



# World Technologies, Ltd.

## SAW FILTER APPLICATION GUIDE



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## **WTL SAW FILTER APPLICATION GUIDE**

### **Mobile Communication Filter (RF)**

<b>Mode 1</b>	<b>Center Frequency</b>	<b>System</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>3dB BW</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF836A	836.5MHz	CDMA	C1/C2	25	33	4.5	50
WSF881A	881.5MHz	CDMA	C1/C2	25	33	4.5	50
WSF902A	902.5MHz	GSM	C1/C2	25	33	4.5	50
WSF947A	947.5MHz	GSM	C1/C2	25	33	4.5	50

### **MCF (IF)**

<b>Mode 1</b>	<b>Center Frequency</b>	<b>System</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>Stop Band</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF8538A	85.38MHz	CDMA	C9	1.2MHz	40dB	15	50/Tuning
WSF8538B	85.38MHz	CDMA	C8	1.2MHz	35dB	13.5	50/Tuning
WSF110A	110.592MHz	DECT	C7	0.9MHz	40dB	13.5	50/Tuning
WSF210A	210MHz	PCS-USA	C7	0.6MHz	40dB	12	50/Tuning
WSF220A	220MHz	PCS-USA	C7	0.6MHz	40dB	12	50/Tuning

### **Wireless Control**

<b>Mode 1</b>	<b>Center Frequency</b>	<b>System</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>Stop Band</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF434A	434MHz	Car opener	R2/C1/C3	4	50	4.5	150
WSF868A	868MHz	Car opener	R2/C1/C3	4	50dB	4	50/10nH
WSF311A	311MHz	Car opener	R2/C1	3.3	50	4.5	150
WSF315A	315MHz	Car opener	R2/C1	4	50	4.5	150
WSF448A	448MHz	Car opener	R2/C1/C3	4	50	4.5	150
WSF421E	421MHz	W-Modem	R2/C1/C3	15	50dB	3.5	50
WSF447E	447MHz	W-Modem	R2/C1/C3	17	50dB	3.5	50/6.8nH
WSF858A	858MHz	Modem	R2/C1/C3	4	50dB	4	50/10nH
WSF622A	622MHz	Data	R2/C1/C3	4	50dB	4.5	150

**Wireless continued**

WSF741A	741MHz	Data	R2/C1/C3	6	50dB	3.5	50/10nH
WSF746A	746MHz	Data	R2/C1/C3	6	50dB	3.5	50/10nH
WSF866A	866MHz	Data	R2/C1/C3	4	50dB	4	50/10nH
WSF210A	210.7MHz	Test Equipment	C1	6	40dB	3	50

**Cordless Phone Filter**

Model	Center Frequency	System	Package	BW (MHz)	3dB	IL (dB)	Impedance
WSF252A	252.5MHz	JCT	R2/C1	6	10	4	150
WSF379A	379MHz	JCT	R2/C1	6	18	4	150
WSF380A	380MHz	JCT	R2/C1	8	18	4	150
WSF886A	886MHz	CT1+	R2/C1/C3	2.4	20	3.5	50//10nH
WSF886M	886MHz	CT1+	R2/C1/C3	2	10	4.5	50
WSF903A	903MHz	ISM	R2/C1/C3	2.4	20	3.5	50//10nH
WSF912A	912MHz	CT2	R2/C1/C3	4	20	3.5	50//10nH
WSF914A	914.5MHz	CT1	R2/C1/C3	2.4	20	3.5	50//10nH
WSF914M	914.5MHz	CT1	R2/C1/C3	2	10	4.5	50
WSF915A	915MHz	ISM	R2/C1/C3	25	33	4	50
WSF927A	927MHz	ISM	R2/C1/C3	2.4	20	3.5	50//10nH
WSF927M	927MHz	ISM	R2/C1/C3	2	10	4.5	50
WSF903M	903MHz	ISM	R2/C1/C3	2	10	4.5	50
WSF931A	931MHz	CT1+	R2/C1/C3	2.4	50	3.5	50//10nH
WSF931M	931MHz	CT1	R2/C1/C3	2	10	4.5	50
WSF959A	959.5MHz	CT1	R2/C1/C3	2.4	50	3.5	50//10nH
WSF959M	959.5MHz	CT1	R2/C1/C3	1	10	4.5	50
WSF0327A	903/927MHz	ISM	C4	2	6	4.5	50
WSF2703A	927/903MHz	ISM	C4	2	6	4.5	50
WSF1459A	914/959MHz	CT1	C4	1	6	4.5	50
WSF5914A	959/914MHz	CT1	C4	1	6	4.5	50

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**Pager & FRS Filter (1)**

<b>Model</b>	<b>Center Frequency</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>Stop Band</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF139B	139MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF147B	147MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF150B	150MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF155B	155MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF156D	156.5MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF163B	163MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF167B	167MHz	R2/C1	8	50/42	6.5	210/Tuning
WSF171B	171MHz	R2/C1	8	50/42	6.5	210/tuning
WSF175B	175MHz	R2/C1	8	50/42	6.5	210/tuning
WSF220A	220MHz	R2/C1	6	50	4.5	150
WSF276A	276MHz	R2/C1	6	50	4.5	150
WSF280A	280MHz	R2/C1	8	50	4.5	150
WSF281A	281MHz	R2/C1	6.2	50	4.5	150
WSF282A	282MHz	R2/C1	8	50	4.5	150
WSF283A	283MHz	R2/C1	8	50	4.5	150
WSF284A	284MHz	R2/C1	8	50	4.5	150
WSF285A	285MHz	R2/C1	6	50	4.5	150
WSF299A	299MHz	R2/C1	6	50	4.5	150
WSF303A	303MHz	R2/C1	4	50	4.5	150
WSF308A	308MHz	R2/C1	2	50	4.5	150
WSF311A	311MHz	R2/C1	3.3	50	4.5	150
WSF315A	315MHz	R2/C1	4	50	4.5	150
WSF320A	320MHz	R2/C1	3.3	50	4.5	150
WSF323A	323.6MHz	R2/C1	3.3	50	3.5	150
WSF325A	325.3MHz	R2/C1	6.6	50	4	150
WSF326A	326.9MHz	R2/C1	3.3	50	3.5	150

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**Pager & FRS Filter (2)**

<b>Model</b>	<b>Center Frequency</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>Stop Band</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF340B	340MHz	R2/C1	7	50	4.5	150
WSF410A	410MHz	R2/C1/C3	4	50	4.5	150
WSF418A	418MHz	R2/C1/C3	4	50	4.5	150
WSF419A	419MHz	R2/C1/C3	4	50	4.5	150
WSF420D	420MHz	R2/C1/C3	10	50	4.5	50
WSF425A	425MHz	R2/C1/C3	4	50	4.5	150
WSF428C	428MHz	R2/C1/C3	6	50	4	50
WSF430A	430MHz	R2/C1/C3	4	50	4.5	150
WSF430C	430MHz	R2/C1/C3	2	50	4	50
WSF434A	434MHz	R2/C1/C3	4	50	4.5	150
WSF435D	435MHz	R2/C1	10	50	4.5	50
WSF442A	442MHz	R2/C1/C3	4	50	4.5	150
WSF443A	443MHz	R2/C1/C3	4	50	4.5	150
WSF446A	446MHz	R2/C1/C3	4	50	4.5	150
WSF446D	446MHz	R2/C1/C3	10	50	4.5	50
WSF447A	447MHz	R2/C1/C3	4	50	4.5	150
WSF448A	448MHz	R2/C1/C3	4	50	4.5	150
WSF448D	448MHz	R2/C1/C3	10	50	4.5	50
WSF450A	450MHz	R2/C1/C3	4	50	4.5	150
WSF450C	450MHz	R2/C1/C3	2	50	4	50
WSF454A	454MHz	R2/C1/C3	4	50	4.5	150
WSF454B	454MHz	R2/C1/C3	8	50	4.5	150
WSF454D	454MHz	R2/C1/C3	10	50	4.5	50

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**Pager & FRS Filter (3)**

<b>Model</b>	<b>Center Frequency</b>	<b>Package</b>	<b>BW (MHz)</b>	<b>Stop Band</b>	<b>IL (dB)</b>	<b>Impedance</b>
WSF458A	458MHz	R2/C1/C3	4	50	4.5	150
WSF458D	458MHz	R2/C1/C3	10	50	4.5	50
WSF460B	460MHz	R2/C1/C3	8	50	4.5	150
WSF462A	462MHz	R2/C1/C3	4	50	4.5	150
WSF465A	465MHz	R2/C1/C3	4	50	4.5	150
WSF465C	465MHz	R2/C1/C3	6	50	3.5	50
WSF465D	465MHz	R2/C1/C3	10	50	4.5	50
WSF466A	466MHz	R2/C1/C3	4	50	4.5	150
WSF466B	466MHz	R2/C1/C3	8	50	4.5	150
WSF466D	466MHz	R2/C1/C3	10	50	4.5	50
WSF468D	468MHz	R2/C1/C3	10	50	4.5	50
WSF470A	470MHz	R2/C1/C3	4	50	4.5	150
WSF474A	474MHz	R2/C1/C3	4	50	4.5	150
WSF480A	480MHz	R2/C1/C3	4	50	4.5	150
WSF480D	480MHz	R2/C1/C3	10	50	4.5	50
WSF507A	507MHz	R2/C1/C3	4	50	4.5	150
WSF511A	511MHz	R2/C1/C3	4	50	4.5	150
WSF527A	527MHz	R2/C1/C3	4	50	4.5	150
WSF861D	861MHz	R2/C1/C3	20	50	4.5	50
WSF899C	899MHz	R2/C1/C3	6	40	4	50
WSF924A	924MHz	R2/C1/C3	4	50	4.5	50//10nH
WSF930A	930.5MHz	R2/C1/C3	4	50	4.5	50//10nH
WSF930C	930MHz	R2/C1/C3	6	50	4	50

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**Pager & Filter FRS (3) Con't**

WSF939C	939MHz	R2/C1/C3	6	40	4	50
WSF940C	940MHz	R2/C1/C3	6	40	4	50

**Repeater Saw Filter List**

<b>Model</b>	<b>Center Frequency</b>	<b>3dB BW (MHz)</b>	<b>40dB BW (MHz)</b>	<b>IL (dB)</b>	<b>Group Delay (us)</b>	<b>Package (RB)</b>
WSF07003	70MHz	9.5	10.9	-26	2.5	12.6*22.1 (6p)
WSF07004	70MHz	9.4	10.7	-26	2.7	12.6*22.1(6P)
WSF07005	70MHz	3.7	4.7	-28	2.2	12.6*22.1(6P)
WSF07006	70MHz	9.9	11	-26	2.7	12.6*22.1(6P)
WSF08001	80MHz	9.4	10.7	-27	2.7	12.6*22.1(6P)
WSF09001	90MHz	9.3	10.7	-29	2.6	12.6*22.1(6P)
WSF16001	160MHz	9.3	10.6	-31	3.3	12.6*22.1(6P)
WSF17001	170MHz	9.3	10.7	-31	3.3	12.6*22.1(6P)
WSF18001	180MHz	9.3	10.6	-31	3.3	12.6*22.1(6P)

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**Cable Modem & DTV IF  
Saw Filter List**

Model	Center Frequency	Ripple (dB)	IL (dB)	Bandwith (MHz)		Sidelobe (dB)				Package
				3dB	30dB	Lower		Upper		
WSF4375A	43.75MHz	0.8	15	6.0	7.6	39.75	45	47.75	45	15.9*5.9(5P)
						33.00-39.75	40	47.75-55.00	40	
WSF4375B	43.75MHz	0.8	17	6.2	7.8	39.75	45	47.75	45	15.9*5.9(5P)
						33.00-39.75	40	47.75-55.00	40	
WSF44032A	44.032MHz	1	10	2.6	4.0	35.00-39.55	45	46.16-48.51	40	15.9*5.9(5P)
						39.55-41.90	40	48.51-55.00	42	
WSF3608A	36.125MHz	0.8	20	8.0	9.4	31.13	42	41.125	45	15.9*5.9(5P)
						25-31.125	40	41.125-55.00	40	
WSF4400A	44MHz	0.8	15	6.0	7.6	41	45	46.00	45	15.9*5.9(5P)
						35.00-41.00	40	46.00-55.00	40	
WSF4400B	44MHz	0.8	17	6.2	7.8	41.00	45	46.00	45	15.9*5.9(5P)
						35.00-41.00	40	46.00-55.00	40	
WSF4408A	44MHz	1	19	7.9	9.5	39.00	40	49.00	40	15.9*5.9(5P)
						31.5-38.5	38	49.5-56.5	35	
WSF4417A	44MHz	1	15	1.7	2.9	35.00-41.30	42	45.80-47.20	35	15.9*5.9(5p)
						41.30-42.30	36	47.20-55.00	40	

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**Cable Modem RF Filter**

Model	Center Frequency	System	Package	BW(MHz)	Stop Band	IL (dB)	Impedance
WSF959C	959MHz	MODEM	R2/C1/C3	6	40dB	4	50
WSF1090M	1090MHz	CABLE MODEM	C3	6	7.5dB	6	50

**TV IF FILTER**

Model	System	Fs	Fp	Fc	Stop Band	IL (dB)	Impedance
WSF1007S	TV	54.25MHz	55.17MHz	58.75MHz	30dB	32	-

**Package  
Dimension**

PKG	R2	R4	RB	S1	C1	C2	C3	C4	C5	C6	C7	C8	C9
SIZE	11.0x4.4	15.9x5.9	20.0x12.0	TO-39	5.2x4.8	3.5x3.5	3.8x3.8	3.8x3.8	7.0x5.0	11.4x5.0	13.3x6.5	15.926.5	19.0x6.5

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