

SAW Filters

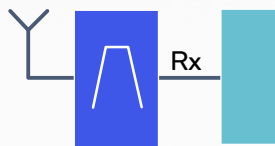
for GNSS Receiver in IoT, Industrial
and Consumer Applications

Qualcomm

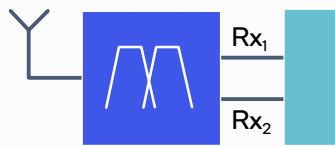
Our SAW filters are designed for spectrum challenging applications. The GNSS product range includes single filters with their small packaging footprint as little as 0.9 mm x 0.7 mm, diplexers and double hump filters. These components cover all common GNSS frequency ranges of GPS, Galileo, Glonass and Beidou, including the L2, L5, L and L1 bands. Many filters provide a group delay ripple of a maximum of 5 ns.

Our GNSS Filter Types

Single Filter



Diplexer



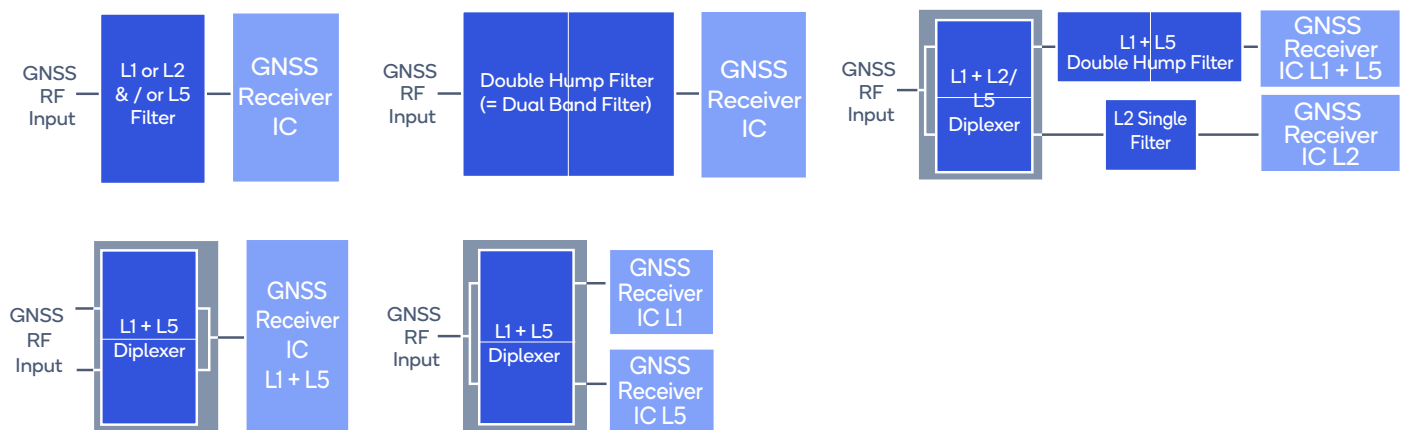
Double Hump Filter



Features

- Frequency spectrum 1166 ... 1284 MHz, 1525 ... 1610 MHz
- Package sizes [mm x mm]: 0.9 x 0.7, 1.1 x 0.9, 1.4 x 1.1, 1.5 x 1.1 and 3.0 x 3.0
- Group delay ripple down to 5 ns

Block Diagram Examples



Product Range

Pass Band [MHz]				Package Size [mm x mm]					Other						
Lower Freq [MHz]	Center Freq [MHz]	Upper Freq [MHz]	BW [MHz]	0.9 x 0.7	1.1 x 0.9	1.4 x 1.1	1.5 x 1.1	3.0 x 3.0	Band	IL, typ [dB]	IL, max [dB]	Group delay ripple, typ [ns]	Group delay ripple, max [ns]	Top, max [°C]	Comment

Single Filters for L and L1 band

1559	1583	1606	47	B7504					L1	0.9-1.2	14-2.0	4	15	85	low insertion attenuation + high attenuation
1559	1583	1606	47		B8813				L1	0.85-1.2	14-1.9	3	12	85	low insertion attenuation
1559	1583	1606	47		B8839				L1	1.2-1.9	2.0-2.6	5	15	85	high attenuation
1559	1583	1606	47		B8878				L1	0.9-1.2	1.8-2.0	6	12	85	high attenuation
1559	1583	1606	47			B8313			L1	0.8-1.3	1.3-2.0	4	12	85	low insertion attenuation
1559	1583	1606	47			B9621			L1	1.0-1.4	1.4-2.4	4	20	95	industrial grade
1574	1583	1606	32		B7527				L1	0.95-1.7	-	8	-	85	B24 suppression between 1526-1536 & 1627-1680 MHz
1561	1588	1615	54			B2634			L1	1.9-2.1	2.6-3.5	25	50	125	

Single Filters for L2 and L5 Band, E6 and IRNSS/NavIC

1166	1176	1186	20	B7505					L5	0.9	1.3	-	-	85	low insertion attenuation; L5, E5a
1166	1176	1186	20		B8884				L5	1.0	1.6	-	-	85	low insertion attenuation; L5, E5a
1166	1176	1186	20		B7525				L5	1.3	1.6	9	20	85	L5, E5a; focus on nearby selectivity
1164	1192	1219	55			B2637			L5	1.5	2.6	12-15	25-50	125	L5, E5a, E5b, G3, B2-1
1197	1223	1249	52		B2632				L2	1.0-1.3	1.8-2.2	2-4	5-8	125	L5, E5a, E5b, G3, B2-1, L2, G2; low GDR
1212	1235	1257	45			B2635			L2	2	2.8	2-15	10-35	125	L2, G2
1166	1197	1228	62		B8889				L2/L5	0.9-1.4	1.3-2.6	-	-	85	L5, E5a, E5b, G3, B2-1, L2
1166	1225	1284	118			B2642			L2/L5	1.1-2.2	1.5-2.4	6-10	10-27	105	ultra-wide band; L5, E5a, E5b, G3, B2-1, L2, G2, B3-1, E6
1251	1279	1306	55			B2638			E6	1.8	2.8	13	30	125	E6, B3-1
2483,7	2492,0	2500,3	16,6			B2639			IRNSS NavIC	3.5	5.0	14	26	125	

Diplexers and Double Hump Filters for L, L1, L2 and L5 Band

1166	1176	1186	20				B1267		L1+L5	1.2	2.2	-	-	85	diplexer; L5, E5a
1559	1583	1606	47							1.2-1.5	1.5-2.2	3	-		
1166	1176	1186	20				B9968		L1+L5	1.7	2.2	-	-	85	diplexer; L5, E5a
1559	1583	1606	47							1.4-2.3	1.8-3.5	5	10		
1166	1197	1228	62				B9973		L1+ L2/ L5	1.2-1.7	2.0-2.1	-	-	85	diplexer; L5, E5a, E5b, G3, B2-1, L2
1559	1583	1606	47							1.3-1.6	1.7-2.0	-	-		
1166	1177	1187	21					B3503	L1+L5	1.4-1.6	2.0-2.3	3	5	125	double hump; L5, E5a; low GDR
1559	1583	1606	47							1.9	2.3	3	5		
1166	1210	1254	88				B2651		L/L1+ L2/L5	0.7-1.0	1.3-1.8	2-7	5-11	105	double hump; L5, E5a, E5b, G3, B2-1, L2, G2; low GDR
1545	1578	1610	65							1.8-2.4	2.3-2.9	2.5-5	5-10		