.0 MHz		-	1.8	2.1	
Attenuation	α				
824.0 ... 849.0 MHz		48	51	-	dB
1574.4 ... 1576.4 MHz		45	50	-	dB
1602.5 ... 1615.5 MHz		35	49	-	dB
1738.0 ... 1788.0 MHz		30	47	-	dB
1850.0 ... 1910.0 MHz		40	45	-	dB
1920.0 ... 1980.0 MHz		40	45	-	dB
2400.0 ... 2484.0 MHz		21	42	-	dB
2607.0 ... 2682.0 MHz		21	39	-	dB
3476.0 ... 3576.0 MHz		15	29	-	dB


Characteristics

 Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$

 TX terminating impedance: $Z_{Tx} = 50\ \Omega$

 ANT terminating impedance: $Z_{Ant} = 50\ \Omega \parallel 8.7\text{ nH}$

 RX terminating impedance: $Z_{Rx} = 50\ \Omega$

Characteristics Tx-Rx				min.	typ. @ 25 °C	max.	
Attenuation	α	869.0 ... 894.0 MHz		53	57	-	dB
		824.0 ... 849.0 MHz		49	53	-	dB

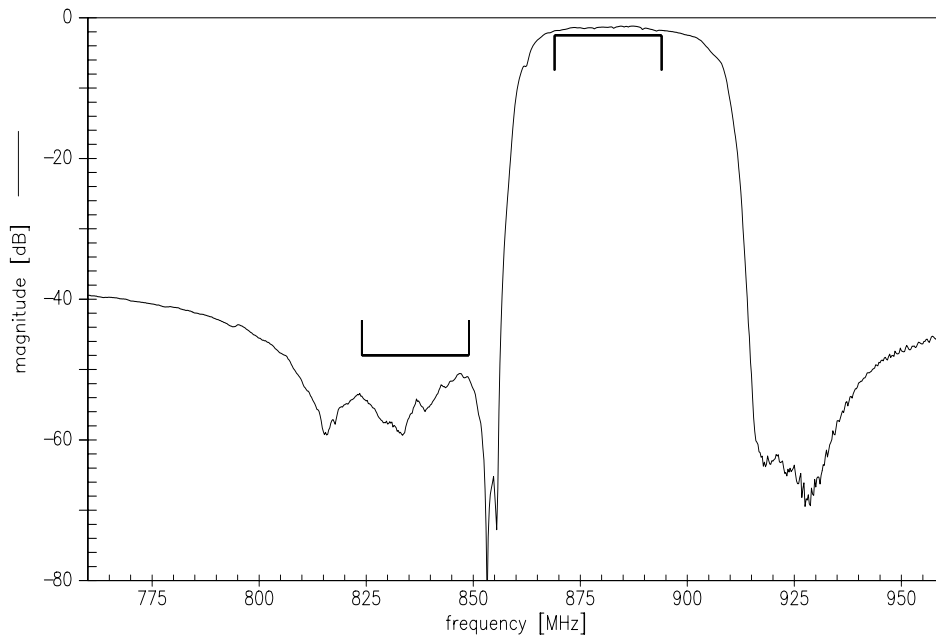
Maximum Ratings

Storage temperature range	T_{stg}	-40/+85	°C	machine model, 1 pulse source and load impedance 50 Ω LTE 5 MHz downlink } average power T = 55 °C, 50.000 h
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50 ¹⁾	V	
Input power at pin 1				
871.5 ...891.5 MHz	P_{in}	30	dBm	} average power T = 55 °C, 50.000 h
elsewhere	P_{in}	10	dBm	

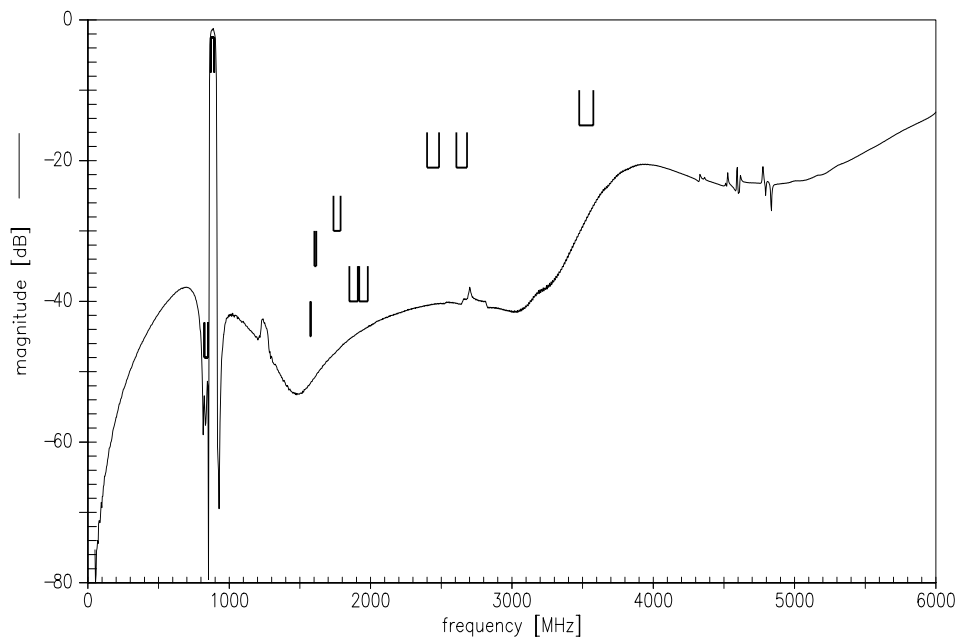
¹⁾ According to JESD22-A115A (machine model), 1 negative and 1 positive pulses.



Frequency Response TX-ANT

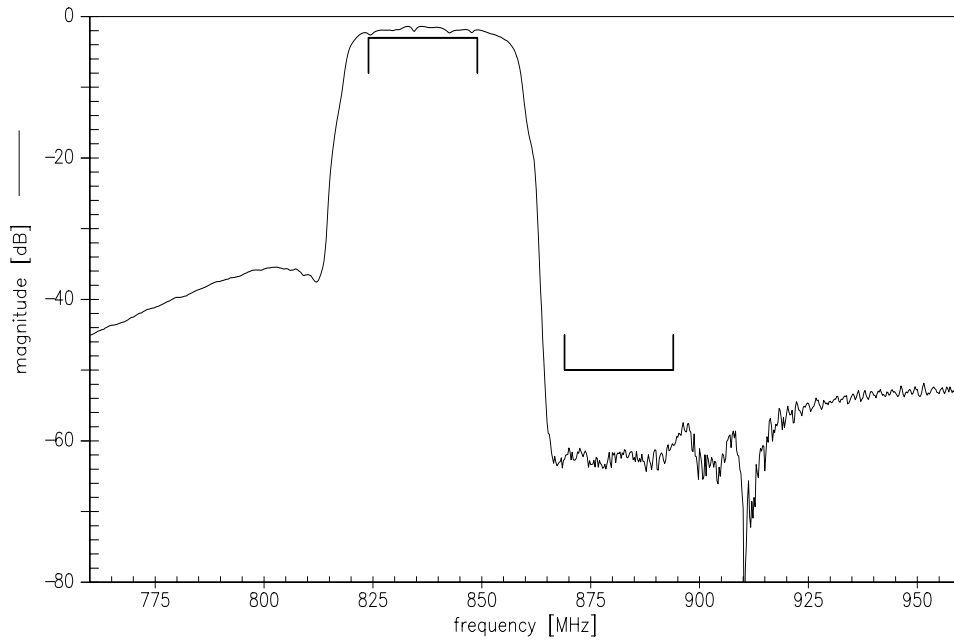


Frequency Response TX-ANT

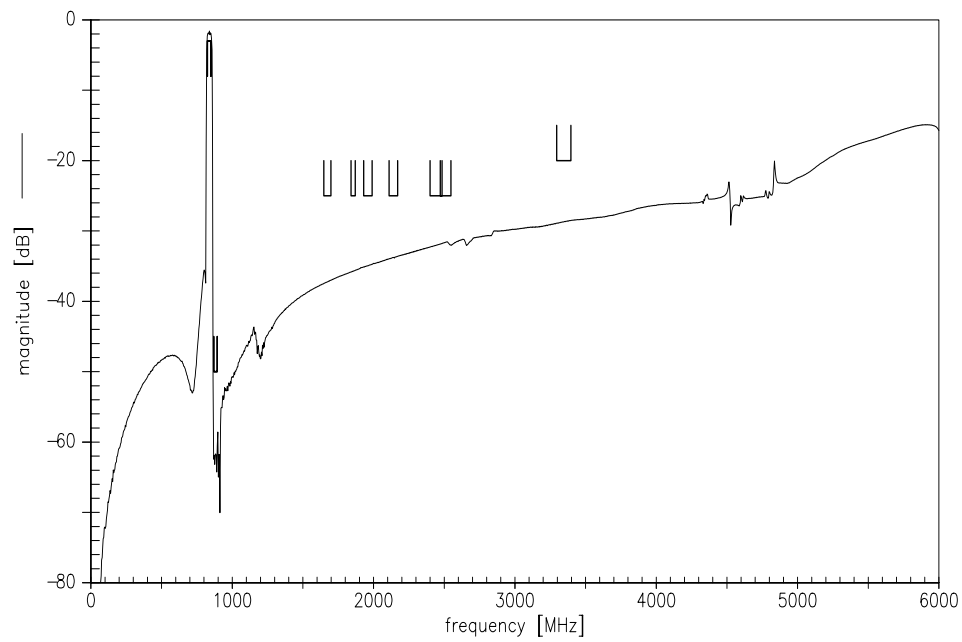




Frequency Response ANT-RX

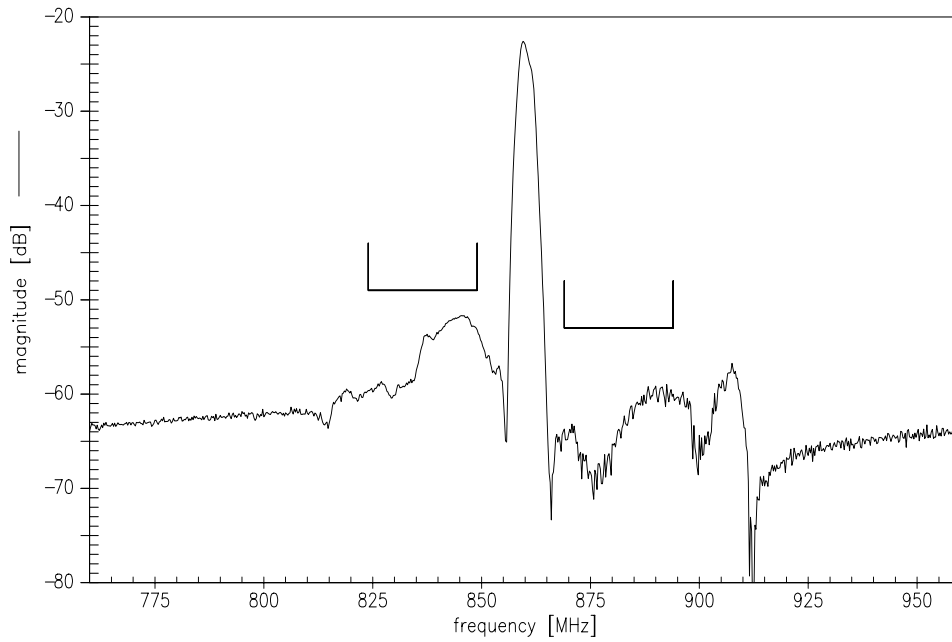


Frequency Response ANT-RX

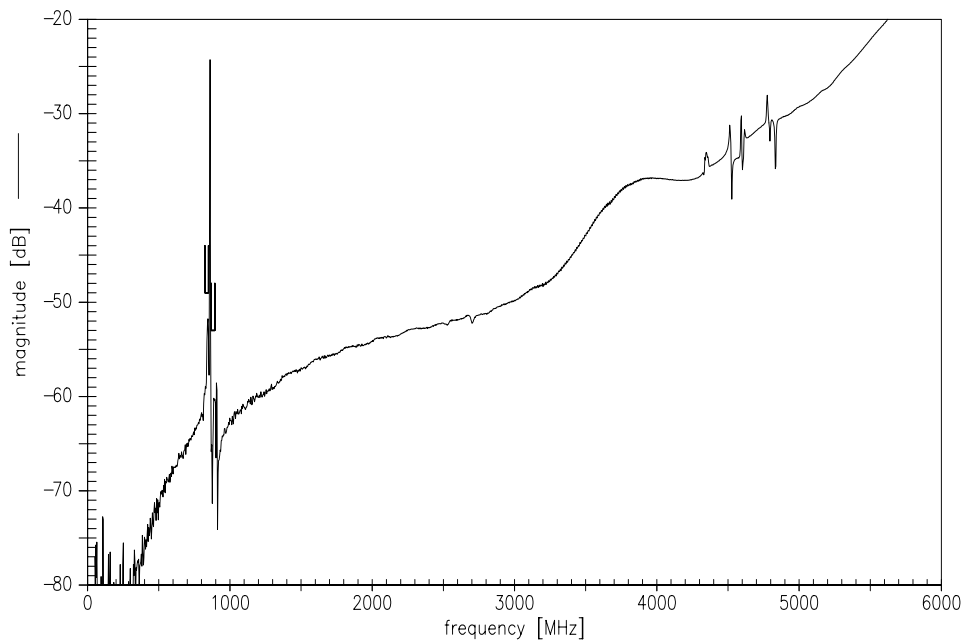




Frequency Response TX-RX



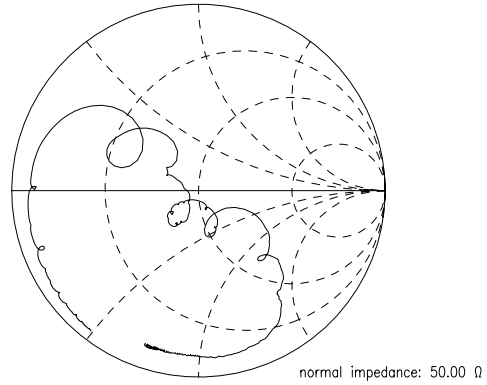
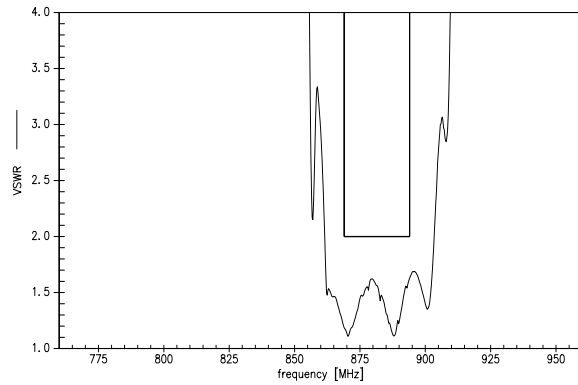
Frequency Response TX-RX



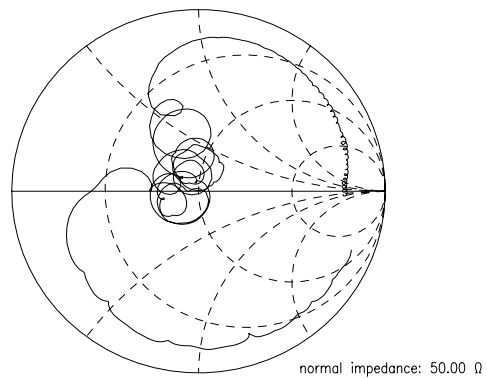
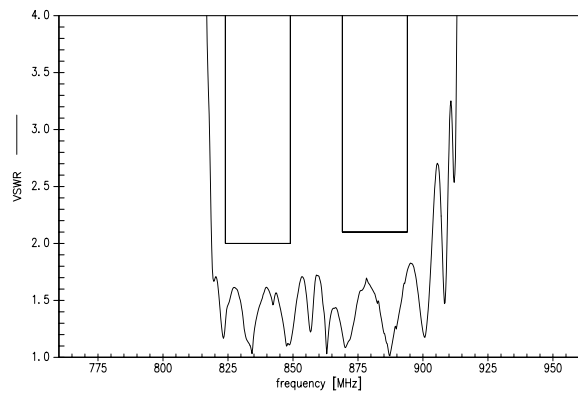
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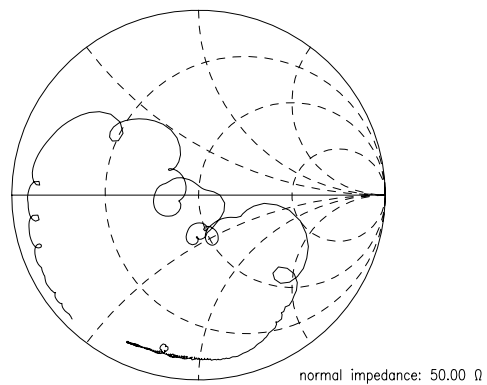
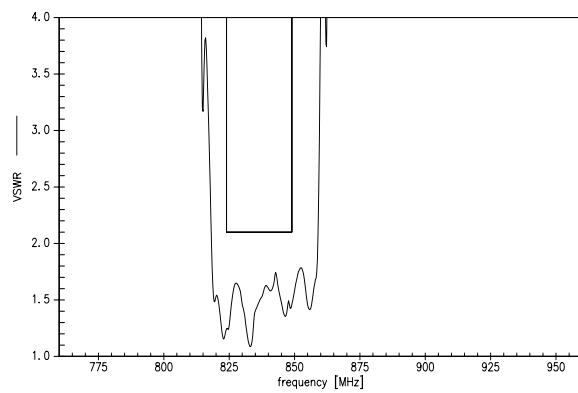
S11 VSWR (TX)



S22 VSWR (ANT)



S33 VSWR (RX)



SAW Components
B7925
SAW Duplexer
836.5 / 881.5 MHz

DataSheet



References

Type	B7925
Ordering code	B39881B7925P810
Marking and package	C61157-A3-A54
Packaging	F61074-V8153-Z000
Date codes	L_1126
S-parameters	B7925_NB.s3p B7925_WB.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8 th , 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
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