

Selected SAW Filter Designs

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SAW Filter Design Experience

Dr. Alexander Rukhlenko successfully combined his research activities with practical SAW filter development for industrial SAW companies. As a result, during his professional career, he worked as a consulting or visiting SAW filter designer for companies such as [SAWTEK Inc.](#), Toco of America, Andersen Labs (USA), Temex SAW (Switzerland), LG, [SAWNICS Inc.](#) (South Korea), [Vectron International](#) (Germany/Great Britain), and others. As a rule, his responsibility was to develop SAW filters with challenging specifications suitable for reliable mass production.

Selected SAW Filters

In addition, this page presents datasheets of selected SAW filters developed by Dr. Alexander Rukhlenko for a wide range of communication and signal-processing applications. These devices were used in communication systems and related electronic equipment. The collection covers the IF frequency range from 38 MHz to 440 MHz and includes filters with various bandwidths, package sizes, and frequency-response characteristics.

Design Optimization for Mass Production

Depending on customer requirements, different projects emphasized specific performance criteria, including low insertion loss, steep selectivity, high out-of-band rejection, compact package size, and manufacturability. In addition to filter synthesis and optimization, the development process often involved detailed analysis of transducer structures, matching networks, manufacturing tolerances, and device sensitivity to technological variations. Such comprehensive evaluation helped improve production robustness and ensure consistent filter characteristics in high-volume manufacturing environments. In many projects, achieving an optimal balance between electrical performance and production yield was a key design objective.

Proprietary CAD Software

Furthermore, all of the filters presented here were designed using proprietary computer-aided design software developed by Dr. Alexander Rukhlenko and implemented primarily on the MATLAB® computational platform. This approach enabled complex filter requirements to be analyzed, optimized, and verified efficiently prior to production.

Applications and Design Examples

Overall, this collection provides a representative overview of SAW filter designs created for industrial customers and implemented in commercial products. The examples span different frequency bands, bandwidths, package formats, and application requirements. They illustrate both the diversity of SAW filter technologies and the practical engineering challenges associated with their development, while also reflecting the design methodologies and software tools applied by Dr. Alexander Rukhlenko in industrial SAW filter projects.

Click the SAW filter description below to view or download a printable SAW filter datasheet in PDF format.

Datasheets of the Selected SAW Filter Designs

#	Filter	Frequency, MHz	Bandwidth, MHz	Insertion Loss, dB	Rejection, dB	Package Size, mm
1	SAW Filter for Digital Audio Broadcasting (DAB)	38.912	1.525	23.3	40	11.4 x 5.3
2	63 MHz GSM SAW Filter	63	0.44	14	58	20.2 x 12.6
3	70 MHz Low-Loss SAW Filter	70	3.7	8.1	40	13.3 x 6.5
4	70 MHz WCDMA SAW Filter for Base Station	70	3.96	20	45	24.7 x 9
5	70 MHz Low-Loss SAW Filter	70	4.2	8.3	40	13.3 x 6.5
6	70 MHz SAW Filter	70	4.25	23.6	45	22 x 13
7	100 MHz Low-Loss SAW Filter	100	7.4	7.9	43	13.3 x 6.5
8	140 MHz SAW Filter	140	4.2	25.3	50	22 x 13

Datasheets of the Selected SAW Filter Designs (Cont'd)

9	<u>333 MHz WLL Low-Loss SAW Filter *</u>	333	1.34	6.7	50	9.1 x 4.5
10	<u>350 MHz SAW Filter 1.7 MHz Bandwidth</u>	350	1.7	13.1	40	13.3 x 6.5
11	<u>350 MHz SAW Filter 2.4 MHz Bandwidth</u>	350	2.4	15	43	7 x 5.5
12	<u>374 MHz Low-Loss SAW Filter</u>	374	17	8.4	50	5 x 5
13	<u>440 MHz SAW Filter</u>	440	2.5	10.5	45	7 x 5.5

* Preliminary Specifications (Simulation only)

Web version: [Selected SAW Filter Designs of Dr. Alexander Rukhlenko](#)