High Power Filters

- RF Specifications

Technical Data

Version 09

Innovation with Integrity

NMR

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1 NMR Filters

1.1 Quick Search - Typical Double Resonance Experiments

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346235	W1346239	W1346239	W1346239	W1346239
^{19}F	W1346236	*	W1346249	W1346249	W1346249	W1346249
^{31}P	W1346642	W1346642	*	W1346372	W1346372	W1346372
^{13}C	W1346642	W1346642	W1346271	*	W1346271	W1346275
^{2}H	W1346642	W1346642	W1346273	W1346273	*	W1346273
^{15}N	W1346642	W1346642	W1346278	W1346278	W135032	*

Figure 1.1: AVANCE 300MHz [▸ 30]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346204	W1346240	W1346240	W1346240	W1346240
^{19}F	W1346205	*	W1346250	W1346250	W1346250	W1346250
^{31}P	W1346636	W1346636	*	W1346349	W1346349	W1346349
^{13}C	W1346636	W1346636	W1346488	*	W1346488	W1346226
^{2}H	W1346636	W1346636	W1346260	W1346260	*	W1346260
^{15}N	W1346636	W1346636	W1346261	W1346628	W1346261	*

Figure 1.2: AVANCE 400MHz [▸ 43]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346247	W1346223	W1346223	W1346223	W1346223
^{19}F	W1346248	*	W1346251	W1346251	W1346251	W1346251
^{31}P	W1346637	W1346637	*	W1346351	W1346351	W1346351
^{13}C	W1346637	W1346637	W1346489	*	W1346489	W1346224
^{2}H	W1346637	W1346637	W1346266	W1346266	*	W1346266
^{15}N	W1346637	W1346637	W1346267	W1346629	W1346267	*

Figure 1.3: AVANCE 500MHz [▸ 57]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346228	W1346241	W1346241	W1346241	W1346241
^{19}F	W1346229	*	W1346252	W1346252	W1346252	W1346252
^{31}P	W1346638	W1346638	*	W1346367	W1346367	W1346367
^{13}C	W1346638	W1346638	W1346490	*	W1346490	W1346230
^{2}H	W1346638	W1346638	W1346282	W1346282	*	W1346282
^{15}N	W1346638	W1346638	W1346277	W1346630	W1346277	*

Figure 1.4: AVANCE 600MHz [▸ 77]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346288	W1346296	W1346296	W1346296	W1346296
^{19}F	W1346292	*	W1346300	W1346300	W1346300	W1346300
^{31}P	W1346639	W1346639	*	W1346304	W1346304	W1346304
^{13}C	W1346639	W1346639	W1346491	*	W1346491	W1346316
^{2}H	W1346639	W1346639	W1346324	W1346324	*	W1346324
^{15}N	W1346639	W1346639	W1346328	W1346659	W1346328	*

Figure 1.5: AVANCE 700MHz [▶ 93]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346289	W1346297	W1346297	W1346297	W1346297
^{19}F	W1346293	*	W1346301	W1346301	W1346301	W1346301
^{31}P	W1346644	W1346644	*	W1346305	W1346305	W1346305
^{13}C	W1346644	W1346644	W1346313	*	W1346313	W1346317
^{2}H	W1346644	W1346644	W1346493	W1346493	*	W1346493
^{15}N	W1346644	W1346644	W1346329	W1346660	W1346329	*

Figure 1.6: AVANCE 750MHz [▶ 107]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346290	W1346298	W1346298	W1346298	W1346298
^{19}F	W1346294	*	W1346302	W1346302	W1346302	W1346302
^{31}P	W1346640	W1346640	*	W1346306	W1346306	W1346306
^{13}C	W1346640	W1346640	W1346314	*	W1346314	W1346318
^{2}H	W1346640	W1346640	W1346326	W1346326	*	W1346326
^{15}N	W1346640	W1346640	W1346330	W1346661	W1346330	*

Figure 1.7: AVANCE 800MHz [▶ 119]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346674	W1346655	W1346655	W1346655	W1346655
^{19}F	W1346676	*	W1346675	W1346675	W1346675	W1346675
^{31}P	W1346677	W1346677	*	W1346715	W1346715	W1346715
^{13}C	W1346677	W1346677	W1346710	*	W1346710	W1346657
^{2}H	W1346677	W1346677	W1346697	W1346697	*	W1346697
^{15}N	W1346677	W1346677	W1346716	W1346656	W1346716	*

Figure 1.8: AVANCE 850MHz [▶ 129]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346291	W1346299	W1346299	W1346299	W1346299
^{19}F	W1346295	*	W1346303	W1346303	W1346303	W1346303
^{31}P	W1346641	W1346641	*	W1346307	W1346307	W1346307
^{13}C	W1346641	W1346641	W1346315	*	W1346315	W1346319
^{2}H	W1346641	W1346641	W1346327	W1346327	*	W1346327
^{15}N	W1346641	W1346641	W1346331	W1346662	W1346331	*

Figure 1.9: AVANCE 900MHz [141]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346869	W1346707	W1346707	W1346707	W1346707
^{19}F	W143774	*	W143775	W143775	W143775	W143775
^{31}P	W143786	W143786	*	W143776	W143776	W143776
^{13}C	W143786	W143786	W1346706	*	W1346706	W1346706
^{2}H	W143786	W143786	W139785	W139785	*	W139785
^{15}N	W143786	W143786	W1346705	W143787	W1346705	*

Figure 1.10: AVANCE 950MHz [152]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346870	W1346665	W1346665	W1346665	W1346665
^{19}F	W1346871	*	W1346666	W1346666	W1346666	W1346666
^{31}P	W1346678	W1346678	*	W1346667	W1346667	W1346667
^{13}C	W1346678	W1346678	W1346669	*	W1346669	W1346669
^{2}H	W1346678	W1346678	W1346671	W1346671	*	W1346671
^{15}N	W1346678	W1346678	W1346717	W1346672	W1346717	*

Figure 1.11: AVANCE 1000MHz [163]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346872	W1342132	W1342132	W1342132	W1342132
^{19}F	W1346873	*	W1346473	W1346473	W1346473	W1346473
^{31}P	W1342373	W1342373	*	W1346859	W1346859	W1346859
^{13}C	W1342373	W1342373	W1348165	*	W1348165	W1348165
^{2}H	W1342373	W1342373	W1346865	W1346865	*	W1346865
^{15}N	W1342373	W1342373	W1346867	W1342624	W1346867	*

Figure 1.12: AVANCE 1100MHz [174]

Pass \ Stop	^{1}H	^{19}F	^{31}P	^{13}C	^{2}H	^{15}N
^{1}H	*	W1346874	W1348174	W1348174	W1348174	W1348174
^{19}F	W1346879	*	W135027	W135027	W135027	W135027
^{31}P	W134925	W134925	*	W1346860	W1346860	W1346860
^{13}C	W134925	W134925	W135028	*	W135028	W135028
^{2}H	W134925	W134925	W1346866	W1346866	*	W1346866
^{15}N	W134925	W134925	W1346868	W134926	W1346868	*

Figure 1.13: AVANCE 1200MHz [▶ 183]

1.2 Typical Triple Resonance Experiments

1.2.1 Quick Search - Triple Resonance Experiments

See also

- 300MHz Typical Experiments [▶ 14]
- 400MHZ Typical Experiments [▶ 15]
- 500MHz Typical Experiments [▶ 16]
- 600MHz Typical Experiments [▶ 17]
- 700MHz Typical Experiments [▶ 18]
- 750MHz Typical Experiments [▶ 19]
- 800MHz Typical Experiments [▶ 20]
- 850MHz Typical Experiments [▶ 21]
- 900MHz Typical Experiments [▶ 22]
- 950MHz Typical Experiments [▶ 23]
- 1000MHz Typical Experiments [▶ 24]
- 1100MHz Typical Experiments [▶ 25]
- 1200MHz Typical Experiments [▶ 26]

300MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346272	^{59}Co	^{13}C W1346271	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346239
n°2	^{15}N	^{17}O	^{2}H W1346273	^{29}Si	^{59}Co	^{13}C W1346271	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346239
n°3	^{15}N W1346278	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346275	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346239
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346272	^{59}Co	^{13}C	^{27}Al W1346271	^{23}Na	^{11}B	^{31}P	^{1}H W1346239
n°5	^{15}N	^{17}O W1346273	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346270	^{31}P	^{1}H W1346239
n°6	^{15}N W1346278	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346270	^{31}P	^{1}H W1346239
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346271	^{11}B	^{31}P W1346372	^{1}H W1346239
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346271	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346271	^{27}Al	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346271	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346272	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239
n°12	^{15}N	^{17}O	^{2}H W1346273	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239
n°13	^{15}N	^{17}O W1346273	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346372	^{1}H W1346239

400MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346259	^{59}Co	^{13}C W1346488	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346240
n°2	^{15}N	^{17}O	^{2}H W1346260	^{29}Si	^{59}Co	^{13}C W1346440	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346240
n°3	^{15}N W1346628	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346226	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346240
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346259	^{59}Co	^{13}C	^{27}Al W1346488	^{23}Na	^{11}B	^{31}P	^{1}H W1346240
n°5	^{15}N	^{17}O W1346260	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346257	^{31}P	^{1}H W1346240
n°6	^{15}N W1346261	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346257	^{31}P	^{1}H W1346240
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346488	^{11}B	^{31}P W1346349	^{1}H W1346240
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346488	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346488	^{27}Al	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346258	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346259	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240
n°12	^{15}N	^{17}O	^{2}H W1346260	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240
n°13	^{15}N	^{17}O W1346260	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346349	^{1}H W1346240

500MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346265	^{59}Co	^{13}C W1346489	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346223
n°2	^{15}N	^{17}O	^{2}H W1346266	^{29}Si	^{59}Co	^{13}C W1346460	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346223
n°3	^{15}N W1346629	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346224	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346223
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346265	^{59}Co	^{13}C	^{27}Al W1346489	^{23}Na	^{11}B	^{31}P	^{1}H W1346223
n°5	^{15}N	^{17}O W1346266	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346263	^{31}P	^{1}H W1346223
n°6	^{15}N W1346267	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346263	^{31}P	^{1}H W1346223
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346489	^{11}B	^{31}P W1346351	^{1}H W1346223
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346489	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346489	^{27}Al	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346264	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346265	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223
n°12	^{15}N	^{17}O	^{2}H W1346266	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223
n°13	^{15}N	^{17}O W1346266	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346351	^{1}H W1346223

600MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346281	^{59}Co	^{13}C W1346490	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346241
n°2	^{15}N	^{17}O	^{2}H W1346282	^{29}Si	^{59}Co	^{13}C W1346461	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346241
n°3	^{15}N W1346630	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346230	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346241
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346281	^{59}Co	^{13}C	^{27}Al W1346490	^{23}Na	^{11}B	^{31}P	^{1}H W1346241
n°5	^{15}N	^{17}O W1346282	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346280	^{31}P	^{1}H W1346241
n°6	^{15}N W1346277	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346280	^{31}P	^{1}H W1346241
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346490	^{11}B	^{31}P W1346367	^{1}H W1346241
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346490	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346490	^{27}Al	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346276	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346281	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241
n°12	^{15}N	^{17}O	^{2}H W1346282	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241
n°13	^{15}N	^{17}O W1346282	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346367	^{1}H W1346241

700MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346320	^{59}Co	^{13}C W1346491	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346296
n°2	^{15}N	^{17}O	^{2}H W1346492	^{29}Si	^{59}Co	^{13}C W1346462	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346296
n°3	^{15}N W1346659	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346316	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346296
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346320	^{59}Co	^{13}C	^{27}Al W1346491	^{23}Na	^{11}B	^{31}P	^{1}H W1346296
n°5	^{15}N	^{17}O W1346492	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346308	^{31}P	^{1}H W1346296
n°6	^{15}N W1346328	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346308	^{31}P	^{1}H W1346296
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346491	^{11}B	^{31}P W1346304	^{1}H W1346296
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346491	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346491	^{27}Al	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346312	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346320	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296
n°12	^{15}N	^{17}O	^{2}H W1346492	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296
n°13	^{15}N	^{17}O W1346492	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346304	^{1}H W1346296

750MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346321	^{59}Co	^{13}C W1346313	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346297
n°2	^{15}N	^{17}O	^{2}H W1346493	^{29}Si	^{59}Co	^{13}C W1346313	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346297
n°3	^{15}N W1346660	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346317	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346297
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346321	^{59}Co	^{13}C	^{27}Al W1346313	^{23}Na	^{11}B	^{31}P	^{1}H W1346297
n°5	^{15}N	^{17}O W1346493	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346309	^{31}P	^{1}H W1346297
n°6	^{15}N W1346329	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346309	^{31}P	^{1}H W1346297
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346313	^{11}B	^{31}P W1346305	^{1}H W1346297
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346313	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346313	^{27}Al	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346321	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297
n°12	^{15}N	^{17}O	^{2}H W1346493	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297
n°13	^{15}N	^{17}O W1346493	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346305	^{1}H W1346297

800Hz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346322	^{59}Co	^{13}C W1346314	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346298
n°2	^{15}N	^{17}O	^{2}H W1346326	^{29}Si	^{59}Co	^{13}C W1346314	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346298
n°3	^{15}N W1346661	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346318	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346298
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346322	^{59}Co	^{13}C	^{27}Al W1346314	^{23}Na	^{11}B	^{31}P	^{1}H W1346298
n°5	^{15}N	^{17}O W1346326	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346310	^{31}P	^{1}H W1346298
n°6	^{15}N W1346330	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346310	^{31}P	^{1}H W1346298
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346314	^{11}B	^{31}P W1346306	^{1}H W1346298
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346314	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346314	^{27}Al	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346322	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298
n°12	^{15}N	^{17}O	^{2}H W1346326	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298
n°13	^{15}N	^{17}O W1346326	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346306	^{1}H W1346298

850MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346718	^{59}Co	^{13}C W1346710	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346655
n°2	^{15}N	^{17}O	^{2}H W1346697	^{29}Si	^{59}Co	^{13}C W1346710	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346655
n°3	^{15}N W1346656	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346657	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346655
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346718	^{59}Co	^{13}C	^{27}Al W1346710	^{23}Na	^{11}B	^{31}P	^{1}H W1346655
n°5	^{15}N	^{17}O W1346697	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346714	^{31}P	^{1}H W1346655
n°6	^{15}N W1346716	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346714	^{31}P	^{1}H W1346655
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346710	^{11}B	^{31}P W1346715	^{1}H W1346655
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346710	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346710	^{27}Al	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346718	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655
n°12	^{15}N	^{17}O	^{2}H W1346697	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655
n°13	^{15}N	^{17}O W1346697	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346715	^{1}H W1346655

900MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346323	^{59}Co	^{13}C W1346315	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346299
n°2	^{15}N	^{17}O	^{2}H W1346327	^{29}Si	^{59}Co	^{13}C W1346315	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346299
n°3	^{15}N W1346662	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346319	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346299
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346323	^{59}Co	^{13}C	^{27}Al W1346315	^{23}Na	^{11}B	^{31}P	^{1}H W1346299
n°5	^{15}N	^{17}O W1346327	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346311	^{31}P	^{1}H W1346299
n°6	^{15}N W1346331	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346311	^{31}P	^{1}H W1346299
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346315	^{11}B	^{31}P W1346307	^{1}H W1346299
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346315	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346315	^{27}Al	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346323	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299
n°12	^{15}N	^{17}O	^{2}H W1346327	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299
n°13	^{15}N	^{17}O W1346327	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346307	^{1}H W1346299

950MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W140203	^{59}Co	^{13}C W140204	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346707
n°2	^{15}N	^{17}O	^{2}H W139785	^{29}Si	^{59}Co	^{13}C W140204	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346707
n°3	^{15}N W143787	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W143783	^{11}B	^{31}P	^{1}H W1346707
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W140203	^{59}Co	^{13}C	^{27}Al W140204	^{23}Na	^{11}B	^{31}P	^{1}H W1346707
n°5	^{15}N	^{17}O W139785	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W140205	^{31}P	^{1}H W1346707
n°6	^{15}N W143779	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W140205	^{31}P	^{1}H W1346707
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W140204	^{11}B	^{31}P W143776	^{1}H W1346707
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W140204	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W140204	^{27}Al	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W143783	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W140203	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707
n°12	^{15}N	^{17}O	^{2}H W139785	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707
n°13	^{15}N	^{17}O W139785	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W143776	^{1}H W1346707

1000MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346670	^{59}Co	^{13}C W1346669	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346665
n°2	^{15}N	^{17}O	^{2}H W1346671	^{29}Si	^{59}Co	^{13}C W1346669	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346665
n°3	^{15}N W1346672	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346669	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1346665
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346670	^{59}Co	^{13}C	^{27}Al W1346669	^{23}Na	^{11}B	^{31}P	^{1}H W1346665
n°5	^{15}N	^{17}O W1346671	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346668	^{31}P	^{1}H W1346665
n°6	^{15}N W1346717	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346668	^{31}P	^{1}H W1346665
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1346669	^{11}B	^{31}P W1346667	^{1}H W1346665
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1346669	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1346669	^{27}Al	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346856	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346670	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665
n°12	^{15}N	^{17}O	^{2}H W1346671	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665
n°13	^{15}N	^{17}O W1346671	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346667	^{1}H W1346665

1100MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346863	^{59}Co	^{13}C W1348165	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1342132
n°2	^{15}N	^{17}O	^{2}H W1346865	^{29}Si	^{59}Co	^{13}C W1348165	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1342132
n°3	^{15}N W1342624	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1348165	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1342132
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346863	^{59}Co	^{13}C	^{27}Al W1348165	^{23}Na	^{11}B	^{31}P	^{1}H W1342132
n°5	^{15}N	^{17}O W1346865	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346861	^{31}P	^{1}H W1342132
n°6	^{15}N W1346867	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346861	^{31}P	^{1}H W1342132
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W1348165	^{11}B	^{31}P W1346859	^{1}H W1342132
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W1348165	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W1348165	^{27}Al	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346857	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346863	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132
n°12	^{15}N	^{17}O	^{2}H W1346865	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132
n°13	^{15}N	^{17}O W1346865	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346859	^{1}H W1342132

1200MHz Triple Resonance Solid Experiments

n°1	^{15}N	^{17}O	^{2}H	^{29}Si W1346864	^{59}Co	^{13}C W135028	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1348174
n°2	^{15}N	^{17}O	^{2}H W1346866	^{29}Si	^{59}Co	^{13}C W135028	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1348174
n°3	^{15}N W134926	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W135028	^{27}Al	^{23}Na	^{11}B	^{31}P	^{1}H W1348174
n°4	^{15}N	^{17}O	^{2}H	^{29}Si W1346864	^{59}Co	^{13}C	^{27}Al W135028	^{23}Na	^{11}B	^{31}P	^{1}H W1348174
n°5	^{15}N	^{17}O W1346866	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346862	^{31}P	^{1}H W1348174
n°6	^{15}N W1346868	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B W1346862	^{31}P	^{1}H W1348174
n°7	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na W135028	^{11}B	^{31}P W1346860	^{1}H W1348174
n°8	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al W135028	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174
n°9	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co	^{13}C W135028	^{27}Al	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174
n°10	^{15}N	^{17}O	^{2}H	^{29}Si	^{59}Co W1346858	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174
n°11	^{15}N	^{17}O	^{2}H	^{29}Si W1346864	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174
n°12	^{15}N	^{17}O	^{2}H W1346866	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174
n°13	^{15}N	^{17}O W1346866	^{2}H	^{29}Si	^{59}Co	^{13}C	^{27}Al	^{23}Na	^{11}B	^{31}P W1346860	^{1}H W1348174

1.2.2 Triple Resonance 1H/X/Y

Figure 1.14: ^{1}H/X/Y Typical Configuration

This picture shows typical configuration of high power filters required for triple resonance solid-state NMR experiments (^{1}H/X/Y).

The two heavy band-pass filters, corresponding to X and Y nuclei studied, are not directly connected to the pre-amplifier (additional cables are provided). The 1H pass filter is only connected to the pre-amplifier.

1.2.3 Triple resonance 1H/19F/X

Figure 1.15: $^{1}H/^{19}F/X$ NMR Experiments Configuration

This picture shows typical configuration of high power filters required for $^{1}H/^{19}F$ NMR experiments. The X channel is not showed.

A schematic representation is attached here for the description of the different high power filters involved in the $^{1}H/^{19}F$ experiment.

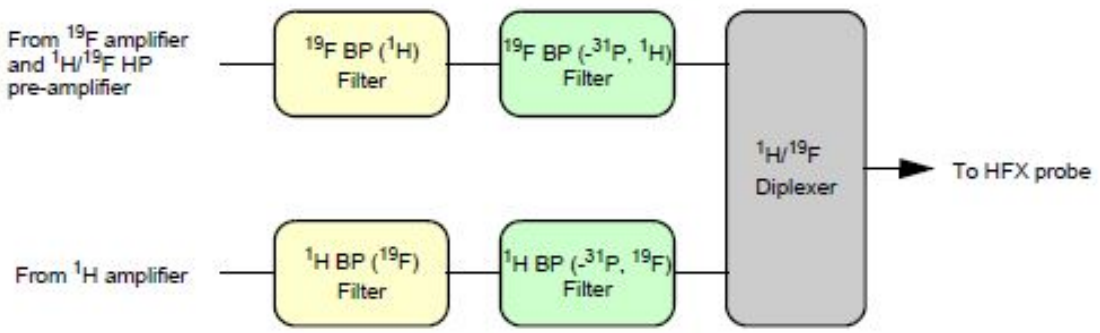


Figure 1.16: Different High Power Filters for the 1H/19F Experiment

This diagram corresponds to ^{19}F observation with high power 1H decoupling NMR experiment (^{1}H pre-amplifier is not required). The order of the different Pass/Stop high power filters is important.

In the case of ^{1}H observation with ^{19}F decoupling NMR experiment, the $^{1}H/^{19}F$ HP pre-amplifier is dedicated to ^{1}H channel (not required for ^{19}F decoupling).

1.3 AVANCE 300MHz

1.3.1 Lowpass Filter

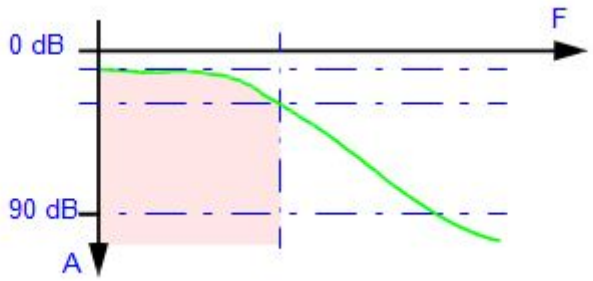


Figure 1.17: Lowpass Filter HQ 300MHz Diagram

W1346642 - Filter HQ 300 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P	< 121.5	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{19}F...^{1}H	282.4...300.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.1: W1346642 - Filter HQ 300 0-^{31}P LP (^{19}F-^{1}H)

W135032 - Filter HQ 300 O -^{15}N NR LP (^{2}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) :…^{15}N	< 30.4	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) :…^{2}H	46.1	
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.2: W135032 - Filter HQ 300 0 -^{15}N NR LP (^{2}H)

1.3.2 Bandstop Filter

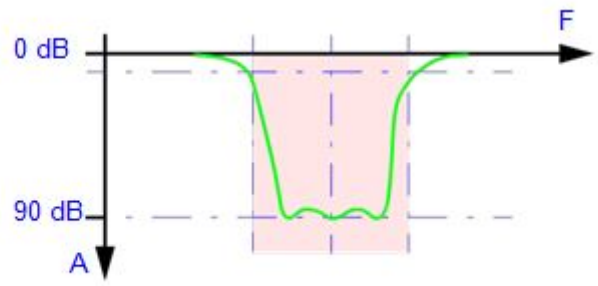


Figure 1.18: Bandstop Filter HQ 300MHz Diagram

W1346253 - Filter HQ 300 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{19}F	< 121.5	282.4
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{1}H	300.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.3: W1346253 - Filter HQ 300 ^{1}H S

W1346369 - Filter HQ 300 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{1}H	< 121.5	300.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F	282.4	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▷ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.4: W1346369 - Filter HQ 300 ^{19}F S

1.3.3 Bandpass Filter

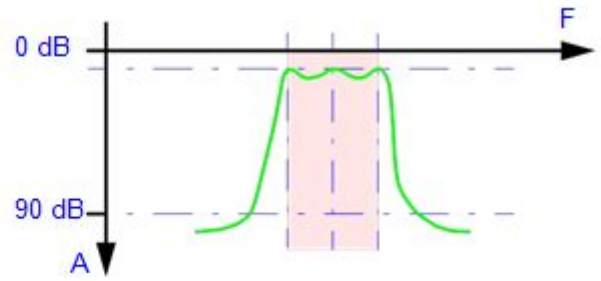


Figure 1.19: Bandpass Filter HQ 300MHz Diagram

W1346239 - Filter HQ 300 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) :^{1}H	300.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F	< 121.5	282.4
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.5: W1346239 - Filter HQ 300 ^{1}H BP (-^{31}P, ^{19}F)

W1346235 - Filter HQ 300 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	300.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F	< 121.5	282.4
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 8R105P [▶ 219] (mm)	277 x 133 x 54	
Weight (kg)	2.6	

Table 1.6: W1346235 - Filter HQ 300 ^{1}H BP (^{19}F)

W1346249 - Filter HQ 300 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz : ^{19}F	282.4	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{1}H	< 121.5	300.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.7: W1346249 - Filter HQ 300 ^{19}F BP (-^{31}P, ^{1}H)

W1346236 - Filter HQ 300 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	282.4	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{1}H	< 121.5	300.1
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 8R105P [▶ 219] (mm)	277 x 133 x 54	
Weight (kg)	2.6	

Table 1.8: W1346236 - Filter HQ 300 ^{19}F BP (^{1}H)

W1346368 - Filter HQ 300 ^{19}F - ^{1}H BP (-^{31}P)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F, ^{1}H	282.4	300.1
Maximum Insertion Loss (dB)	0.8	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{31}P	< 121.5	
Minimum Rejection (dB)	110	
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.9: W1346368 - Filter HQ 300 ^{19}F - ^{1}H BP (-^{31}P)

W1346372 - Filter HQ 300 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	116.6...121.5	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :...^{13}C, ^{19}F...	< 75.5	> 282.4
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.10: W1346372 - Filter HQ 300 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)

W1346270 - Filter HQ 300 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{71}Ga...^{87}Rb	91.5...98.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{13}C, ^{31}P...	< 75.5	> 121.5
Minimum Rejection (dB)	90	85
Mechanical Dimensions and Weight		
Case 8H097 [▶ 223] (mm)	336 x 125 x 38	
Weight (kg)	2.5	

Table 1.11: W1346270 - Filter HQ 300 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)

W1346271 - Filter HQ 300 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	71.2...79.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{87}Rb..	< 59.6	> 80
Minimum Rejection (dB)	80	80
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.12: W1346271 - Filter HQ 300 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)

W1346275 - Filter HQ 300 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	71.2...79.4	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{15}N	< 30.4	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.13: W1346275 - Filter HQ 300 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346272 - Filter HQ 300 ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{29}Si	59.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{2}H, ^{13}C...	< 46.0	> 75.5
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.14: W1346272 - Filter HQ 300 ^{29}Si BP (-^{2}H, ^{13}C-)

W1346452 - Filter HQ 300 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{17}O...^{2}H	40.7...46.0	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{11}B, ^{31}P...	> 96.3	
Minimum Rejection (dB)	75	80
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.15: W1346452 - Filter HQ 300 ^{17}O - ^{2}H BP (^{11}B-)

W1346273 - Filter HQ 300 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : : ^{133}Cs...^{2}H	39.4...46.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{15}N, ^{29}Si...	< 30.4	> 59.6
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.16: W1346273 - Filter HQ 300 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346274 - Filter HQ 300 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{15}N	30.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{14}N, ^{2}H...	< 21.7	> 46.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.17: W1346274 - Filter HQ 300 ^{15}N BP (-^{14}N, ^{2}H-)

W1346278 - Filter HQ 300 ^{15}N BP (^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{15}N	30.4	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) ^{59}Co, ^{13}C...:	71.2	> 75.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.18: W1346278 - Filter HQ 300 ^{15}N BP (^{13}C-)

1.3.4 Diplexer Filter

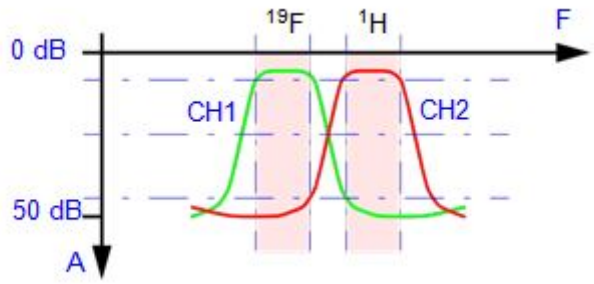


Figure 1.20: Diplexer Filter HQ 300MHz Diagram

W1346237 - Diplexer HQ 300 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H, ^{19}F	300.1	282.4
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F, ^{1}H	282.4	300.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▷ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.19: W1346237 - Diplexer HQ 300 ^{1}H / ^{19}F

1.4 AVANCE 400MHz

1.4.1 Lowpass Filter

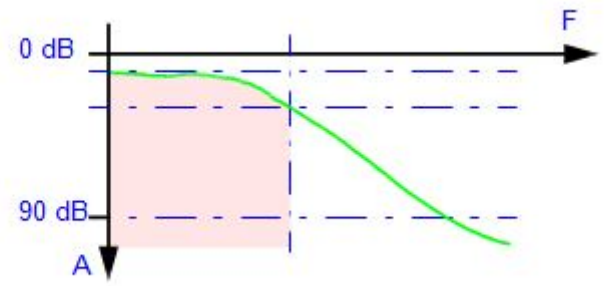


Figure 1.21: Lowpass Filter HQ 400MHz Diagram

W1346636 - Filter HQ 400 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P	< 162.0	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{19}F...^{1}H	376.5...400.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.20: W1346636 - Filter HQ 400 0-^{31}P LP (^{19}F-^{1}H)

W1346628 - Filter HQ 400 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{15}N	< 40.6	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{13}C	100.6	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.21: W1346628 - Filter HQ 400 0-^{15}N NR LP (^{13}C)

1.4.2 Bandstop Filter

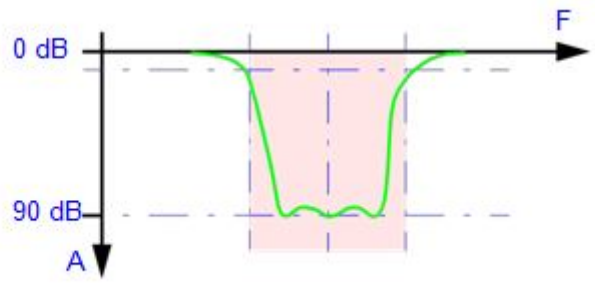


Figure 1.22: Bandstop Filter HQ 400MHz Diagram

W1346370 - Filter HQ 400 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{1}H	< 162.0	400.1
Maximum Insertion Loss (dB)	0.4	0.4
Minimum Return Loss (dB)	15	20
Frequency Stop (MHz) : ^{19}F	376.5	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.22: W1346370 - Filter HQ 400 ^{19}F S

W1346437 - Filter HQ 400 ^{2}H P ^{77}Se S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{2}H	61.4	
Maximum Insertion Loss (dB)	0.4	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ^{77}Se	76.3	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.23: W1346437 - Filter HQ 400 ^{2}H P ^{77}Se S

1.4.3 Bandpass Filter

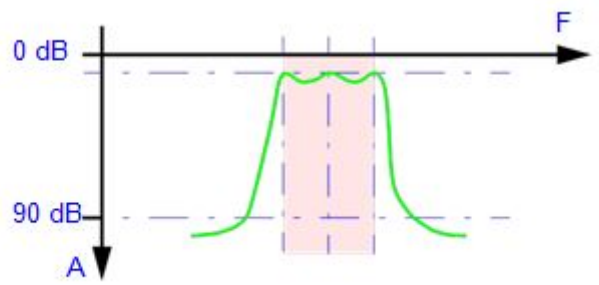


Figure 1.23: Bandpass Filter HQ 400MHz Diagram

W1346240 - Filter HQ 400 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	400.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 162.0	376.5
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.24: W1346240 - Filter HQ 400 ^{1}H BP (-^{31}P, ^{19}F)

W1346204 - Filter HQ 400 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	400.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 162.0	376.5
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 8R105P [▶ 219] (mm)	277 x 133 x 54	
Weight (kg)	2.6	

Table 1.25: W1346204 - Filter HQ 400 ^{1}H BP (^{19}F)

W1346250 - Filter HQ 400 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	376.5	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 162.0	400.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.26: W1346250 - Filter HQ 400 ^{19}F BP (-^{31}P, ^{1}H)

W1346205 - Filter HQ 400 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	376.5	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 162.0	400.1
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 8R105P [▶ 219] (mm)	277 x 133 x 54	
Weight (kg)	2.6	

Table 1.27: W1346205 - Filter HQ 400 ^{19}F BP (^{1}H)

W1346373 - Filter HQ 400 ^{19}F - ^{1}H BP (-^{31}P)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F, ^{1}H	376.5	400.1
Maximum Insertion Loss (dB)	0.8	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ...^{31}P	< 162.0	
Minimum Rejection (dB)	110	
Mechanical Dimensions and Weight		
Case 5R100 [▶ 217] (mm)	227 x 123 x 39	
Weight (kg)	1.2	

Table 1.28: W1346373 - Filter HQ 400 ^{19}F - ^{1}H BP (-^{31}P)

W1346256 - Filter HQ 400 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	155.5...162.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{87}Rb, ^{19}F...	< 130.9	> 376.5
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.29: W1346256 - Filter HQ 400 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W1346349 - Filter HQ 400 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	155.5...162.0	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{13}C, ^{19}F...	< 100.6	> 376.5
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.30: W1346349 - Filter HQ 400 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)

W1346257 - Filter HQ 400 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{71}Ga...^{87}Rb	122.0...130.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{31}P...	< 100.6	> 162.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.31: W1346257 - Filter HQ 400 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)

W1346488 - Filter HQ 400 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{13}C...^{23}Na	100.6...105.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{71}Ga...	< 79.5	> 122.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.32: W1346488 - Filter HQ 400 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346258 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-))		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	94.9...105.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{87}Rb..	< 79.5	> 130.9
Minimum Rejection (dB)	80	80
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.33: W1346258 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)

W1346440 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	94.9...105.8	
Maximum Insertion Loss (dB)	0.6	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{2}H, ^{19}F...	< 61.4	> 376.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.34: W1346440 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)

W1346226 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	94.9...105.8	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{15}N	< 40.6	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.35: W1346226 - Filter HQ 400 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346259 - Filter HQ 400 ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{29}Si	79.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{2}H, ^{13}C...	< 61.4	> 100.6
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.36: W1346259 - Filter HQ 400 ^{29}Si BP (-^{2}H, ^{13}C-)

W1346442 - Filter HQ 400 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{17}O...^{2}H	54.2...61.4	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{11}B, ^{31}P...	> 128.3	
Minimum Rejection (dB)	75	80
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.37: W1346442 - Filter HQ 400 ^{17}O - ^{2}H BP (^{11}B-)

W1346260 - Filter HQ 400 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{133}Cs...^{2}H	52.5...61.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{15}N, ^{29}Si...	< 40.6	> 79.5
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.38: W1346260 - Filter HQ 400 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346261 - Filter HQ 400 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{15}N	40.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{14}N, ^{2}H...	< 28.9	> 61.4
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H139 [▷ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.39: W1346261 - Filter HQ 400 ^{15}N BP (-^{14}N, ^{2}H-)

W1346439 - Filter HQ 400 ^{23}N ^{65}CU BP (-^{29}Sl, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{23}N…^{65}CU	105.8…113.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ^{29}Sl, ^{31}P...	< 79.5	> 162.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.40: W1346439 - Filter HQ 400 ^{23}N ^{65}CU BP (-^{29}Sl, ^{31}P-)

1.4.4 Diplexer Filter

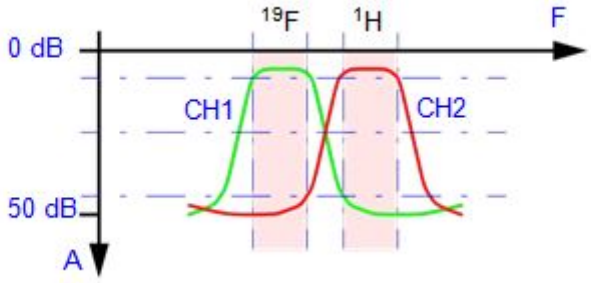


Figure 1.24: Diplexer Filter HQ 400MHz Diagram

W1346345 - Diplexer HQ 400 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H, ^{19}F	400.1	376.5
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F, ^{1}H	376.5	400.1
Minimum Rejection (dB)	70	70
Mechanical Dimensions and Weight		
Case 4S063D [▸ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.41: W1346345 - Diplexer HQ 400 ^{1}H / ^{19}F

1.5 AVANCE 500MHz

1.5.1 Lowpass Filter

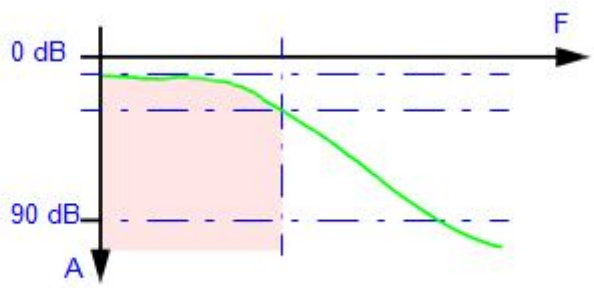


Figure 1.25: Lowpass Filter HQ 500MHz Diagram

W1346637 - Filter HQ 500 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P	< 202.5	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{19}F...^{1}H	470.6...500.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.42: W1346637 - Filter HQ 500 0-^{31}P LP (^{19}F-^{1}H)

W1346629 - Filter HQ 500 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{15}N	< 50.7	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{13}C	125.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.43: W1346629 - Filter HQ 500 0-^{15}N NR LP (^{13}C)

1.5.2 Bandstop Filter

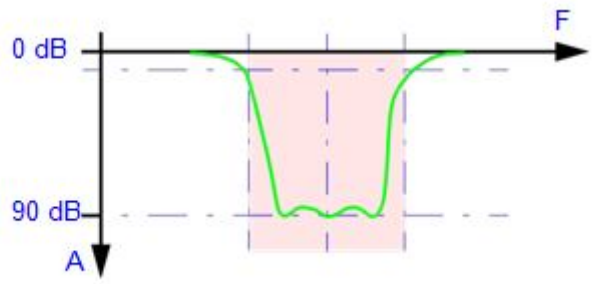


Figure 1.26: Bandstop Filter HQ 500MHz Diagram

W1346232 - Filter HQ 500 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{19}F	< 202.5	470.6
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{1}H	500.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.44: W1346232 - Filter HQ 500 ^{1}H S

W1346358 - Filter HQ 500 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{1}H	< 202.5	500.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F	470.6	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.45: W1346358 - Filter HQ 500 ^{19}F S

W1346430 - Filter HQ 500 ^{7}Li P ^{31}P S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li	194.4	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) ^{31}P	202.5	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.46: W1346430 - Filter HQ 500 ^{7}Li P ^{31}P S

W1346431 - Filter HQ 500 ^{31}P P ^{7}Li S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{31}P	202.5	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{7}Li	194.4	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▷ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.47: W1346431 - Filter HQ 500 ^{31}P P ^{7}Li S

W1346434 - Filter HQ 500 ^{6}Li P ^{2}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{6}Li	73.6	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{2}H	76.8	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▷ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.48: W1346434 - Filter HQ 500 ^{6}Li P ^{2}H S

W1346435 - Filter HQ 500 ^{2}H P ^{6}Li S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{2}H	76.8	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{6}Li	73.6	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.49: W1346435 - Filter HQ 500 ^{2}H P ^{6}Li S

W130896- Filter HQ 500 ^{13}C-P ^{27}Al- S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{13}C	125.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{27}Al	130.3	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.50: W130896- Filter HQ 500 ^{13}C-P ^{27}Al- S

W130897- Filter HQ 500 ^{27}Al-P ^{13}C- S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{27}Al	130.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{13}C	125.8	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.51: W130897- Filter HQ 500 ^{27}Al-P ^{13}C- S

1.5.3 Bandpass Filter

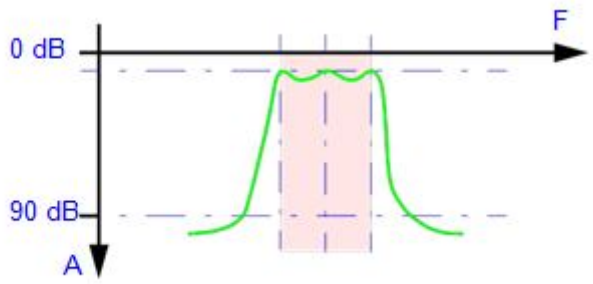


Figure 1.27: Band Pass Filter HQ 500MHz Diagram

W1346223 - Filter HQ 500 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	500.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 202.5	470.6
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.52: W1346223 - Filter HQ 500 ^{1}H BP (-^{31}P, ^{19}F)

W1346247 - Filter HQ 500 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	500.1	
Maximum Insertion Loss (dB)	0.9	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 202.5	470.6
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.53: W1346247 - Filter HQ 500 ^{1}H BP (^{19}F)

W1346251 - Filter HQ 500 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	470.6	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 202.5	500.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.54: W1346251 - Filter HQ 500 ^{19}F BP (-^{31}P, ^{1}H)

W1346248 - Filter HQ 500 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	470.6	
Maximum Insertion Loss (dB)	0.9	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 202.5	500.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.55: W1346248 - Filter HQ 500 ^{19}F BP (^{1}H)

W1346374 - Filter HQ 500 ^{19}F - ^{1}H BP (-^{31}P)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F, ^{1}H	470.6	500.1
Maximum Insertion Loss (dB)	0.8	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ...^{31}P	< 202.5	
Minimum Rejection (dB)	110	
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.56: W1346374 - Filter HQ 500 ^{19}F - ^{1}H BP (-^{31}P)

W1346262 - Filter HQ 500 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	194.4...202.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{87}Rb, ^{19}F...	< 163.6	> 470.6
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.57: W1346262 - Filter HQ 500 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W1346351 - Filter HQ 500 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	194.4...202.5	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{13}C, ^{19}F...	< 125.8	> 470.6
Minimum Rejection (dB)	80	70
Mechanical Dimensions and Weight		
Case 6H073 [▷ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.58: W1346351 - Filter HQ 500 ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)

W1346263 - Filter HQ 500 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{71}Ga...^{87}Rb	152.5...163.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{31}P...	< 125.8	> 202.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H097 [▶ 223] (mm)	336 x 125 x 38	
Weight (kg)	2.5	

Table 1.59: W1346263 - Filter HQ 500 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)

W1346489 - Filter HQ 500 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{13}C...^{23}Na	125.8...132.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{71}Ga...	< 99.4	> 152.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.60: W1346489 - Filter HQ 500 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346264 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	118.7...132.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{29}Si, ^{87}Rb..	< 99.4	> 163.6
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H097 [▶ 223] (mm)	336 x 125 x 38	
Weight (kg)	2.5	

Table 1.61: W1346264 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)

W1346460 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	118.7...132.3	
Maximum Insertion Loss (dB)	0.6	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{2}H, ^{19}F...	< 76.8	> 470.6
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.62: W1346460 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)

W1346224 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{59}Co...^{23}Na	118.7...132.3	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{15}N	< 50.7	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.63: W1346224 - Filter HQ 500 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346265 - Filter HQ 500 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{77}Se…….^{29}Si	95.4……99.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{2}H, ^{13}C...	< 76.8	> 125.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.64: W1346265 - Filter HQ 500 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)

W1346453 - Filter HQ 500 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{17}O...^{2}H	67.8...76.7	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{11}B, ^{31}P...	> 160.4	
Minimum Rejection (dB)	75	85
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.65: W1346453 - Filter HQ 500 ^{17}O - ^{2}H BP (^{11}B-)

W1346266 - Filter HQ 500 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{133}Cs...^{2}H	65.6...76.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{15}N, ^{29}Si...	< 50.7	> 99.4
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 8H139 [▷ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.66: W1346266 - Filter HQ 500 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346267 - Filter HQ 500 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{15}N	50.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{14}N, ^{2}H...	< 36.1	> 76.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.67: W1346267 - Filter HQ 500 ^{15}N BP (-^{14}N, ^{2}H-)

W1346692 - Filter HQ 500 ^{1}H BP (^{3}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	500.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{3}H	533.5	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x83 x 54	
Weight (kg)	1.6	

Table 1.68: W1346692 - Filter HQ 500 ^{1}H BP (^{3}H)

W1346693 - Filter HQ 500 ^{1}H BP (-^{31}P, ^{3}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	500.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{31}P, ^{3}H…	< 202.5	533.5
Minimum Rejection (dB)	110	50
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.69: W1346693 - Filter HQ 500 ^{1}H BP (-^{31}P, ^{3}H)

W1346694 - Filter HQ 500 ^{3}H BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{3}H	533.5	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{1}H	500.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.70: W1346694 - Filter HQ 500 ^{3}H BP (^{1}H)

W1346695 - Filter HQ 500 ^{3}H BP (-^{31}P,^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{3}H	533.5	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : … ^{31}P, ^{1}H…	< 202.5	500.1
Minimum Rejection (dB)	110	50
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.71: W1346695 - Filter HQ 500 ^{3}H BP (-^{31}P,^{1}H)

W1346730 - Filter HQ 500 ^{23}Na -^{65}Cu BP (-^{29}Si,^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : …^{23}Na, ^{65}Cu…	132.3…142.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : … ^{29}Si, ^{31}P…	< 199.4	> 202.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.72: W1346730 - Filter HQ 500 ^{23}Na -^{65}Cu BP (-^{29}Si,^{31}P-)

1.5.4 Diplexer Filter

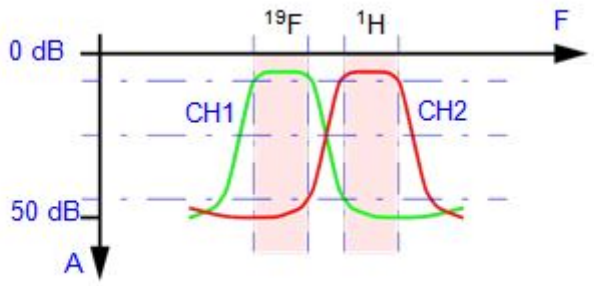


Figure 1.28: Diplexer Filter HQ 500MHz Diagram

W1346346 - Diplexer HQ 500 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H, ^{19}F	500.1	470.6
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F, ^{1}H	470.6	500.1
Minimum Rejection (dB)	70	70
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.73: W1346346 - Diplexer HQ 500 ^{1}H / ^{19}F

W1346696 - Diplexer HQ 500 ^{1}H / ^{3}H		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H, ^{3}H	500.1	533.5
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{3}H, ^{1}H	533.5	500.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▸ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.74: W1346696 - Diplexer HQ 500 ^{1}H / ^{3}H

W136807- Diplexer HQ 500 ^{13}C / ^{27}Ai		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{13}C, ^{27}Al	125.8	130.3
Maximum Insertion Loss (dB)	0.8	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{27}Al, ^{13}C	130.3	125.8
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▸ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.75: W136807- Diplexer HQ 500 ^{13}C / ^{27}Ai

1.6 AVANCE 600MHz

1.6.1 Lowpass Filter

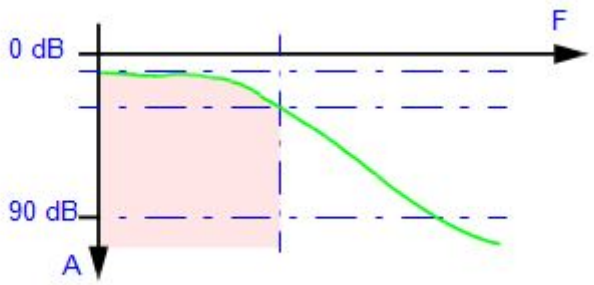


Figure 1.29: Lowpass Filter HQ 600 MHz Diagram

W1346638 - Filter HQ 600 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P	< 242.9	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{19}F...^{1}H	564.7...600.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.76: W1346638 - Filter HQ 600 0-^{31}P LP (^{19}F-^{1}H)

W1346630 - Filter HQ 600 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{15}N	< 60.8	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{13}C	150.9	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.77: W1346630 - Filter HQ 600 0-^{15}N NR LP (^{13}C)

W134543 - Filter HQ 600 O $^{-14}$N NR (109Ag H^{3}) LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{14}N	< 43.3	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz): ^{13}C	150.9	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.78: W134543 - Filter HQ 600 O $^{-14}$N NR (109Ag H^{3}) LP (^{13}C)

1.6.2 Bandstop Filter

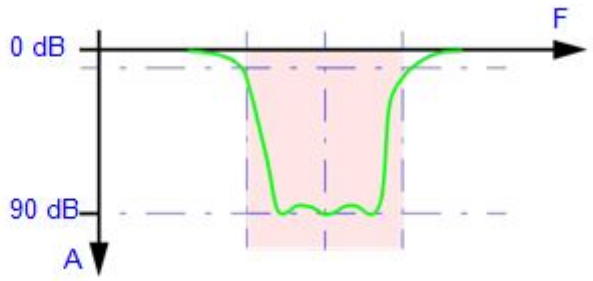


Figure 1.30: Bandstop Filter HQ 600 MHz Diagram

W1346255 - Filter HQ 600 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{19}F	< 242.9	564.7
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{1}H	600.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.79: W1346255 - Filter HQ 600 ^{1}H S

W1346371 - Filter HQ 600 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ...^{31}P, ^{1}H	< 242.9	600.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F	564.7	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.80: W1346371 - Filter HQ 600 ^{19}F S

W1346679 - Filter HQ 600 ^{6}Li- P ^{2}H- S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{6}Li	88.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz): ^{2}H	92.1	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.81: W1346679 - Filter HQ 600 ^{6}Li- P ^{2}H- S

W1346680 - Filter HQ 600 ^{2}H- P ^{6}Li- S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{2}H	92.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz): ^{6}Li	88.3	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.82: W1346680 - Filter HQ 600 ^{2}H- P ^{6}Li- S

1.6.3 Bandpass Filter

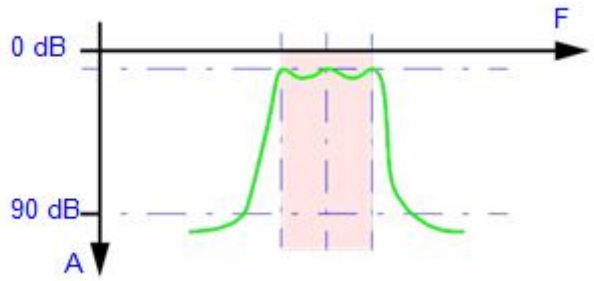


Figure 1.31: Bandpass Filter HQ 600 MHz Diagram

W1346241 - Filter HQ 600 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	600.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 242.9	564.7
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.83: W1346241 - Filter HQ 600 ^{1}H BP (-^{31}P, ^{19}F)

W1346228 - Filter HQ 600 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	600.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F	< 242.9	564.7
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.84: W1346228 - Filter HQ 600 ^{1}H BP (^{19}F)

W1346252 - Filter HQ 600 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	564.7	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 242.9	600.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.85: W1346252 - Filter HQ 600 ^{19}F BP (-^{31}P, ^{1}H)

W1346229 - Filter HQ 600 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F	564.7	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H	< 242.9	600.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.86: W1346229 - Filter HQ 600 ^{19}F BP (^{1}H)

W1346375 - Filter HQ 600 ^{19}F - ^{1}H BP (^{31}P)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{19}F, ^{1}H	564.7	600.1
Maximum Insertion Loss (dB)	0.8	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ...^{31}P	< 242.9	
Minimum Rejection (dB)	110	
Mechanical Dimensions and Weight		
Case 5R069 [▶ 217] (mm)	227 x 92 x 39	
Weight (kg)	0.9	

Table 1.87: W1346375 - Filter HQ 600 ^{19}F - ^{1}H BP (^{31}P)

W1346279 - Filter HQ 600 ^{7}Li - ^{31}P BP (-^{87}Rb,^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	233.2...242.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{87}Rb, ^{19}F...	< 196.4	> 564.7
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.88: W1346279 - Filter HQ 600 ^{7}Li - ^{31}P BP (-^{87}Rb,^{19}F-)

W1346367 - Filter HQ 600 ^{7}Li - ^{31}P BP (-^{13}C,^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{7}Li...^{31}P	233.2...242.9	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{13}C, ^{19}F...	< 150.9	> 564.7
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.89: W1346367 - Filter HQ 600 ^{7}Li - ^{31}P BP (-^{13}C,^{19}F-)

W1346280 - Filter HQ 600 ^{71}Ga - ^{87}Rb BP (-^{13}C,^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{71}Ga...^{87}Rb	183.0...196.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{31}P...	< 150.9	> 242.9
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.90: W1346280 - Filter HQ 600 ^{71}Ga - ^{87}Rb BP (-^{13}C,^{31}P-)

W1346490 - Filter HQ 600 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{13}C...^{23}Na	150.9...158.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{71}Ga...	< 119.2	> 183.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.91: W1346490 - Filter HQ 600 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga)

W1346276 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{59}Co...^{23}Na	142.4...158.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :...^{29}Si, ^{87}Rb...	< 119.2	> 196.4
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H097 [▶ 223] (mm)	336 x 125 x 38	
Weight (kg)	2.5	

Table 1.92: W1346276 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)

W1346461 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{59}Co...^{23}Na	142.4...158.7	
Maximum Insertion Loss (dB)	0.6	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{2}H, ^{19}F...	< 92.1	> 564.7
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.93: W1346461 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)

W1346230 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{59}Co...^{23}Na	142.4...158.7	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{15}N	< 60.8	
Minimum Rejection (dB)	80	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.94: W1346230 - Filter HQ 600 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346281 - Filter HQ 600 ^{29}Si BP (-^{2}H,^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{29}Si	119.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{2}H, ^{13}C...	< 92.1	> 150.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.95: W1346281 - Filter HQ 600 ^{29}Si BP (-^{2}H,^{13}C-)

W1346454 - Filter HQ 600 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	81.3...92.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{11}B...	>192.5	
Minimum Rejection (dB)	85	
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.96: W1346454 - Filter HQ 600 ^{17}O - ^{2}H BP (^{11}B-)

W1346282 - Filter HQ 600 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{133}Cs...^{2}H	78.7...92.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{15}N, ^{29}Si.....	< 60.8	> 119.2
Minimum Rejection (dB)	90	75
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.97: W1346282 - Filter HQ 600 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346277 - Filter HQ 600 ^{15}N BP (-^{14}N,^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	60.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{14}N, ^{2}H....	< 43.4	> 92.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.98: W1346277 - Filter HQ 600 ^{15}N BP (-^{14}N,^{2}H-)

W1346283 - Filter HQ 600 ^{14}N BP (^{15}N-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{14}N	43.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{15}N....	> 60.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.99: W1346283 - Filter HQ 600 ^{14}N BP (^{15}N-)

W1346757 - Filter HQ 600 ^{29}Si- ^{207}PB BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{29}Si….^{207}PB	119.2…..125.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz): ^{2}H….^{13}C	< 92.1	> 150.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H073 [▶ 223] (mm)	336 x 197 x 38	
Weight (kg)	2.0	

Table 1.100: W1346757 - Filter HQ 600 ^{29}Si- ^{207}PB BP (-^{2}H, ^{13}C-)

1.6.4 Diplexer Filter

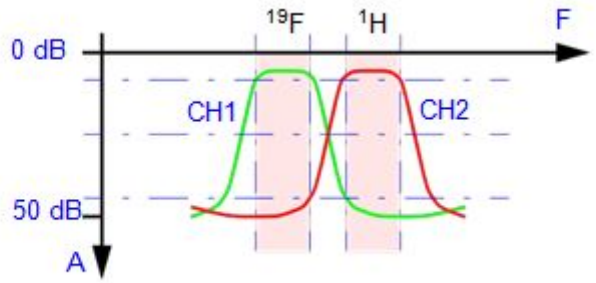


Figure 1.32: Diplexer Filter HQ 600 MHz Diagram

W1346347 - Diplexer HQ 600 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H, ^{19}F	600.1	564.7
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F, ^{1}H..	564.7	600.1
Minimum Rejection (dB)	70	70
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.101: W1346347 - Diplexer HQ 600 ^{1}H / ^{19}F

1.7 AVANCE 700MHz

1.7.1 Lowpass Filter

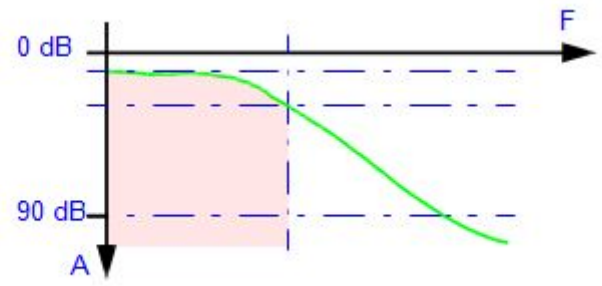


Figure 1.33: Lowpass Filter HQ 700MHz Diagram

W1346639 - Filter HQ 700 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 283.4	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{19}F...^{1}H..	658.8...700.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.102: W1346639 - Filter HQ 700 0-^{31}P LP (^{19}F-^{1}H)

W1346659 - Filter HQ 700 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 71.0	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{13}C	176.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.103: W1346659 - Filter HQ 700 0-^{15}N NR LP (^{13}C)

1.7.2 Bandstop Filter

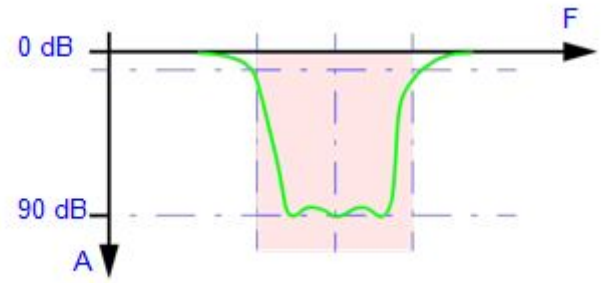


Figure 1.34: Bandstop Filter HQ 700MHz Diagram

W1346284 - Filter HQ 700 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 283.4	658.8
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{1}H	700.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.104: W1346284 - Filter HQ 700 ^{1}H S

W1346387 - Filter HQ 700 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{1}H	< 283.4	700.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F	658.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.105: W1346387 - Filter HQ 700 ^{19}F S

W1346394 - Filter HQ 700 ^{2}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz):		
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) :. ^{2}H	107.5	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.106: W1346394 - Filter HQ 700 ^{2}H S

1.7.3 Bandpass Filter

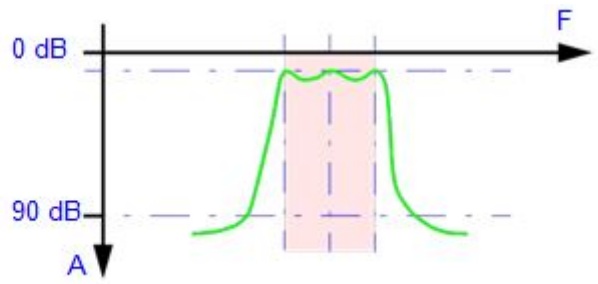


Figure 1.35: Bandpass Filter HQ 700MHz Diagram

W1346296 - Filter HQ 700 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	700.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :..^{31}P, ^{19}F	< 283.4	658.8
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.107: W1346296 - Filter HQ 700 ^{1}H BP (-^{31}P, ^{19}F)

W1346288 - Filter HQ 700 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	700.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F..	< 283.4	658.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.108: W1346288 - Filter HQ 700 ^{1}H BP (^{19}F)

W1346300 - Filter HQ 700 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	658.8	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :..^{31}P, ^{1}H	< 283.4	700.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.109: W1346300 - Filter HQ 700 ^{19}F BP (-^{31}P, ^{1}H)

W1346292 - Filter HQ 700 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	658.8	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :..^{31}P, ^{1}H..	< 283.4	700.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.110: W1346292 - Filter HQ 700 ^{19}F BP (^{1}H)

W1346304 - Filter HQ 700 ^{7}Li - ^{31}P BP (-^{87}Rb,^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li...^{31}P	272.1...283.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{87}Rb, ^{19}F....	< 229.1	> 658.8
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.111: W1346304 - Filter HQ 700 ^{7}Li - ^{31}P BP (-^{87}Rb,^{19}F-)

W1346308 - Filter HQ 700 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga...^{87}Rb	213.5...229.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{7}Li.....	< 176.0	> 272.1
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.112: W1346308 - Filter HQ 700 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346491 - Filter HQ 700 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{13}C...^{23}Na	176.0...185.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{29}Si, ^{71}Ga...	< 139.1	> 213.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.113: W1346491 - Filter HQ 700 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346312 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	166.1...185.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ...^{29}Si, ^{87}Rb...	< 139.1	> 229.1
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 8H073 [▶ 223] (mm)	336 x 100 x 38	
Weight (kg)	2.0	

Table 1.114: W1346312 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{29}Si, ^{87}Rb-)

W1346462 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	166.1...185.2	
Maximum Insertion Loss (dB)	0.6	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{2}H, ^{19}F…	< 107.5	> 658.8
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 6H073 [▶ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.115: W1346462 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)

W1346316 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	166.1...185.2	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{15}N	< 71.0	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.116: W1346316 - Filter HQ 700 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346320 - Filter HQ 700 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{77}Se … ^{29}Si	133.5….139.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :.. ...^{2}H, ^{13}C.....	< 107.5	> 176.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.117: W1346320 - Filter HQ 700 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)

W1346455 - Filter HQ 700 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	94.9...107.5	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{11}B, ^{31}P.....	> 224.5	
Minimum Rejection (dB)	75	85
Mechanical Dimensions and Weight		
Case 6H073 [▷ 222] (mm)	277 x 100 x 38	
Weight (kg)	1.6	

Table 1.118: W1346455 - Filter HQ 700 ^{17}O - ^{2}H BP (^{11}B-)

W1346492 - Filter HQ 700 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	94.9...107.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ..^{15}N, ^{29}Si....	< 71.0	> 139.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.119: W1346492 - Filter HQ 700 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346324 - Filter HQ 700 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{133}Cs...^{2}H	91.8...107.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{15}N, ^{29}Si....	< 71.0	> 139.1
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case 8H097 [▶ 223] (mm)	336 x 125 x 38	
Weight (kg)	2.5	

Table 1.120: W1346324 - Filter HQ 700 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346328 - Filter HQ 700 ^{15}N BP (-^{14}N, ^{2}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	71.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	12	
Frequency Stop (MHz) :. ...^{14}N, ^{2}H.....	< 50.6	> 107.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.121: W1346328 - Filter HQ 700 ^{15}N BP (-^{14}N, ^{2}H)

W1346336 - Filter HQ 700 ^{14}N BP (^{15}N-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{14}N	50.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{15}N	> 71.0	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 8H139 [▶ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.122: W1346336 - Filter HQ 700 ^{14}N BP (^{15}N-)

1.7.4 Diplexer Filter

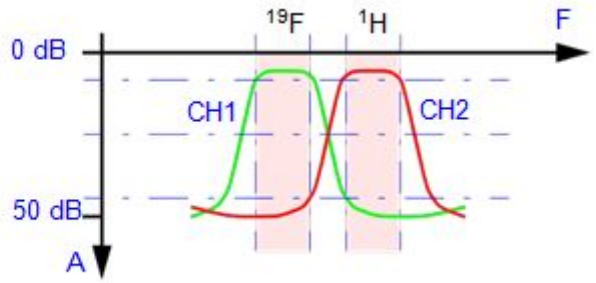


Figure 1.36: Diplexer Filter HQ 700MHz Diagram

W1346421 - Diplexer HQ 700 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H, ^{19}F	700.1	658.80
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{19}F, ^{1}H..	658.8	700.1
Minimum Rejection (dB)	60	60
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.123: W1346421 - Diplexer HQ 700 ^{1}H / ^{19}F

1.8 AVANCE 750MHz

1.8.1 Lowpass Filter

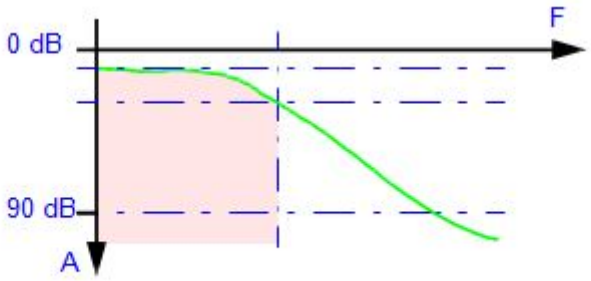


Figure 1.37: Lowpass Filter HQ 750MHz Diagram

W1346644 - Filter HQ 750 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 303.7	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H..	705.8...750.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.124: W1346644 - Filter HQ 750 0-^{31}P LP (^{19}F-^{1}H)

W1346660 - Filter HQ 750 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 76.0	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C..	188.6	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.125: W1346660 - Filter HQ 750 0-^{15}N NR LP (^{13}C)

1.8.2 Bandstop Filter

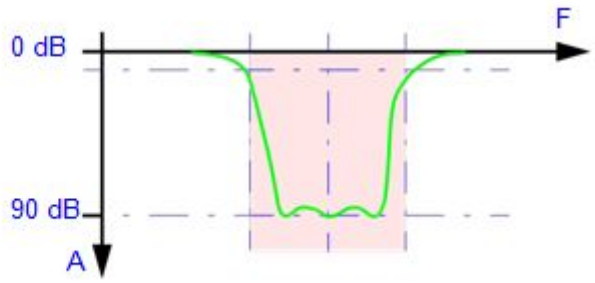


Figure 1.38: Bandstop Filter HQ 750MHz Diagram

W1346285 Filter HQ 750 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 303.7	705.8
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{1}H	750.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.126: W1346285 Filter HQ 750 ^{1}H S

W1346385 - Filter HQ 750 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{1}H	< 303.7	750.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F...	705.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.127: W1346385 - Filter HQ 750 ^{19}F S

1.8.3 Bandpass Filter

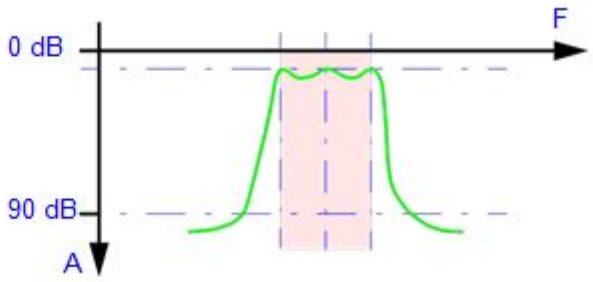


Figure 1.39: Bandpass Filter HQ 750MHz Diagram

W1346297 - Filter HQ 750 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	750.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F....	< 303.7	705.8
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.128: W1346297 - Filter HQ 750 ^{1}H BP (-^{31}P, ^{19}F)

W1346289 - Filter HQ 750 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	750.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{19}F...	< 303.7	705.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.129: W1346289 - Filter HQ 750 ^{1}H BP (^{19}F)

W1346301 - Filter HQ 750 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	705.8	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H....	< 303.7	750.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.130: W1346301 - Filter HQ 750 ^{19}F BP (-^{31}P, ^{1}H))

W1346293 - Filter HQ 750 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	705.8	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 303.7	750.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R055P [▶ 219] (mm)	282 x 83 x 54	
Weight (kg)	1.6	

Table 1.131: W1346293 - Filter HQ 750 ^{19}F BP (^{1}H)

W1346305 - Filter HQ 750 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li...^{31}P	291.5...303.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{87}Rb, ^{19}F....	< 245.4	> 705.8
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.132: W1346305 - Filter HQ 750 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W1346309 - Filter HQ 750 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga...^{87}Rb	228.8...245.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{7}Li…	< 188.6	> 291.5
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.133: W1346309 - Filter HQ 750 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346313 - Filter HQ 750 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{13}C...^{23}Na	188.6...198.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :...^{29}Si, ^{71}Ga..	< 149.0	> 228.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.134: W1346313 - Filter HQ 750 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346317 - Filter HQ 750 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	178.0...198.4	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{15}N	< 76.0	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.135: W1346317 - Filter HQ 750 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346321 - Filter HQ 750 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): …^{77}Se, ^{29}Si..	143.1…149.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ...^{2}H, ^{13}C.....	< 115.2	> 188.6
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.136: W1346321 - Filter HQ 750 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)

W1346493 - Filter HQ 750 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	101.7...115.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{15}N, ^{29}Si..	< 76.0	> 149.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.137: W1346493 - Filter HQ 750 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346325 - Filter HQ 750 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{133}Cs...^{2}H	98.4...115.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : .^{15}N, ^{29}Si...	< 76.0	> 149.0
Minimum Rejection (dB)	80	80
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.138: W1346325 - Filter HQ 750 ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346329 - Filter HQ 750 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	76.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{14}N, ^{2}H...	< 54.2	> 115.2
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.139: W1346329 - Filter HQ 750 ^{15}N BP (-^{14}N, ^{2}H-)

1.8.4 Diplexer Filter

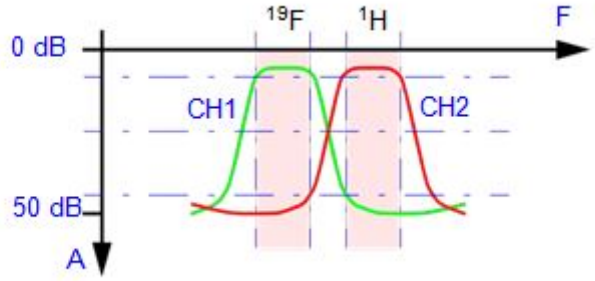


Figure 1.40: Diplexer Filter HQ 750MHz Diagram

W1346378 - Diplexer HQ 750 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H, ^{19}F	750.1	705.8
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F, ^{1}H...	705.8	750.1
Minimum Rejection (dB)	60	60
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.140: W1346378 - Diplexer HQ 750 ^{1}H / ^{19}F

1.9 AVANCE 800MHz

1.9.1 Lowpass Filter

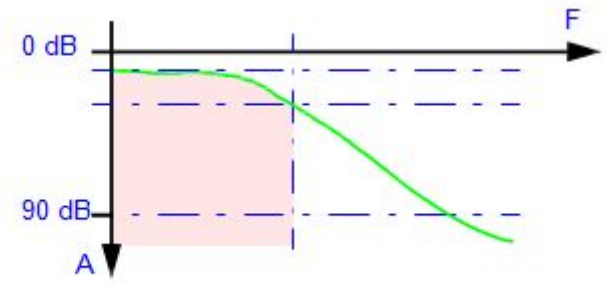


Figure 1.41: Lowpass Filter HQ 800MHz Diagram

W1346640 - Filter HQ 800 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 323.9	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H...	752.9...800.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▷ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.141: W1346640 - Filter HQ 800 0-^{31}P LP (^{19}F-^{1}H)

W1346661 - Filter HQ 800 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 81.1	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	201.2	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.142: W1346661 - Filter HQ 800 0-^{15}N NR LP (^{13}C)

1.9.2 Bandstop Filter

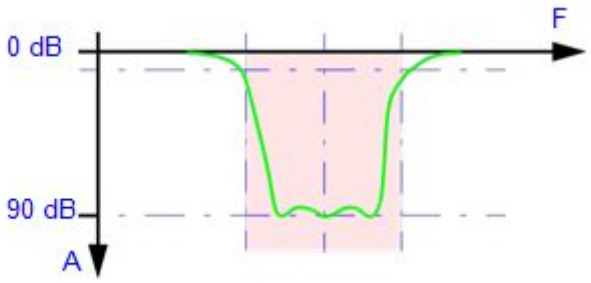


Figure 1.42: Bandstop Filter HQ 800MHz Diagram

W1346286 - Filter HQ 800 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 323.9	752.9
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) : ^{1}H	800.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.143: W1346286 - Filter HQ 800 ^{1}H S

W1346386 - Filter HQ 800 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{1}H	< 323.9	800.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F	752.9	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.144: W1346386 - Filter HQ 800 ^{19}F S

1.9.3 Bandpass Filter

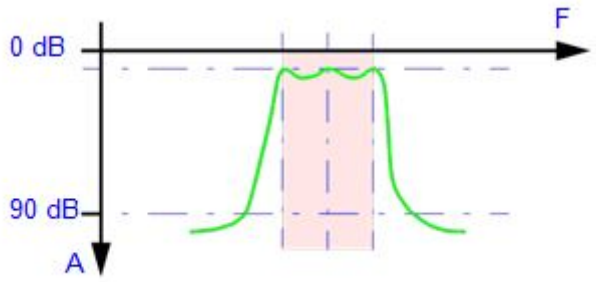


Figure 1.43: Bandpass Filter HQ 800MHz Diagram

W1346298 - Filter HQ 800 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	800.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :...^{31}P, ^{19}F..	< 323.9	752.9
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.145: W1346298 - Filter HQ 800 ^{1}H BP (-^{31}P, ^{19}F)

W1346290 - Filter HQ 800 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	800.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{19}F....	< 323.9	752.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.146: W1346290 - Filter HQ 800 ^{1}H BP (^{19}F)

W1346302 - Filter HQ 800 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	752.9	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{31}P, ^{1}H..	< 323.9	800.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.147: W1346302 - Filter HQ 800 ^{19}F BP (-^{31}P, ^{1}H)

W1346294 - Filter HQ 800 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	752.9	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 323.9	800.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.148: W1346294 - Filter HQ 800 ^{19}F BP (^{1}H)

W1346306 - Filter HQ 800 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li...^{31}P	311.0...323.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ..^{87}Rb, ^{19}F.....	< 261.8	> 752.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.149: W1346306 - Filter HQ 800 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W1346310 - Filter HQ 800 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga...^{87}Rb	244.0...261.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{13}C, ^{7}Li...	< 201.2	> 311.0
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.150: W1346310 - Filter HQ 800 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346314 - Filter HQ 800 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{13}C...^{23}Na	201.2...211.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : .^{29}Si, ^{71}Ga....	< 159.0	> 244.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.151: W1346314 - Filter HQ 800 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-))

W1346318 - Filter HQ 800 ^{59}C0 - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	189.8...211.7	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ...^{15}N	< 81.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.152: W1346318 - Filter HQ 800 ^{59}C0 - ^{23}Na BP (-^{15}N)

W1346322 - Filter HQ 800 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz):…^{77}Se, ^{29}Si…	152.6…159.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ...^{2}H, ^{13}C..	< 122.8	> 201.2
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.153: W1346322 - Filter HQ 800 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)

W1346326 - Filter HQ 800 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	108.5...122.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{15}N, ^{29}Si...	< 81.1	> 159.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.154: W1346326 - Filter HQ 800 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346330 - Filter HQ 800 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	81.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{14}N, ^{2}H....	< 57.8	> 122.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.155: W1346330 - Filter HQ 800 ^{15}N BP (-^{14}N, ^{2}H-)

1.10 AVANCE 850MHz

1.10.1 Lowpass Filter

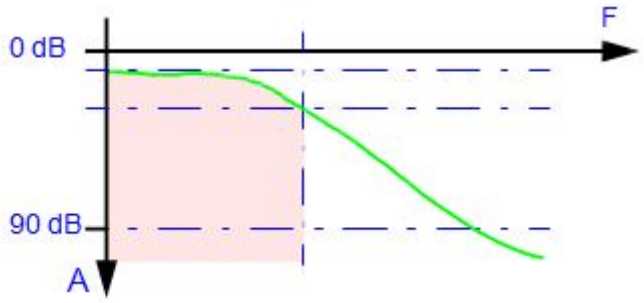


Figure 1.44: Lowpass Filter HQ 850MHz Diagram

W1346677 - Filter HQ 850 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 344.1	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H...	799.9...850.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.156: W1346677 - Filter HQ 850 0-^{31}P LP (^{19}F-^{1}H)

W1346656 - Filter HQ 850 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 86.2	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	213.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.157: W1346656 - Filter HQ 850 0-^{15}N NR LP (^{13}C)

W128330 - Filter HQ 850 0-^{33}S NR LP (^{25}Mg, H3)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{33}S	< 65.3	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{13}C	213.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.158: W128330 - Filter HQ 850 0-^{33}S NR LP (^{25}Mg, H3)

W128329 - Filter HQ 850 0-^{89}Y NR LP (^{183}W, H3)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{89}Y	< 41.7	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	213.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.159: W128329 - Filter HQ 850 0-^{89}Y NR LP (^{183}W, H3)

W128331 - Filter HQ 850 0-^{15}N NR LP (^{91}Zr, H3)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 86.2	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	213.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.160: W128331 - Filter HQ 850 0-^{15}N NR LP (^{91}Zr, H3)

W131538 - Filter HQ 850 0-^{37}Cl NR LP (^{33}S, H3)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{37}Cl	69.3	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	213.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.161: W131538 - Filter HQ 850 0-^{37}Cl NR LP (^{33}S, H3)

1.10.2 Bandpass Filter

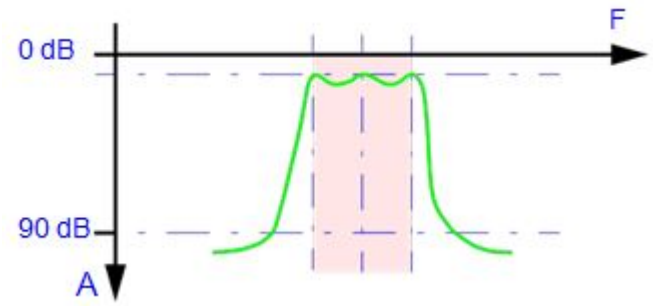


Figure 1.45: Bandpass Filter HQ 850MHz Diagram

W119950 Filter HQ 850 ^{14}N BP		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...$^{14'}$N	61.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{14}N	> 86.2	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 8H139 [▷ 224] (mm)	336 x 167 x 38	
Weight (kg)	3.4	

Table 1.162: W119950 Filter HQ 850 ^{14}N BP

W1346655 - Filter HQ 850 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): .^{1}H	850.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F....	< 344.1	799.9
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.163: W1346655 - Filter HQ 850 ^{1}H BP (-^{31}P, ^{19}F)

W1346674- Filter HQ 850 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ... ^{1}H	850.1	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :.. ^{31}P, ^{19}F...	< 344.1	799.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.164: W1346674- Filter HQ 850 ^{1}H BP (^{19}F)

W1346675 - Filter HQ 850 ^{19}F BP (-^{31}P,^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{19}F	799.9	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{31}P, ^{1}H...	< 344.1	850.1
Minimum Rejection (dB)	120	50
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.165: W1346675 - Filter HQ 850 ^{19}F BP (-^{31}P,^{1}H)

W1346676 - Filter HQ 850 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): .. ^{19}F	799.9	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :.. ^{31}P, ^{1}H	< 344.1	850.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.166: W1346676 - Filter HQ 850 ^{19}F BP (^{1}H)

W1346715 - Filter HQ 850 ^{7}Li -^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{7}Li, ^{31}P	330.4…344.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{87}R, ^{19}F...	< 278.2	> 799.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.167: W1346715 - Filter HQ 850 ^{7}Li -^{31}P BP (-^{87}Rb, ^{19}F-)

W1346714 - Filter HQ 850 ^{71}Ga-^{87}Rb BP (-^{13}C,^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{71}Ga, ^{87}Rb	259.3….278.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :.. ^{13}C, ^{7}Li...	< 213.8	> 330.4
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.168: W1346714 - Filter HQ 850 ^{71}Ga-^{87}Rb BP (-^{13}C,^{7}Li-)

W1346710 - Filter HQ 850 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{13}C, ^{23}Na	213.8….224.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{29}Si, ^{71}Ga...	< 168.9	> 259.3
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.169: W1346710 - Filter HQ 850 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346657 - Filter HQ 850 ^{59}Co-^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{59}Co, ^{23}Na	201.7…224.9	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{15}N...	< 86.2	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▷ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.170: W1346657 - Filter HQ 850 ^{59}Co-^{23}Na BP (-^{15}N)

W1346718 - Filter HQ 850 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{77}Se, ^{29}Si…	162.1…168.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{2}H, ^{13}C...	< 130.5	> 213.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.171: W1346718 - Filter HQ 850 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)

W1346697 - Filter HQ 850 ^{17}O-^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{17}O, ^{2}H	115.2…130.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{15}N, ^{29}Si...	< 86.2	> 168.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.172: W1346697 - Filter HQ 850 ^{17}O-^{2}H BP (-^{15}N, ^{29}Si-)

W1346716- Filter HQ 850 ^{15}N BP (-^{14}N, ^{2}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	82.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{14}N, ^{2}H...	< 61.4	> 130.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.173: W1346716- Filter HQ 850 ^{15}N BP (-^{14}N, ^{2}H)

1.10.3 Diplexer Filter

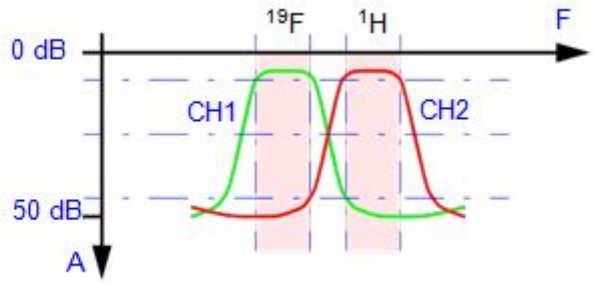


Figure 1.46: Diplexer Filter HQ 850MHz Diagram

W116514 - Diplexer HQ 850 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ..^{1}H, ^{19}F…	850.1	799.9
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F, ^{1}H...	799.9	850.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.174: W116514 - Diplexer HQ 850 ^{1}H / ^{19}F

1.11 AVANCE 900MHz

1.11.1 Lowpass Filter

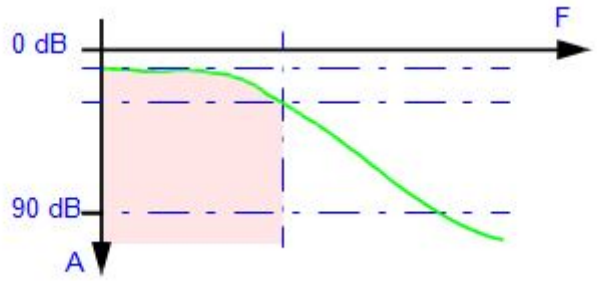


Figure 1.47: Lowpass Filter HQ 900MHz Diagram

W1346641 - Filter HQ 900 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 364.4	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H...	847.0...900.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.175: W1346641 - Filter HQ 900 0-^{31}P LP (^{19}F-^{1}H)

W1346662 - Filter HQ 900 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 91.2	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	226.3	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.176: W1346662 - Filter HQ 900 0-^{15}N NR LP (^{13}C)

1.11.2 Bandstop Filter

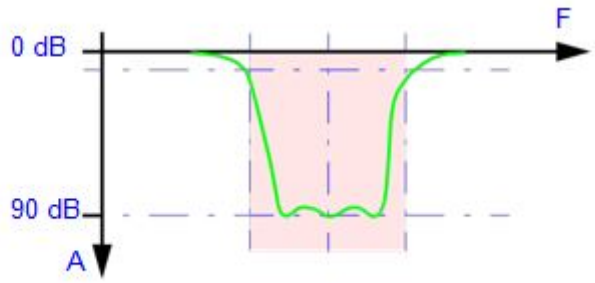


Figure 1.48: Bandstop Filter HQ 900MHz Diagram

W1346287 - Filter HQ 900 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 364.4	847.0
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{1}H	900.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.177: W1346287 - Filter HQ 900 ^{1}H S

1.11.3 Bandpass Filter

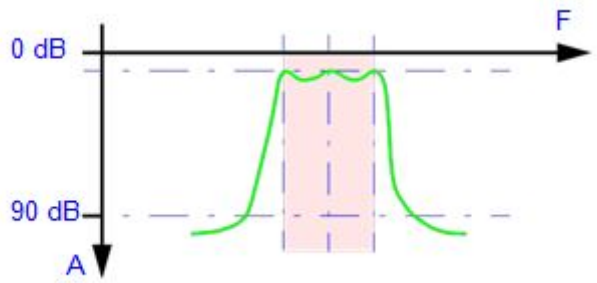


Figure 1.49: Bandpass Filter HQ 900MHz Diagram

W1346299 - Filter HQ 900 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	900.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{19}F...	< 364.4	847.0
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.178: W1346299 - Filter HQ 900 ^{1}H BP (-^{31}P, ^{19}F)

W1346291 - Filter HQ 900 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	900.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{19}F...	< 364.4	847.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.179: W1346291 - Filter HQ 900 ^{1}H BP (^{19}F)

W1346303 - Filter HQ 900 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	847.0	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 364.4	900.1
Minimum Rejection (dB)	120	50
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.180: W1346303 - Filter HQ 900 ^{19}F BP (-^{31}P, ^{1}H)

W1346295 - Filter HQ 900 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	847.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 364.4	900.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.181: W1346295 - Filter HQ 900 ^{19}F BP (^{1}H)

W1346307 - Filter HQ 900 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li...^{31}P	349.8...364.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :...^{87}Rb, ^{19}F..	< 294.5	> 847.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.182: W1346307 - Filter HQ 900 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W1346311 - Filter HQ 900 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga...^{87}Rb	274.5...294.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ...^{13}C, ^{7}Li.....	< 226.3	> 349.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.183: W1346311 - Filter HQ 900 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346315 - Filter HQ 900 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{13}C...^{23}Na	226.3...238.1	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{29}Si, ^{71}Ga..	< 178.8	> 274.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.184: W1346315 - Filter HQ 900 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346319 - Filter HQ 900 ^{59}Co - ^{23}Na BP (-^{15}N)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	213.6...238.1	
Maximum Insertion Loss (dB)	0.5	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. .^{15}N	< 91.2	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 4H073 [▶ 221] (mm)	205 x 100 x 38	
Weight (kg)	1.1	

Table 1.185: W1346319 - Filter HQ 900 ^{59}Co - ^{23}Na BP (-^{15}N)

W1346323 - Filter HQ 900 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{77}Se,… ^{29}Si	171.1…178.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{2}H, ^{13}C...	< 138.2	> 226.3
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.186: W1346323 - Filter HQ 900 ^{77}Se - ^{29}Si BP (-^{2}H, ^{13}C-)

W1346458 - Filter HQ 900 ^{17}O - ^{2}H BP (^{11}B-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	122.0...138.2	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{11}B, ^{31}P...	>288.8	
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.187: W1346458 - Filter HQ 900 ^{17}O - ^{2}H BP (^{11}B-)

W1346327 - Filter HQ 900 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	122.0...138.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{15}N, ^{29}Si...	< 91.2	> 178.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▷ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.188: W1346327 - Filter HQ 900 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

W1346331 - Filter HQ 900 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	91.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{14}N, ^{2}H..	< 65.0	> 118.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 8H169 [▶ 225] (mm)	336 x 197 x 38	
Weight (kg)	3.9	

Table 1.189: W1346331 - Filter HQ 900 ^{15}N BP (-^{14}N, ^{2}H-)

W1346335 - Filter HQ 900 ^{15}N BP (^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	91.2	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ..^{13}C	213.6	> 226.3
Minimum Rejection (dB)	85	90
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.190: W1346335 - Filter HQ 900 ^{15}N BP (^{13}C-)

1.11.4 Diplexer Filter

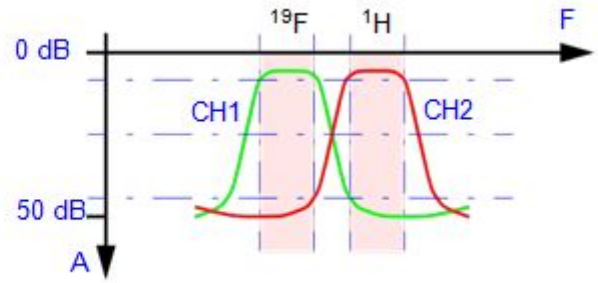


Figure 1.50: Diplexer Filter HQ 900MHz Diagram

W1346423 - Diplexer HQ 900 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H,…^{19}F	900.1	847.0
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :^{19}F,… ^{1}H	847.0	900.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.191: W1346423 - Diplexer HQ 900 ^{1}H / ^{19}F

1.12 AVANCE 950MHz

1.12.1 Lowpass Filter

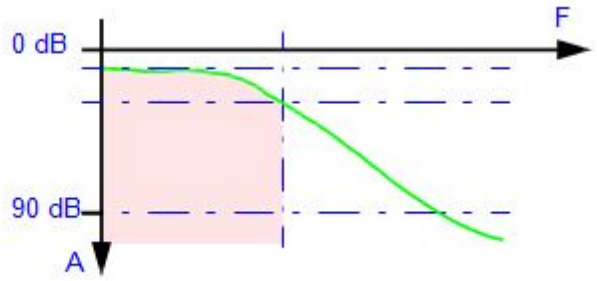


Figure 1.51: Lowpass Filter HQ 950MHz Diagram

W143786 - Filter HQ 950 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 384.6	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H...	894.0...950.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.192: W143786 - Filter HQ 950 0-^{31}P LP (^{19}F-^{1}H)

W143787 - Filter HQ 950 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 96.3	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	238.9	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.193: W143787 - Filter HQ 950 0-^{15}N NR LP (^{13}C)

1.12.2 Bandstop Filter

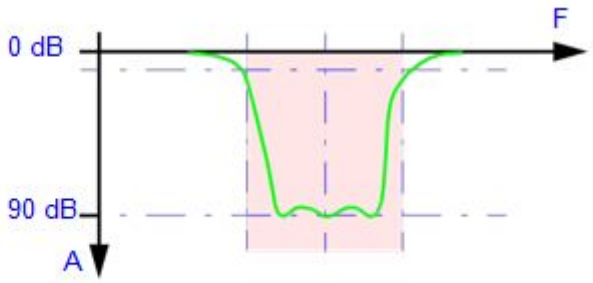


Figure 1.52: Bandstop Filter HQ 950MHz Diagram

W143773 - Filter HQ 950 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 384.6	894.0
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{1}H	950.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.194: W143773 - Filter HQ 950 ^{1}H S

1.12.3 Bandpass Filter

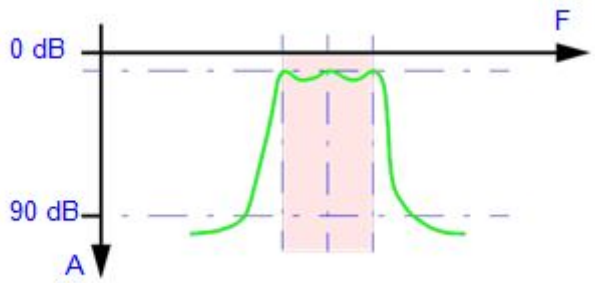


Figure 1.53: Bandpass Filter HQ 950MHz Diagram

W1346707 - Filter HQ 950 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	950.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{19}F...	< 384.6	894.0
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.195: W1346707 - Filter HQ 950 ^{1}H BP (-^{31}P, ^{19}F)

W143775 - Filter HQ 950 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	894.0	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 384.6	950.1
Minimum Rejection (dB)	110	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.196: W143775 - Filter HQ 950 ^{19}F BP (-^{31}P, ^{1}H)

W143774 - Filter HQ 950 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	894.0	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ...^{31}P, ^{1}H...	< 384.6	950.1
Minimum Rejection (dB)	80	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.197: W143774 - Filter HQ 950 ^{19}F BP (^{1}H)

W143776 - Filter HQ 950 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li...^{31}P	369.2...384.6	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :...^{87}Rb, ^{19}F..	< 310.9	> 894.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.198: W143776 - Filter HQ 950 ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

W140205 - Filter HQ 950 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga...^{87}Rb	289.8...310.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ...^{13}C, ^{7}Li...	< 238.9	> 369.3
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.199: W140205 - Filter HQ 950 ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

W140204 - Filter HQ 950 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{13}C...^{23}Na	238.9...251.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. .^{29}Si, ^{71}Ga..	< 178.8	> 289.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.200: W140204 - Filter HQ 950 ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

W143783 - Filter HQ 950 ^{59}Co - ^{23}Na BP (-^{2}H, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co...^{23}Na	225.4...251.3	
Maximum Insertion Loss (dB)	0.6	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. .^{2}H, ^{31}P...	< 145.9	> 384.6
Minimum Rejection (dB)	90	80
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.201: W143783 - Filter HQ 950 ^{59}Co - ^{23}Na BP (-^{2}H, ^{31}P-)

W139785 - Filter HQ 950 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{17}O...^{2}H	128.8...145.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{15}N, ^{29}Si..	< 96.3	> 188.8
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.202: W139785- Filter HQ 950 ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

W143778 - Filter HQ 950 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	96.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ..^{14}N, ^{2}H..	< 68.7	> 145.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.203: W143778 - Filter HQ 950 ^{15}N BP (-^{14}N, ^{2}H-)

W143779 - Filter HQ 950 ^{15}N BP (^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{15}N	96.3	
Maximum Insertion Loss (dB)	0.8	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{59}Co, ^{13}C..	225.4	> 238.9
Minimum Rejection (dB)	85	90
Mechanical Dimensions and Weight		
Case **5H169** (mm)	241 x 197 x 38	
Weight (kg)	2.5	

Table 1.204: W143779 - Filter HQ 950 ^{15}N BP (^{13}C-)

W143780 - Filter HQ 950 ^{14}N BP (^{15}N-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{14}N	68.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : ^{15}N	> 96.3	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case *(mm)	L x W x H	
Weight (kg)	0.0	

Table 1.205: W143780 - Filter HQ 950 ^{14}N BP (^{15}N-)

W1346869 - Filter HQ 950 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H	950.1	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F…	<384.6	894.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case *(mm)	L x W x H	
Weight (kg)	0.0	

Table 1.206: W1346869 - Filter HQ 950 ^{1}H BP (^{19}F)

W140203- Filter HQ 950 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) ^{77}Se...^{29}Si	181.2…188.8	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) ^{2}H...^{13}C	< 145.9	> 238.9
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.207: W140203- Filter HQ 950 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)

1.12.4 Diplexer Filter

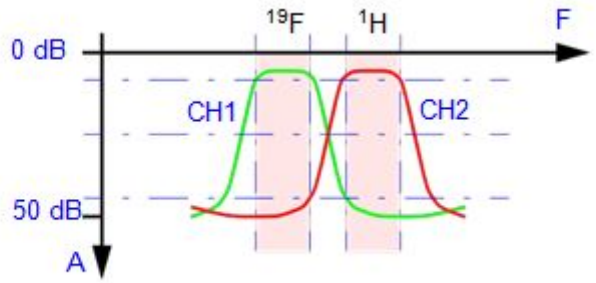


Figure 1.54: Diplexer Filter HQ 950MHz Diagram

W134781 - Diplexer HQ 950 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H,…^{19}F	950.1	894.0
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :^{19}F, ^{1}H	894.0	950.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.208: W134781 - Diplexer HQ 950 ^{1}H / ^{19}F

1.13 AVANCE 1000MHz

1.13.1 Lowpass Filter

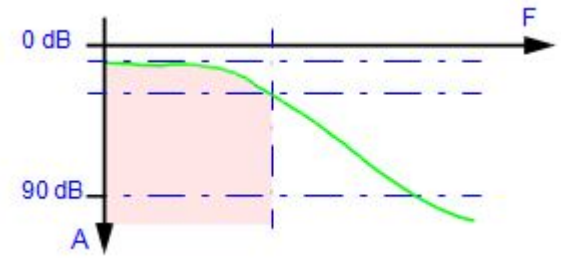


Figure 1.55: Lowpass Filter HQ 1000MHz Diagram

W1346678- Filter HQ 1000 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	< 404.9	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F...^{1}H...	941.1…1000.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.209: W1346678- Filter HQ 1000 0-^{31}P LP (^{19}F-^{1}H)

W1346672- Filter HQ 1000 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	< 101.4	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C.	251.5	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.210: W1346672- Filter HQ 1000 0-^{15}N NR LP (^{13}C)

1.13.2 Bandstop Filter

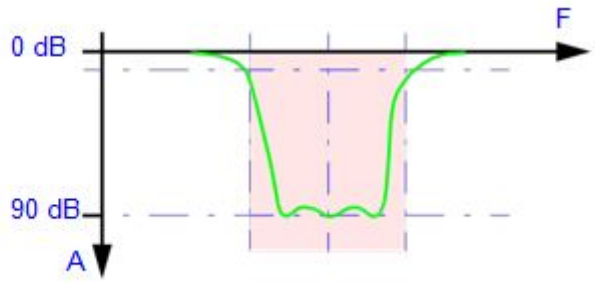


Figure 1.56: Bandstop Filter HQ 1000MHz Diagram

W1346663 - Filter HQ 1000 ^{1}H S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{19}F	< 404.9	941.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{1}H...	1000.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.211: W1346663 - Filter HQ 1000 ^{1}H S

W1346664 - Filter HQ 1000 ^{19}F S		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P, ^{1}H	< 404.9	1000.1
Maximum Insertion Loss (dB)	0.4	0.8
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :. ^{19}F...	941.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 3S063 [▶ 215] (mm)	161 x 106 x 50	
Weight (kg)	1.1	

Table 1.212: W1346664 - Filter HQ 1000 ^{19}F S

1.13.3 Bandpass Filter

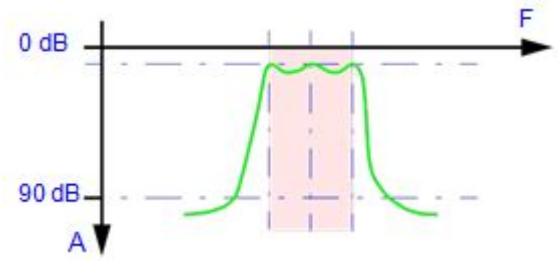


Figure 1.57: Bandpass Filter HQ 1000MHz Diagram

W1346665 - Filter HQ 1000 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): .^{1}H	1000.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F....	< 404.9	941.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.213: W1346665 - Filter HQ 1000 ^{1}H BP (-^{31}P, ^{19}F)

W1346666 - Filter HQ 1000 ^{19}F BP (-^{31}P,^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	941.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F	< 404.9	1000.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R045 [▶ 216] (mm)	227 x 68 x 39	
Weight (kg)	0.7	

Table 1.214: W1346666 - Filter HQ 1000 ^{19}F BP (-^{31}P,^{1}H)

W1346667 - Filter HQ 1000 ^{7}Li -^{31}P BP (-^{87}Rb,^{19}F-)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{7}Li….^{31}P	388.7…404.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{87}Rb, ^{19}F	< 327.2	> 941.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.215: W1346667 - Filter HQ 1000 ^{7}Li -^{31}P BP (-^{87}Rb,^{19}F-)

W1346668- Filter HQ 1000 ^{71}Ga- ^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{71}Ga…^{87}Rb	305.0….327.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{13}C, ^{7}Li...	< 251.5	> 388.7
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.216: W1346668- Filter HQ 1000 ^{71}Ga- ^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346669 - Filter HQ 1000 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): .^{13}C...^{23}Na	251.5…264.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{29}Si, ^{71}Ga...	< 198.7	> 305.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.217: W1346669 - Filter HQ 1000 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)

W1346670 - Filter HQ 1000 ^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): .. ^{29}Si	198.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :.. ^{2}H, ^{13}C	< 153.5	> 251.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	0.0	

Table 1.218: W1346670 - Filter HQ 1000 ^{29}Si BP (-^{2}H, ^{13}C-)

W1346671 - Filter HQ 1000 ^{17}O -^{2}H BP (-^{15}N, ^{29}Si-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{17}O, ^{2}H	135.6…153.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) :. ^{15}N, ^{29}Si...	< 101.4	> 198.7
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.219: W1346671 - Filter HQ 1000 ^{17}O -^{2}H BP (-^{15}N, ^{29}Si-)

W1346717 - Filter HQ 1000 ^{15}N BP (-^{14}N,^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	101.4	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{14}N, ^{2}H...	< 72.3	> 153.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.220: W1346717 - Filter HQ 1000 ^{15}N BP (-^{14}N,^{2}H-)

W1346856 - Filter HQ 1000 ^{59}Co -^{23}Na BP (-^{2}H,^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{59}Co…^{23}Na	273.3…264.5	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) :. ^{2}H, ^{31}P...	< 153.5	> 404.9
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.221: W1346856 - Filter HQ 1000 ^{59}Co -^{23}Na BP (-^{2}H,^{31}P-)

W1346870 - Filter HQ 1000 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H…	1000.1	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{31}P, ^{19}F...	< 404.9	941.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.222: W1346870 - Filter HQ 1000 ^{1}H BP (^{19}F)

W1346871 - Filter HQ 1000 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F…	941.0	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{31}P, ^{1}H…	< 404.9	1000.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.223: W1346871 - Filter HQ 1000 ^{19}F BP (^{1}H)

1.13.4 Diplexer Filter

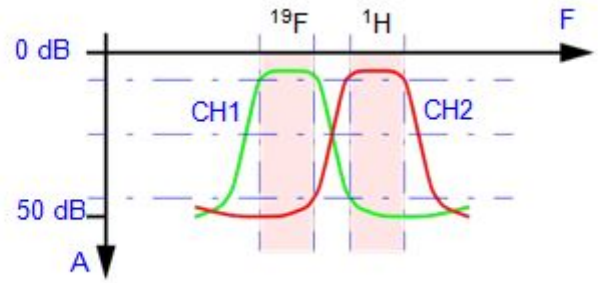


Figure 1.58: Diplexer Filter HQ 1000MHz Diagram

W1346876 - Diplexer HQ 1000 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H,…^{19}F	1000.1	941.1
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :^{19}F, ^{1}H…	941.1	1000.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.224: W1346876 - Diplexer HQ 1000 ^{1}H / ^{19}F

1.14 AVANCE 1100MHz

1.14.1 Lowpass Filter

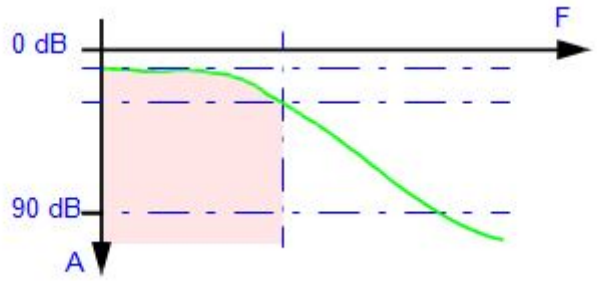


Figure 1.59: Lowpass Filter HQ 1100MHz Diagram

W1342624 - Filter HQ 1100 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	<111.5	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	276.6	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.225: W1342624 - Filter HQ 1100 0-^{15}N NR LP (^{13}C)

W1342373 - Filter HQ 1100 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	<445.3	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F,...^{1}H	1035.1…1100.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.226: W1342373 - Filter HQ 1100 0-^{31}P LP (^{19}F-^{1}H)

1.14.2 Bandpass Filter

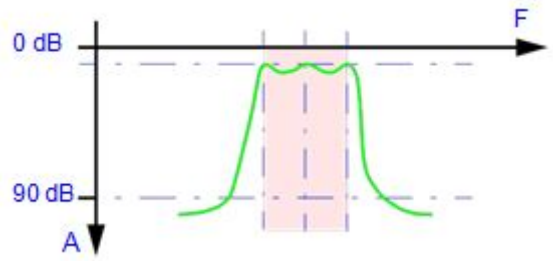


Figure 1.60: Bandpass Filter HQ 1100MHz Diagram

W1342132- Filter HQ 1100 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{1}H	1100.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : :. ^{31}P, ^{19}F	< 445.3	1035.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R032 [▶ 216] (mm)	227 x 55 x 39	
Weight (kg)	0.7	

Table 1.227: W1342132- Filter HQ 1100 ^{1}H BP (-^{31}P, ^{19}F)

W1346872- Filter HQ 1100 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{1}H	1100.1	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : :. ^{31}P, ^{19}F…	< 445.3	1035.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.228: W1346872- Filter HQ 1100 ^{1}H BP (^{19}F)

W1346859 - Filter HQ 1100 ^{7}Li –^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{7}Li…^{31}P	427.6…445.3	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{87}Rb, ^{19}F...	< 360.0	> 1035.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.229: W1346859 - Filter HQ 1100 ^{7}Li-^{31}P BP (-^{87}Rb, ^{19}F-)

W1346861- Filter HQ 1100 ^{71}Ga –^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{71}Ga…^{87}Rb	335.5…360.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{13}C, ^{7}Li...	< 276.6	> 427.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.230: W1346861- Filter HQ 1100 ^{71}Ga -^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346863 - Filter HQ 1100 ^{77}Se –^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{77}Se…^{29}Si	209.8…218.6	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) : :. ^{2}H, ^{13}C...	< 168.9	> 276.6
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.231: W1346863 - Filter HQ 1100 ^{77}Se -^{29}Si BP (-^{2}H, ^{13}C-)

W1346865 - Filter HQ 1100 ^{17}O –^{2}H BP (-^{15}N, ^{29}Si)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{17}O…^{2}H	149.1…168.9	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{15}N, ^{29}Si...	< 111.5	> 218.6
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.232: W1346865 - Filter HQ 1100 ^{17}O-^{2}H BP (-^{15}N, ^{29}Si)

W1346867- Filter HQ 1100 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{15}N	111.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : :. ^{14}N, ^{2}H...	< 79.5	> 168.9
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.233: W1346867- Filter HQ 1100 ^{15}N BP (-^{14}N, ^{2}H-)

W1346873- Filter HQ 1100 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{19}F	1035.1	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : :. ^{31}P, ^{1}H…	< 445.3	1100.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.234: W1346873- Filter HQ 1100 ^{19}F BP (^{1}H)

W1348165- Filter HQ 1100 ^{13}C-^{23}Na BP (-^{29}Si,^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{13}C…^{23}Na	276.6…291.0	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{29}Si,…^{71}Ga	< 218.6	> 335.5
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.235: W1348165- Filter HQ 1100 ^{13}C-^{23}Na BP (-^{29}Si,^{71}Ga-)

W1346473- Filter HQ 1100 ^{19}F BP (-^{31}P,^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 2% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{19}F	1035.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : : ^{31}P, . ^{1}H	< 445.3	1100.1
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R032 [▶ 216] (mm)	227 x 55 x 39	
Weight (kg)	0.0	

Table 1.236: W1346473- Filter HQ 1100 ^{19}F BP (-^{31}P,^{1}H)

W1346857 - Filter HQ 1100 ^{59}Co –^{23}Na BP (-^{2}H, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{59}Co…^{23}Na	261.0…291.0	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) : :. ^{2}H, ^{31}P...	< 168.9	> 445.3
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.237: W1346857 - Filter HQ 1100 ^{59}Co-^{23}Na BP (-^{2}H, ^{31}P-)

1.14.3 Diplexer Filter

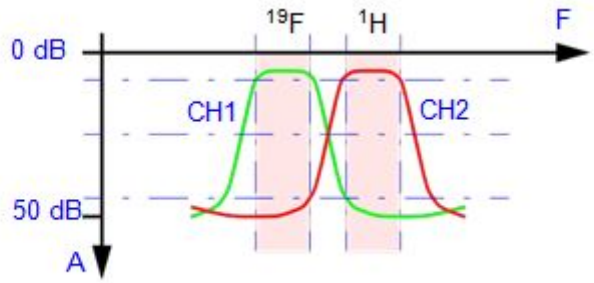


Figure 1.61: Diplexer Filter HQ 1100MHz Diagram

W1346877 - Diplexer HQ 1100 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H,…^{19}F	1100.1	1035.1
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :19^{F}, ^{1}H	1035.1	1100.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.238: W1346877- Diplexer HQ 1100 ^{1}H / ^{19}F

1.15 AVANCE 1200MHz

1.15.1 Lowpass Filter

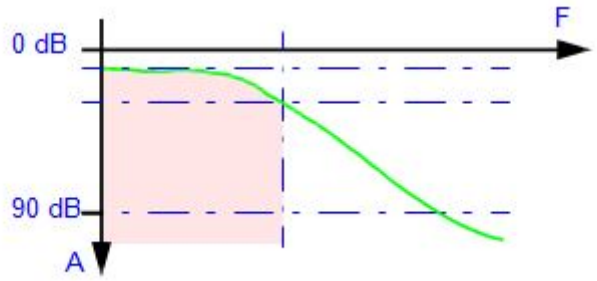


Figure 1.62: Lowpass Filter HQ 1200MHz Diagram

W134926 - Filter HQ 1200 0-^{15}N NR LP (^{13}C)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{15}N	<121.7	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{13}C	301.8	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D095 [▶ 226] (mm)	240 x 55 x 37	
Weight (kg)	0.7	

Table 1.239: W134926 - Filter HQ 1200 0-^{15}N NR LP (^{13}C)

W134925 - Filter HQ 1200 0-^{31}P LP (^{19}F-^{1}H)		
RF Power Specification		
Maximum Power Operating	1.5kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ...^{31}P	<485.9	
Maximum Insertion Loss (dB)	0.2	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) :. ^{19}F, ^{1}H..	1129.2…1200.1	
Minimum Rejection (dB)	90	
Mechanical Dimensions and Weight		
Case 2D050 [▶ 226] (mm)	144 x 63 x 34	
Weight (kg)	0.4	

Table 1.240: W134925 - Filter HQ 1200 0-^{31}P LP (^{19}F-^{1}H)

1.15.2 Bandpass Filter

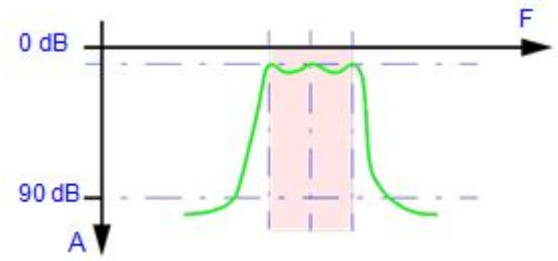


Figure 1.63: Bandpass Filter HQ 1200MHz Diagram

W1348174 Filter HQ 1200 ^{1}H BP (-^{31}P, ^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz) : ^{1}H	1200.1	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : …^{31}P,..^{19}F	< 485.8	1129.2
Minimum Rejection (dB)	120	45
Mechanical Dimensions and Weight		
Case 5R032 [▷ 216] (mm)	227 x 55 x 39	
Weight (kg)	0.7	

Table 1.241: W1348174 Filter HQ 1200 ^{1}H BP (-^{31}P, ^{19}F)

W1346874- Filter HQ 1200 ^{1}H BP (^{19}F)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{1}H	1200.1	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{19}F…	< 485.8	1129.2
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.242: W1346874- Filter HQ 1200 ^{1}H BP (^{19}F)

W1346860 - Filter HQ 1200 ^{7}Li –^{31}P BP (-^{87}Rb, ^{19}F-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{7}Li…^{31}P	466.4…485.8	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{87}Rb, ^{19}F...	< 392.7	> 1129.2
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.243: W1346860 - Filter HQ 1200 ^{7}Li-^{31}P BP (-^{87}Rb, ^{19}F-)

W1346862- Filter HQ 1200 ^{71}Ga –^{87}Rb BP (-^{13}C, ^{7}Li-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{71}Ga…^{87}Rb	366.0…392.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{13}C, ^{7}Li...	< 301.8	> 466.4
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▶ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.244: W1346862- Filter HQ 1200 ^{71}Ga-^{87}Rb BP (-^{13}C, ^{7}Li-)

W1346864 - Filter HQ 1200 ^{77}Se –^{29}Si BP (-^{2}H, ^{13}C-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{77}Se…^{29}Si	228.9…283.4	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) : :. ^{2}H, ^{13}C...	< 184.2	> 301.8
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.245: W1346864 - Filter HQ 1200 ^{77}Se-^{29}Si BP (-^{2}H, ^{13}C-)

W1346866 - Filter HQ 1200 ^{17}O –^{2}H BP (-^{15}N, ^{29}Si)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{17}O…^{2}H	162.7…184.2	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{15}N, ^{29}Si...	< 121.7	> 238.4
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.246: W1346866 - Filter HQ 1200 ^{17}O-^{2}H BP (-^{15}N, ^{29}Si)

W1346868- Filter HQ 1200 ^{15}N BP (-^{14}N, ^{2}H-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{15}N	121.7	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : :. ^{14}N, ^{2}H...	< 86.7	> 184.2
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 7R155 [▶ 218] (mm)	336 x 194 x 52	
Weight (kg)	3.4	

Table 1.247: W1346868- Filter HQ 1200 ^{15}N BP (-^{14}N, ^{2}H-)

W1346879- Filter HQ 1200 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{19}F	1129.2	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)	20	
Frequency Stop (MHz) : ^{31}P, ^{1}H	< 485.8	1200.1
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.248: W1346879- Filter HQ 1200 ^{19}F BP (^{1}H)

W135028- Filter HQ 1200 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{13}C…^{23}Na	301.8…317.5	
Maximum Insertion Loss (dB)	1	
Minimum Return Loss (dB)	15	
Frequency Stop (MHz) : :. ^{29}Si, ^{71}Ga	< 238.4	> 366.0
Minimum Rejection (dB)	90	90
Mechanical Dimensions and Weight		
Case 6R125 [▷ 218] (mm)	250 x 153 x 39	
Weight (kg)	1.5	

Table 1.249: W135028- Filter HQ 1200 ^{13}C-^{23}Na BP (-^{29}Si, ^{71}Ga-)

W135027 Filter HQ 1200 ^{19}F BP (-^{31}P, ^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	1129.2	
Maximum Insertion Loss (dB)	0.7	
Minimum Return Loss (dB)	20	
Frequency Stop (MHz): …^{31}P, ^{1}H	< 485.8	1200.1
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case 5R032 [▶ 216] (mm)	227 x 55 x 39	
Weight (kg)	0.7	

Table 1.250: W135027 Filter HQ 1200 ^{19}F BP (-^{31}P, ^{1}H)

W1346879 Filter HQ 1200 ^{19}F BP (^{1}H)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{19}F	1129.2	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz)	< 485.8	1200.1
Minimum Rejection (dB): …^{31}P, ..^{1}H		
Mechanical Dimensions and Weight		
Case 8R041P [▶ 220] (mm)	282 x 69 x 54	
Weight (kg)	0.0	

Table 1.251: W1346879 Filter HQ 1200 ^{19}F BP (^{1}H)

W1346858 - Filter HQ 1200 ^{59}Co – ^{23}Na BP (-^{2}H, ^{31}P-)		
RF Power Specification		
Maximum Power Operating	1kW @ 100 ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): . ^{59}Co…^{23}Na	284.8…317.5	
Maximum Insertion Loss (dB)		
Minimum Return Loss (dB)		
Frequency Stop (MHz) : :. ^{2}H, ^{31}P...	< 184.2	> 485.8
Minimum Rejection (dB)		
Mechanical Dimensions and Weight		
Case * (mm)	L x W x H	
Weight (kg)	0.0	

Table 1.252: W1346858 - Filter HQ 1200 ^{59}Co-^{23}Na BP (-^{2}H, ^{31}P-)

1.15.3 Diplexer Filter

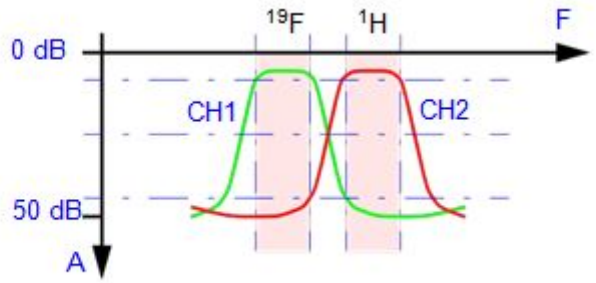


Figure 1.64: Diplexer Filter HQ 1200MHz Diagram

W1346878 - Diplexer HQ 1200 ^{1}H / ^{19}F		
RF Power Specification		
Maximum Power Operating	1kW @ 100ms 5% duty cycle	
Operating Temperature Range (°C)	15...50	
RF Low Level Specification		
Frequency Pass (MHz): ^{1}H,…^{19}F	1200.1	1129.2
Maximum Insertion Loss (dB)	0.6	0.6
Minimum Return Loss (dB)	20	20
Frequency Stop (MHz) :19^{F}, 1^{H}	1129.2	1200.1
Minimum Rejection (dB)	50	50
Mechanical Dimensions and Weight		
Case 4S063D [▶ 215] (mm)	188 x 106 x 69	
Weight (kg)	1.5	

Table 1.253: W1346878- Diplexer HQ 1200 ^{1}H / ^{19}F

1.16 Filters Category

1.16.1 Lowpass Filter

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346642	2	300	<121.5	282.4...300.1	0.2	20	90	**2D050**
W1346636	2	400	<162.0	376.5...400.1	0.2	20	90	**2D050**
W1346637	2	500	<202.5	470.6...500.1	0.2	20	90	**2D050**
W1346638	2	600	<242.9	564.7...600.1	0.2	20	90	**2D050**
W1346639	2	700	<283.4	658.8...700.1	0.2	20	90	**2D050**
W1346644	2	750	<303.7	705.8...750.1	0.2	20	90	**2D050**
W1346640	2	800	<323.9	752.9...800.1	0.2	20	90	**2D050**
W1346677	2	850	<344.1	799.9...850.1	0.2	20	90	**2D050**
W1346641	2	900	<364.4	847.0...900.1	0.2	20	90	**2D050**
W143786	2	950	<384.6	894.0...950.1	0.2	20	90	**2D050**
W1346678	2	1000	<404.9	941.1...1000.1	0.2	20	90	**2D050**
W1342373	2	1100	<445.3	1035.1…1100.1	0.2	20	90	**2D050**
W134925	2	1200	<485.9	1129.2…1200.1	0.2	20	90	**2D050**

Table 1.254: Filters HQ 0-^{31}P LP (^{19}F-^{1}H)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346628	2	400	<40.6	100.6	0.2	20	90	**2D095**
W1346629	2	500	<50.7	125.8	0.2	20	90	**2D095**
W1346630	2	600	<60.8	150.9	0.2	20	90	**2D095**
W1346659	2	700	<71.0	176.1	0.2	20	90	**2D095**
W1346660	2	750	<76.0	188.6	0.2	20	90	**2D095**
W1346661	2	800	<81.1	201.2	0.2	20	90	**2D095**
W1346656	2	850	<86.2	213.8	0.2	20	90	**2D095**
W1346662	2	900	<91.2	226.3	0.2	20	90	**2D095**
W143787	2	950	<96.3	238.9	0.2	20	90	**2D095**
W1346672	2	1000	<101.4	251.5	0.2	20	90	**2D095**
W1342624	2	1100	<111.5	276.6	0.2	20	90	**2D095**
W134926	2	1200	<121.7	301.8	0.2	20	90	**2D095**

Table 1.255: Filters HQ 0-^{15}N NR LP (^{13}C)

1.16.2 Bandstop Filter

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346253	3	300	<121.5 / 282.4	300.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346232	3	500	<202.5 / 470.6	500.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346255	3	600	<242.9 / 564.7	600.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346284	3	700	<283.4 / 658.8	700.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346285	3	750	<303.7 / 705.8	750.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346286	3	800	<323.9 / 752.9	800.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346287	3	900	<364.4 / 847.0	900.1	0.4 / 0.8	20 / 20	90	**3S063**
W143773	3	950	<384.6 / 894.0	950.1	0.4 / 0.8	20 / 20	90	**3S063**
W1346663	3	1000	<404.9 / 941.1	1000.1	0.4 / 0.8	20 / 20	90	**3S063**

Table 1.256: Filters HQ ^{1}H S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346369	3	300	<121.5 / 300.1	282.4	0.4 / 0.8	20 / 20	90	**3S063**
W1346370	3	400	<162.0 / 400.1	376.5	0.4 / 0.4	15 / 20	90	**3S063**
W1346358	3	500	<202.5 / 500.1	470.6	0.4 / 0.8	20 / 20	90	**3S063**
W1346371	3	600	<242.9 / 600.1	564.7	0.4 / 0.8	20 / 20	90	**3S063**
W1346387	3	700	<283.4 / 700.1	658.8	0.4 / 0.8	20 / 20	90	**3S063**
W1346385	3	750	<303.7 / 750.1	705.8	0.4 / 0.8	20 / 20	90	**3S063**
W1346386	3	800	<323.9 / 800.1	752.9	0.4 / 0.8	20 / 20	90	**3S063**
W1346664	3	1000	<404.9 / 1000.1	941.1	0.4 / 0.8	20 / 20	90	**3S063**

Table 1.257: Filters HQ ^{19}F S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346430	3	500	194.4	202.5	0.8	20	90	**3S063**

Table 1.258: Filters HQ ^{7}Li P - ^{31}P S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346431	3	500	202.5	194.4	0.8	20	90	**3S063**

Table 1.259: Filters HQ ^{31}P P - ^{7}Li S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346437	3	400	61.4	76.3	0.4	15	90	**3S063**

Table 1.260: Filters HQ ^{2}H P - ^{77}Se S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346394	3	700		107.5			90	**3S063**

Table 1.261: Filters HQ ^{2}H S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346434	3	500	73.6	76.8	0.8	20	80	**3S063**

Table 1.262: Filters HQ ^{6}Li P - ^{2}H S

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346435	3	500	76.8	73.6	0.8	20	80	**3S063**

Table 1.263: Filters HQ ^{2}H P - ^{6}Li S

1.16.3 Bandpass Filters

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max.Insertion (dB)	Min.Return Loss (dB)	Min. Rejection (dB)	Case
W1346239	5	300	300.1	<121.5 / 282.4	0.7	20	120 / 45	**5R100**
W1346240	5	400	400.1	<162.0 / 376.5	0.7	20	120 / 45	**5R100**
W1346223	5	500	500.1	<202.5 / 470.6	0.7	20	120 / 45	**5R069**
W1346241	5	600	600.1	<242.9 / 564.7	0.7	20	120 / 45	**5R069**
W1346296	5	700	700.1	<283.4 / 658.8	0.7	20	120 / 45	**5R045**
W1346297	5	750	750.1	<303.7 / 705.8	0.7	20	120 / 45	**5R045**
W1346298	5	800	800.1	<323.9 / 752.9	0.7	20	120 / 45	**5R045**
W1346655	5	850	850.1	<344.1 / 799.9	0.7	20	120 / 45	**5R045**
W1346299	5	900	900.1	<364.4 / 847.0	0.7	20	120 / 45	**5R045**
W1346707	5	950	950.1	<384.6 / 894.0	0.7	20	120 / 45	**5R045**
W1346665	5	1000	1000.0	<404.9 / 941.1	0.7	20	120 / 45	**5R045**
W1342132	5	1100	1100.1	<445.3 / 1035.1	0.7	20	120 / 45	**5R032**
W1348174	5	1200	1200.1	<485.8 / 1129.2	0.7	20	120 / 45	**5R032**

Table 1.264: Filters HQ ^{1}H BP (-^{31}P, ^{19}F)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346235	8	300	300.1	<121.5 / 282.4	0.8	20	80 / 90	**8R105P**
W1346204	8	400	400.1	<162.0 / 376.5	0.8	20	80 / 90	**8R105P**
W1346247	8	500	500.1	<202.5 / 470.6	0.9	20	90 / 90	**8R055P**
W1346228	8	600	600.1	<242.9 / 564.7	0.8	20	90 / 90	**8R055P**
W1346288	8	700	700.1	<283.4 / 658.8	0.8	20	90 / 90	**8R055P**
W1346289	8	750	750.1	<303.7 / 705.8	0.8	20	90 / 90	**8R055P**
W1346290	8	800	800.1	<323.9 / 752.9	0.8	20	90 / 90	**8R041P**
W1346674	8	850	850.1	<344.1 / 799.9	0.8	20	90 / 90	**8R041P**
W1346291	8	900	900.1	<364.4 / 847.0	1	20	90 / 90	**8R041P**
W1346869	8	950	950.1	<384.6 / 894.0		20	90 / 90	
W1346870	8	1000	1000.1	<404.9 / 941.1		20	90 / 90	
W1346872	8	1100	1100.1	<445.3 / 1035.1		20	90 / 90	
W1346874	8	1200	1200.1	<485.8 / 1129.2		20	90 / 90	

Table 1.265: Filters HQ ^{1}H BP (^{19}F)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346249	5	300	282.4	<121.5 / 300.1	0.7	20	120 / 45	**5R100**
W1346250	5	400	376.5	<162.0 / 400.1	0.7	20	110 / 45	**5R100**
W1346251	5	500	470.6	<202.5 / 500.1	0.7	20	120 / 45	**5R069**
W1346252	5	600	564.7	<242.9 / 600.1	0.7	20	120 / 45	**5R069**
W1346300	5	700	658.8	<283.4 / 700.1	0.7	20	120 / 45	**5R045**
W1346301	5	750	705.8	<303.7 / 750.1	0.7	20	120 / 45	**5R045**
W1346302	5	800	752.9	<323.9 / 800.1	0.7	20	120 / 45	**5R045**
W1346675	5	850	799.9	<344.1 / 850.1	0.7	20	120 / 50	**5R045**
W1346303	5	900	847.0	<364.4 / 900.1	0.7	20	120 / 50	**5R045**
W143775	5	950	894.0	<384.6 / 950.1	0.7	20	110 / 45	**5R045**
W1346666	5	1000	941.1	<404.9 / 1000.1	0.7	20	120 / 45	**5R045**
W1346473	5	1100	1035.1	<445.3 / 1100.1	0.7	20	120 / 45	**5R032**
W135027	5	1200	1129.2	<485.8 / 1200.1	0.7	20	120 / 45	**5R032**

Table 1.266: Filters HQ ^{19}F BP (-^{31}P, ^{1}H)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346236	8	300	282.4	<121.5 / 300.1	0.8	20	80 / 90	**8R105P**
W1346205	8	400	376.5	<162.0 / 400.1	0.8	20	80 / 90	**8R105P**
W1346248	8	500	470.6	<202.5 / 500.1	0.9	20	90 / 90	**8R055P**
W1346229	8	600	564.7	<242.9 / 600.1	0.8	20	90 / 90	**8R055P**
W1346292	8	700	658.8	<283.4 / 700.1	0.8	20	90 / 90	**8R055P**
W1346293	8	750	705.8	<303.7 / 750.1	0.8	20	90 / 90	**8R055P**
W1346294	8	800	752.9	<323.9 / 800.1	0.8	20	90 / 90	**8R041P**
W1346676	8	850	799.9	<344.1 / 850.1	0.8	20	90 / 90	**8R041P**
W1346295	8	900	847.0	<364.4 / 900.1	1	20	90 / 90	**8R041P**
W143774	8	950	894.0	<384.6 / 950.1		20	80 / 90	
W1346871	8	1000	941.1	<404.9 / 1000.1		20	90 / 90	
W1346873	8	1100	1035.1	<445.3 / 1100.1		20	90 / 90	
W1346879	8	1200	1129.2	<485.8 / 1200.1		20	90 / 90	

Table 1.267: Filters HQ ^{19}F BP (^{1}H)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346368	5	300	282.4 / 300.1	<121.5	0.8 / 08	20 / 20	110	**5R100**
W1346373	5	400	376.5 / 400.1	<162.0	0.8 / 0.8	20 / 20	110	**5R100**
W1346374	5	500	470.6 / 500.1	<202.5	0.8 / 0.8	20 / 20	110	**5R069**
W1346375	5	600	564.7 / 600.1	<242.9	0.8 / 0.8	20 /20	110	**5R069**

Table 1.268: Filters HQ ^{19}F - ^{1}H BP (-^{31}P)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346256	6	400	155.5...162.0	<130.9 / >376.5	1	15	90 / 90	**6R125**
W1346262	6	500	194.4...202.5	<163.6 / >470.6	1	15	80 / 90	**6R125**
W1346279	6	600	233.2...242.9	<196.4 / >564.7	1	15	80 / 90	**6R125**
W1346304	6	700	272.1...283.4	<229.1 / >658.8	1	15	80 / 90	**6R125**
W1346305	6	750	291.5...303.7	<245.4 / >705.8	1	15	80 / 90	**6R125**
W1346306	6	800	311.0...323.9	<261.8 / >752.9	1	15	90 / 90	**6R125**
W1346715	6	850	330.4…344.1	<278.2 / >799.9	1	15	90 / 90	**6R125**
W1346307	6	900	349.8…364.4	<294.5 / >847.0	1	15	90 / 90	**6R125**
W143776	6	950	369.2…384.6	<310.9 / >894.0	1	15	90 / 90	**6R125**
W1346667	6	1000	388.7…404.9	<327.2 / >941.1	1	15	90 / 90	**6R125**
W1346859	6	1100	427.6…445.3	<360.0 / >1035.1	1	15	90 / 90	**6R125**
W1346860	6	1200	466.4…485.8	<392.7 / >1129.2	1	15	90 / 90	**6R125**

Table 1.269: Filters HQ ^{7}Li - ^{31}P BP (-^{87}Rb, ^{19}F-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346372	6	300	116.6...121.5	<75.5 / >282.4	0.5	20	90 / 80	**6H073**
W1346349	6	400	155.5...162.0	<100.6 / >376.5	0.5	20	90 / 80	**6H073**
W1346351	6	500	194.4...202.5	<125.8 / >470.6	0.5	20	80 / 70	**6H073**
W1346367	6	600	233.2...242.9	<150.9 / >564.7	0.5	20	90 / 80	**6H073**

Table 1.270: Filters HQ ^{7}Li - ^{31}P BP (-^{13}C, ^{19}F-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346270	8	300	91.5...98.2	<75.5 / >121.5	1	15	90 / 85	**8H097**
W1346257	7	400	122.0...130.9	<100.6 / >162.0	1	15	90 / 90	**7R155**
W1346263	8	500	152.5...163.6	<125.8 / >202.5	1	15	90 / 90	**8H097**
W1346280	6	600	183.0...196.4	<150.9 / >242.9	1	15	80 / 90	**6R125**

Table 1.271: Filters HQ ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{31}P-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346308	6	700	213.5...229.1	<176.0 / >272.1	1	15	80 / 90	**6R125**
W1346309	6	750	228.8...245.4	<188.6 / >291.5	1	15	80 / 90	**6R125**
W1346310	6	800	244.0...261.8	<201.2 / >311.0	1	15	80 / 90	**6R125**
W1346714	6	850	259.3...278.2	<213.8 / >330.4	1	15	90 / 90	**6R125**
W1346311	6	900	274.5…294.5	<226.3 / >349.8	1	15	90 / 90	**6R125**
W140205	6	950	289.8…310.9	<238.9 / >369.3	1	15	90 / 90	**6R125**
W1346668	6	1000	305.0...327.2	<251.5 / >388.7	1	15	90 / 90	**6R125**
W1346861	6	1100	355.5…360.0	<276.6 / >427.5	1	15	90 / 90	**6R125**
W1346862	6	1200	366.0…392.7	<301.8 / >466.4	1	15	90 / 90	**6R125**

Table 1.272: Filters HQ ^{71}Ga - ^{87}Rb BP (-^{13}C, ^{7}Li-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346488	7	400	100.6...105.8	<79.5 / >122.0	1	15	90 / 90	**7R155**
W1346489	7	500	125.8...132.3	<99.4 / >152.5	1	15	90 / 90	**7R155**
W1346490	6	600	150.9...158.7	<119.2 / >183.0	1	15	90 / 90	**6R125**
W1346491	6	700	176.0...185.2	<139.1 / >213.5	1	15	90 / 90	**6R125**
W1346313	6	750	188.6...198.4	<149.0 / >228.8	1	15	90 / 90	**6R125**
W1346314	6	800	201.2...211.7	<159.0 / >244.0	1	15	90 / 90	**6R125**
W1346710	6	850	213.8…224.8	<168.9 / >259.3	1	15	90 / 90	**6R125**
W1346315	6	900	226.3...238.1	<178.8 / >274.5	1	15	90 / 90	**6R125**
W140204	6	950	238.9...251.3	<178.8 / >289.8	1	15	90 / 90	**6R125**
W1346669	6	1000	251.5...264.5	<198.7 / >305.0	1	15	90 / 90	**6R125**
W1348165	6	1100	276.6…291.0	<218.6 / >335.5	1	15	90 / 90	**6R125**
W135028	6	1200	301.8…317.5	<238.4 / >366.0	1	15	90 / 90	**6R125**

Table 1.273: Filters HQ ^{13}C - ^{23}Na BP (-^{29}Si, ^{71}Ga-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346271	8	300	71.2...79.4	<59.6 / >80.0	1	15	80 / 80	**8H139**
W1346258	8	400	94.9...105.8	<79.5 / >130.9	1	15	80 / 80	**8H139**
W1346264	8	500	118.7...132.3	<99.4 / >163.6	1	15	90 / 90	**8H097**
W1346276	8	600	142.4...158.7	<119.2 / >196.4	1	15	90 / 90	**8H097**
W1346312	8	700	166.1...185.2	<139.1 / >229.1	1	15	80 / 90	**8H073**

Table 1.274: Filters HQ ^{59}Co - ^{23}Na BP (-^{29}Si,^{87}Rb-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346440	6	400	94.9...105.8	<61.4 / >376.5	0.6	20	90 / 90	**6H073**
W1346460	6	500	118.7...132.3	<76.8 / >470.6	0.6	20	90 / 80	**6H073**
W1346461	6	600	142.4...158.7	<92.1 / >564.7	0.6	20	90 / 80	**6H073**
W1346462	6	700	166.1...185.2	<107.5 / >658.8	0.6	20	90 / 80	**6H073**

Table 1.275: Filters HQ ^{59}Co - ^{23}Na BP (-^{2}H, ^{19}F-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346275	4	300	71.2...79.4	<30.4	0.5	20	90	**4H073**
W1346226	4	400	94.9...105.8	<40.6	0.5	20	90	**4H073**
W1346224	4	500	118.7...132.3	<50.7	0.5	20	90	**4H073**
W1346230	4	600	142.4...158.7	<60.8	0.5	20	80	**4H073**
W1346316	4	700	166.1...185.2	<71.0	0.5	20	90	**4H073**
W1346317	4	750	178.0...198.4	<76.0	0.5	20	90	**4H073**
W1346318	4	800	189.8...211.7	<81.1	0.5	20	90	**4H073**
W1346657	4	850	201.7…224.9	<86.2	0.5	20	90	**4H073**
W1346319	4	900	213.6...238.1	<91.2	0.5	20	90	**4H073**

Table 1.276: Filters HQ ^{59}Co - ^{23}Na BP (-^{15}N)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346265	7	500	95.4…99.4	<76.8 / >125.8	1	15	90 / 90	**7R155**
W1346281	7	600	119.2	<92.1 / >150.9	1	15	90 / 90	**7R155**
W1346320	7	700	133.5…139.1	<107.5 / >176.0	1	15	90 / 90	**7R155**
W1346321	7	750	143.1…149.0	<115.2 / >188.6	1	15	90 / 90	**7R155**
W1346322	6	800	152.6…159.0	<122.8 / >201.2	1	15	90 / 90	**6R125**
W1346718	6	850	162.1…168.9	<130.5 / >213.8	1	15	90 / 90	**6R125**
W1346323	6	900	171.1…178.8	<138.2 / >226.3	1	15	90 / 90	**6R125**
W140203	6	950						
W1346670	6	1000	198.7	<153.5 / >251.5	1	15	90 / 90	**6R125**
W1346863	6	1100	209.8…218.6	<168.9 / >276.6				
W1346864	6	1200	228.9…283.4	<184.2 / >301.8				

Table 1.277: Filters HQ ^{77}Se-^{29}Si BP (-^{2}H, ^{13}C-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346452	5	300	40.7...46.0	>96.3	0.8	20	75 / 80	**5H169**
W1346442	5	400	54.2...61.4	>128.3	0.8	20	75 / 80	**5H169**
W1346453	6	500	67.8...76.7	>160.4	0.8	20	75 / 85	**5H169**
W1346454	6	600	81.3...92.1	>192.5	0.8	20	85	**6H073**
W1346455	6	700	94.9...107.5	>224.5	0.8	20	75 / 85	**6H073**
W1346458	6	900	122.0...138.2	>288.8	0.8	15	90 / 90	**7R155**

Table 1.278: Filters HQ ^{17}O - ^{2}H BP (^{11}B-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346492	7	700	94.9...107.5	<71.0 / >139.1	1	15	90 / 90	**7R155**
W1346493	7	750	101.7...115.2	<76.0 / >149.0	1	15	90 / 90	**7R155**
W1346326	7	800	108.5...122.8	<81.1 / >159.0	1	15	90 / 90	**7R155**
W1346697	7	850	115.2...130.5	<86.2 / >168.9	1	15	90 / 90	**7R155**
W1346327	7	900	122.0...138.2	<91.2 / >178.8	1	15	90 / 90	**7R155**
W139785	7	950	128.8...145.9	<96.3 / >188.8	1	15	90 / 90	**7R155**
W1346671	7	1000	135.6...153.5	<101.4 / >198.7	1	15	90 / 90	**7R155**
W1346865		1100	149.1…168.9	<111.5 / >218.6	1	15	90 / 90	**6R125**
W1346866		1200	162.7…184.2	<121.7 / >238.4	1	15	90 / 90	

Table 1.279: Filters HQ ^{17}O - ^{2}H BP (-^{15}N, ^{29}Si-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346273	8	300	39.4...46.0	<30.4 / >59.6	1	15	90 / 80	**8H169**
W1346260	8	400	52.5...61.4	<40.6 / >79.5	1	15	90 / 80	**8H139**
W1346266	8	500	65.6...76.8	<50.7 / >99.4	1	15	90 / 80	**8H139**
W1346282	8	600	78.7...92.1	<60.8 / >119.2	1	15	90 / 75	**8H139**
W1346324	8	700	91.8...107.5	<71.0 / >139.1	1	15	90 / 80	**8H097**
W1346325	7	750	98.4...115.2	<76.0 / >149.0	1	15	80 / 80	**7R155**

Table 1.280: Filters HQ ^{133}Cs - ^{2}H BP (-^{15}N, ^{29}Si-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346274	8	300	30.4	<21.7 / >46.0	1	15	90 / 90	**8H169**
W1346261	8	400	40.6	<28.9 / >61.4	1	20	90 / 90	**8H139**
W1346267	8	500	50.7	<36.1 / >76.8	1	20	90 / 90	**8H139**
W1346277	8	600	60.8	<43.4 / >92.1	1	20	90 / 90	**8H139**
W1346328	8	700	71.0	<50.6 / >107.5	1	12	90 / 90	**8H139**
W1346329	8	750	76.0	<54.2 / >115.2	1	20	90 / 90	**8H169**
W1346330	8	800	81.1	<57.8 / >122.8	1	20	90 / 90	**8H169**
W1346716	8	850	86.2	<61.4 / >130.5	1	20	90 / 90	**8H169**
W1346331	8	900	91.2	<65.0 / >118.0	1	20	90 / 90	**8H169**
W143778	8	950	96.3	<68.7 / >145.9	1	20	90 / 90	*
W1346717	7	1000	101.4	<72.3 / >153.5	1	20	90 / 90	**7R155**
W1346867	7	1100	111.5	<79.5 / >168.9	1	20	90 / 90	**7R155**
W1346868	8	1200	121.7	<86.7 / >184.2	1	20	90 / 90	**7R155**

Table 1.281: Filters HQ ^{15}N BP (-^{14}N, ^{2}H-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346278	5	300	30.4	71.2 / >75.5	0.8	20	90 / 90	**5H169**
W1346335	5	900	91.2	213.6 / >226.3	0.8	20	85 / 90	**5H169**
W143779	5	950	96.3	225.4 / >238.9	0.8	20	85 / 90	**5H169**

Table 1.282: Filters HQ ^{15}N BP (^{13}C)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346283	8	600	43.4	>60.8	1	20	90	**8H139**
W1346336	8	700	50.6	>71.0	1	20	90	**8H139**
W143780	8	950	68.7	>96.3	1	15	90	**8H139**

Table 1.283: Filters HQ ^{14}N BP (^{15}N-)

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W143783		950	225.4...251.3	<145.9 / >384.6	0.6	20	90 / 80	
W1346856		1000	273.3...264.5	<153.5 / >404.9	0.6	20		
W1346857		1100	261.0...291.0	<168.9 / >445.3	0.6	20		
W1346858		1200	284.8...317.5	<184.2 / >485.8	0.6	20		

Table 1.284: Filters HQ ^{59}Co -^{23}Na BP (-^{2}H, ^{31}P)

1.16.4 Diplexer Filter

Part Number	Number of Cells	Filter (MHz)	Frequency Pass (MHz)	Frequency Stop (MHz)	Max. Insertion (dB)	Min. Return Loss (dB)	Min. Rejection (dB)	Case
W1346237	4	300	300.1 / 282.4	282.4 / 300.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W1346345	4	400	400.1 / 376.5	376.5 / 400.1	0.6 / 0.6	20 / 20	70 / 70	**4S063D**
W1346346	4	500	500.1 / 470.6	470.6 / 500.1	0.6 / 0.6	20 / 20	70 / 70	**4S063D**
W1346347	4	600	600.1 / 564.7	564.7 / 600.1	0.6 / 0.6	20 / 20	70 / 70	**4S063D**
W1346378	4	750	750.1 / 705.8	705.8 / 750.1	0.6 / 0.6	20 / 20	60 / 60	**4S063D**
W116514	4	850	850.1 / 799.9	799.9 / 850.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W1346423	4	900	900.1 / 847.0	847.0 / 900.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W134781	4	950	950.1 / 894.0	894.0 / 950.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W1346876	4	1000	1000.1 / 941.1	941.1 / 1000.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W1346877	4	1100	1100.0 / 1035.1	1035.1 / 1100.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**
W1346878	4	1200	1200.1 / 1129.2	1129.2 / 1200.1	0.6 / 0.6	20 / 20	50 / 50	**4S063D**

Table 1.285: Diplexer HQ ^{1}H / ^{19}F

2 Cases and Accessories

2.1 Notch Filters

2.1.1 Case 3S063

Mechanical dimensions (mm): 161 x 106 x 50
Weight (kg): 1,1

Figure 2.1: 3S063 View

2.1.2 Case 4S063D

Mechanical dimensions (mm): 242 x 107 x 68
Weight (kg): 1,5

Figure 2.2: 4S063D View

2.2 Bandpass Filters

2.2.1 Case 5R032

Mechanical dimensions (mm): 227 x 55 x 39
Weight (kg): 0,7

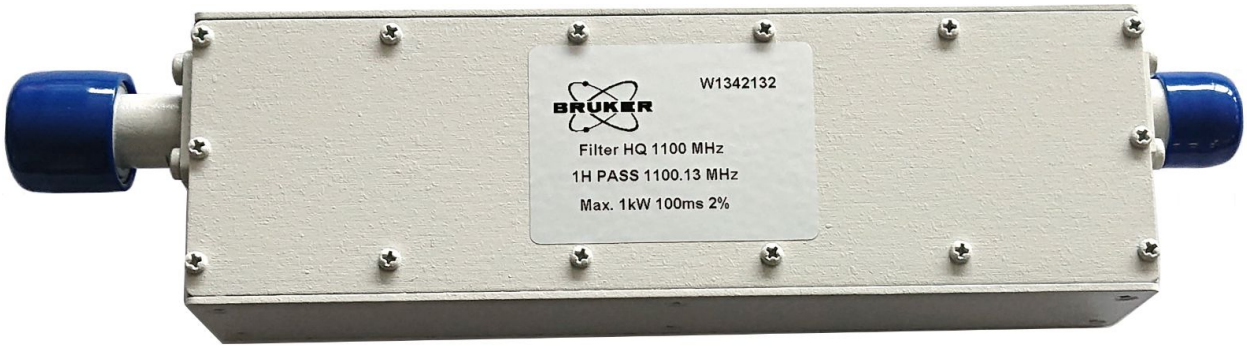


Figure 2.3: 5R032 View

2.2.2 Case 5R045

Mechanical dimensions (mm): 227 x 68 x 39
Weight (kg): 0,7

Figure 2.4: 5R045 View

2.2.3 Case 5R069

Mechanical dimensions (mm) : 227 x 92 x 39
Weight (kg): 0,9

Figure 2.5: 5R069 View

2.2.4 Case 5R100

Mechanical dimensions (mm) : 227 x 123 x 39
Weight (kg): 1,2

Figure 2.6: 5R100 View

2.2.5 Case 6R125

Mechanical dimensions (mm) : 250 x 153 x 39
Weight (kg): 1,5

Figure 2.7: 6R125 View

2.2.6 Case 7R155

Mechanical dimensions (mm) : 336 x 194 x 52
Weight (kg): 3,4

Figure 2.8: 7R155 View

2.2.7 Case 8R055P

Mechanical dimensions (mm): 282 x 83 x 54
Weight (kg): 1,6

Figure 2.9: 8R055P View

2.2.8 Case 8R105P

Mechanical dimensions (mm) : 277 x 133 x 54
Weight (kg) : 2,6

Figure 2.10: 8R105P View

2.2.9 Case 8R041P

Mechanical dimensions (mm) : 282 x 69 x 54
Weight (kg) : 0,0

image

8R041P View

2.3 Helical Filters

2.3.1 Case 4H073

Mechanical dimensions (mm): 205 x 100 x 38
Weight (kg): 1,1

Figure 2.11: 4H073 View

2.3.2 Case 5H133

Mechanical dimensions (mm): 241 x 157 x 38
Weight (kg): 1,9

Figure 2.12: 5H133 View

2.3.3 Case 5H069

Mechanical dimensions (mm): 241 x 197 x 38
Weight (kg): 2,5

Figure 2.13: 5H069 View

2.3.4 Case 6H073

Mechanical dimensions (mm) : 277 x 100 x 38
Weight (kg): 1,6

Figure 2.14: 6H073 View

2.3.5 Case 8H073

Mechanical dimensions (mm): 336 x 100 x 38
Weight (kg): 2.0

Figure 2.15: 8H073 View

2.3.6 Case 8H097

Mechanical dimensions (mm): 336 x 125 x 38
Weight (kg): 2.5

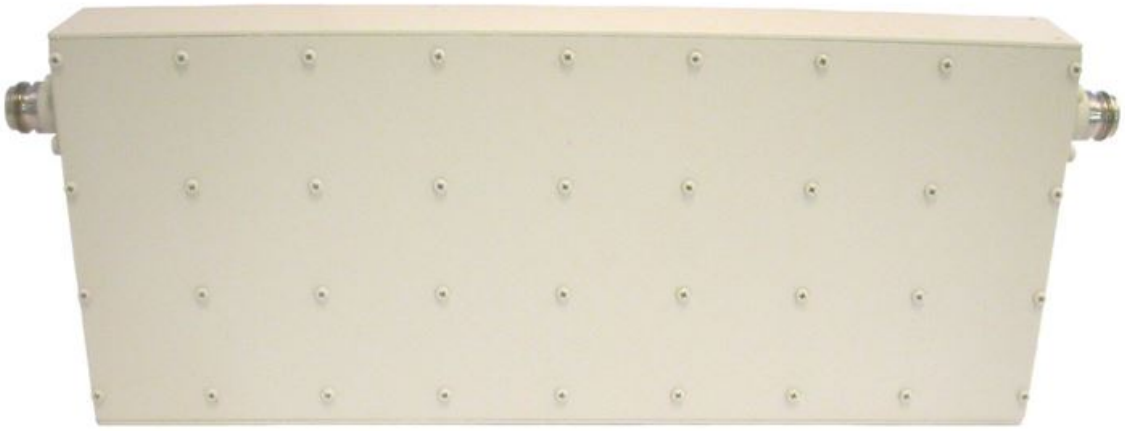


Figure 2.16: 8H097 View

2.3.7 Case 8H139

Mechanical dimensions (mm): 336 x 167 x 38

Weight (kg): 3,4

Figure 2.17: 8H139 View

2.3.8 Case 8H169

Mechanical dimensions (mm): 336 x 197 x 38

Weight (kg): 3,9

8H169 View

2.4 Low Pass Filters

2.4.1 Case 2D050

Mechanical dimensions (mm) : 144 x 58 x 34
Weight (kg) : 0,4

Figure 2.18: 2D050 View

2.4.2 Case 2D095

Mechanical dimensions (mm): 240 x 55 x 37
Weight (kg): 0,7

Figure 2.19: 2D095 View

2.5 Accessories

Figure 2.20: W1303715 - N / Female-Female 0,5m Coaxial Cable

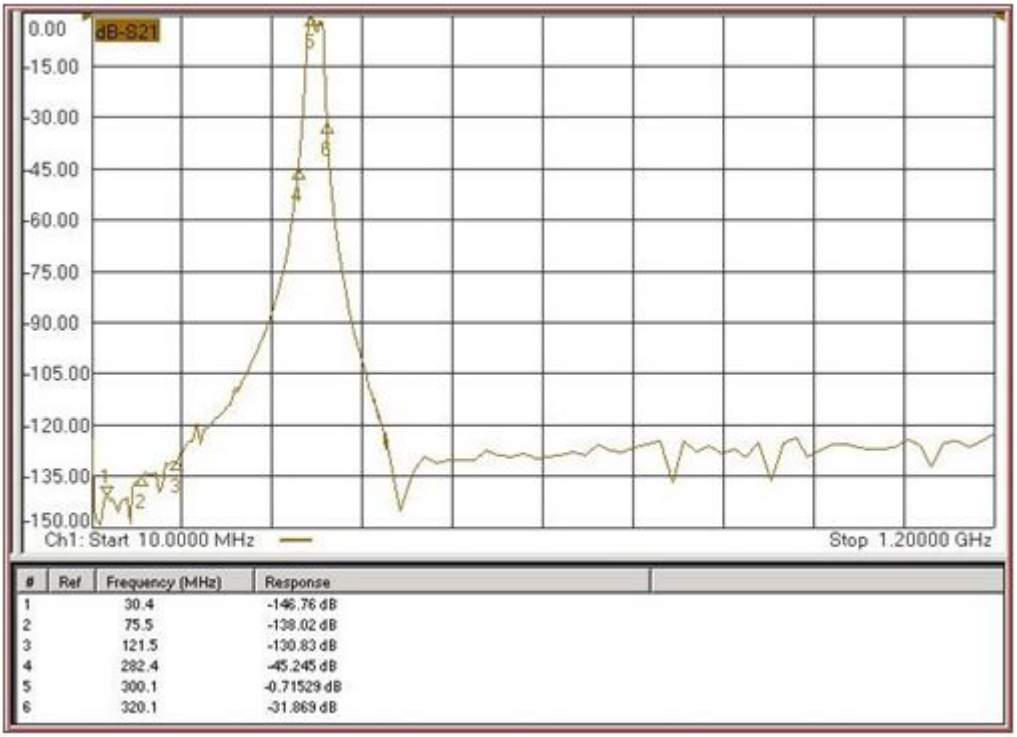
Figure 2.21: 30649 - N / Female-Female Adapter

Figure 2.22: 4241 - N / Male-Male Adapter

Figure 2.23: 30209 - N / Male-Female Right Angle Adapter

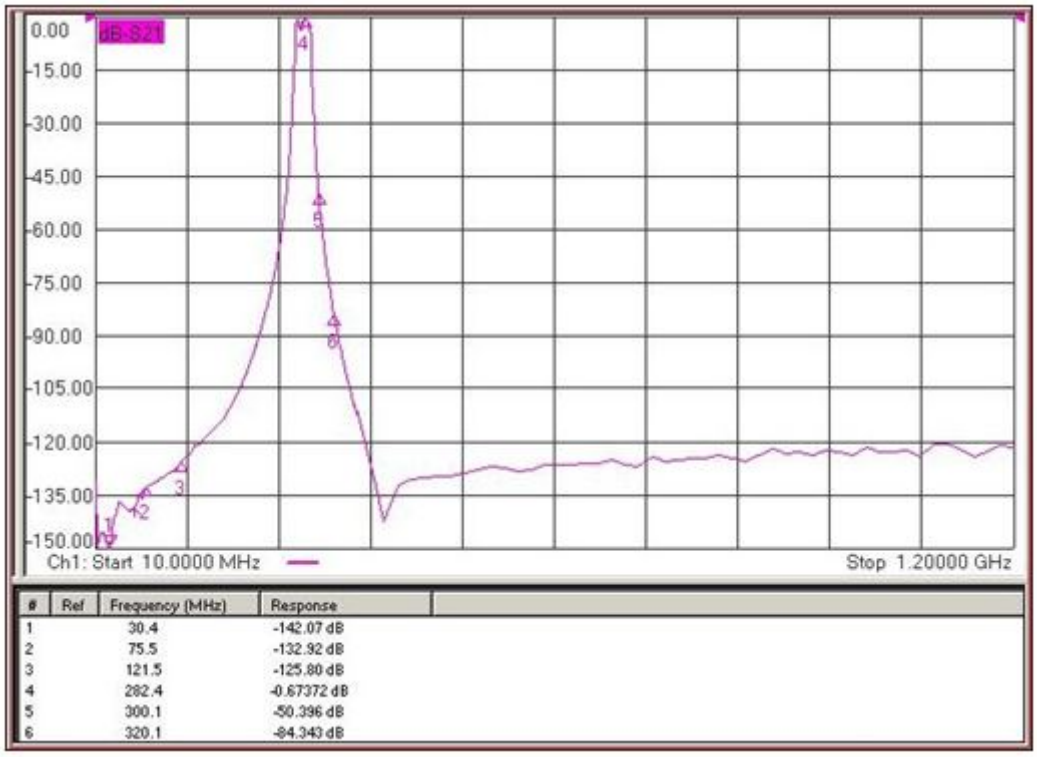
3 Typical Curves

3.1 Bandpass Filters Curves



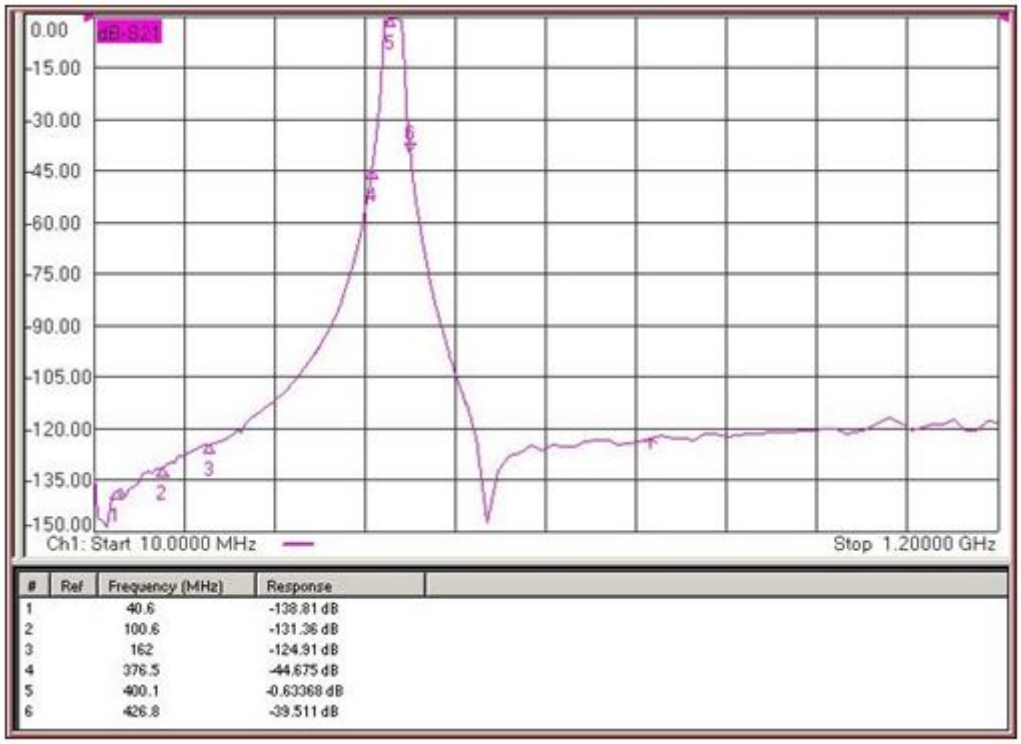
#	Ref	Frequency (MHz)	Response
1		30.4	-146.76 dB
2		75.5	-138.02 dB
3		121.5	-130.83 dB
4		282.4	-45.245 dB
5		300.1	-0.71529 dB
6		320.1	-31.869 dB

Figure 3.1: W1346239 - Filter HQ 300 ^{1}H BP (-^{31}P, ^{19}F)



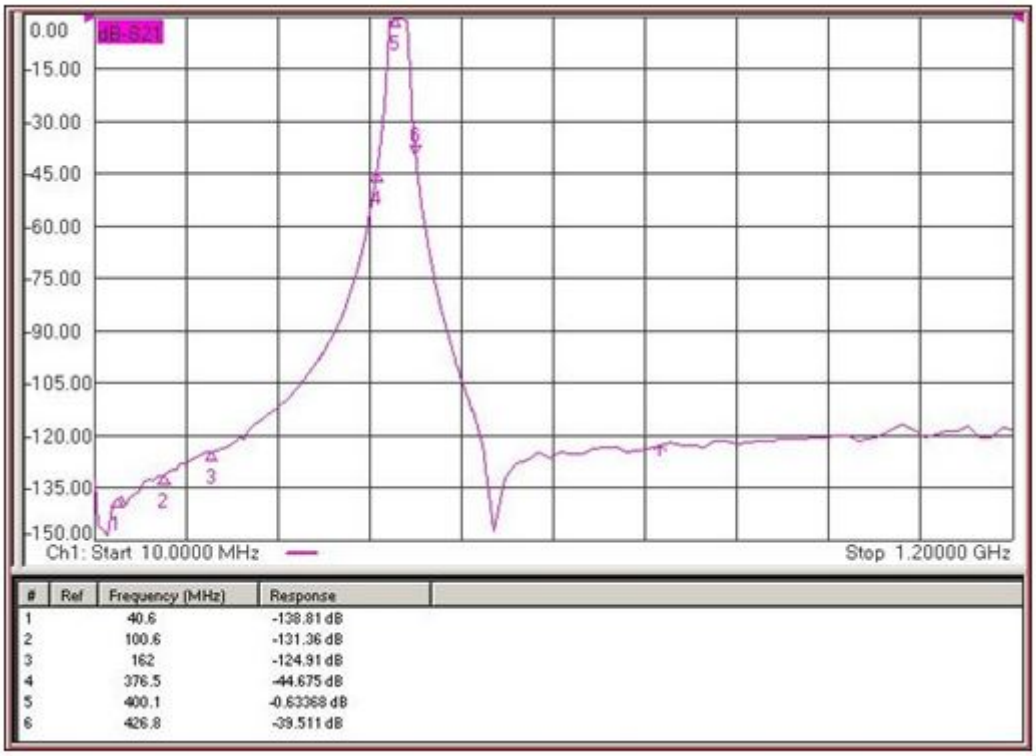
#	Ref	Frequency (MHz)	Response
1		30.4	-142.07 dB
2		75.5	-132.92 dB
3		121.5	-125.80 dB
4		282.4	-0.67372 dB
5		300.1	-50.396 dB
6		320.1	-84.343 dB

Figure 3.2: W1346249 - Filter HQ 300 ^{19}F BP (-^{31}P, ^{1}H)



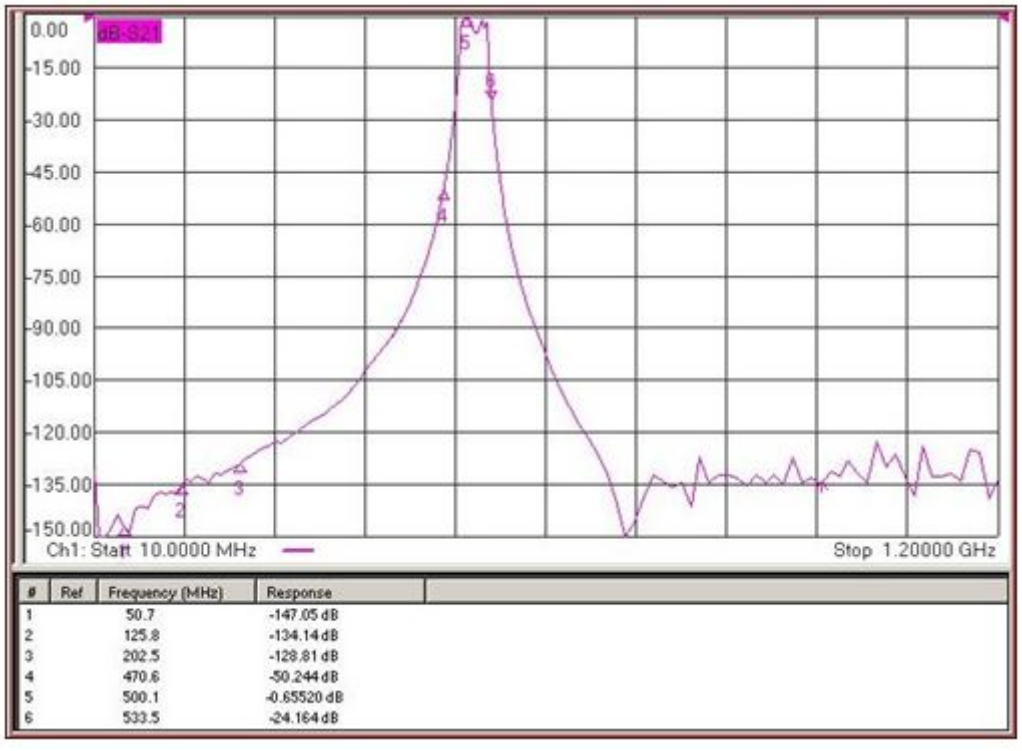
#	Ref	Frequency (MHz)	Response
1		40.6	-138.81 dB
2		100.6	-131.36 dB
3		162	-124.91 dB
4		376.5	-44.675 dB
5		400.1	-0.63368 dB
6		426.8	-39.511 dB

Figure 3.3: W1346240 - Filter HQ 400 ^{1}H BP (-^{31}P, ^{19}F)



#	Ref	Frequency (MHz)	Response
1		40.6	-138.81 dB
2		100.6	-131.36 dB
3		162	-124.91 dB
4		376.5	-44.675 dB
5		400.1	-0.63368 dB
6		426.8	-39.511 dB

Figure 3.4: W1346250 - Filter HQ 400 ^{19}F BP (-^{31}P, ^{1}H)



#	Ref	Frequency (MHz)	Response
1		50.7	-147.05 dB
2		125.8	-134.14 dB
3		202.5	-128.81 dB
4		470.6	-50.244 dB
5		500.1	-0.65520 dB
6		533.5	-24.164 dB

Figure 3.5: W1346223 - Filter HQ 500 ^{1}H BP(-^{31}P, ^{19}F)

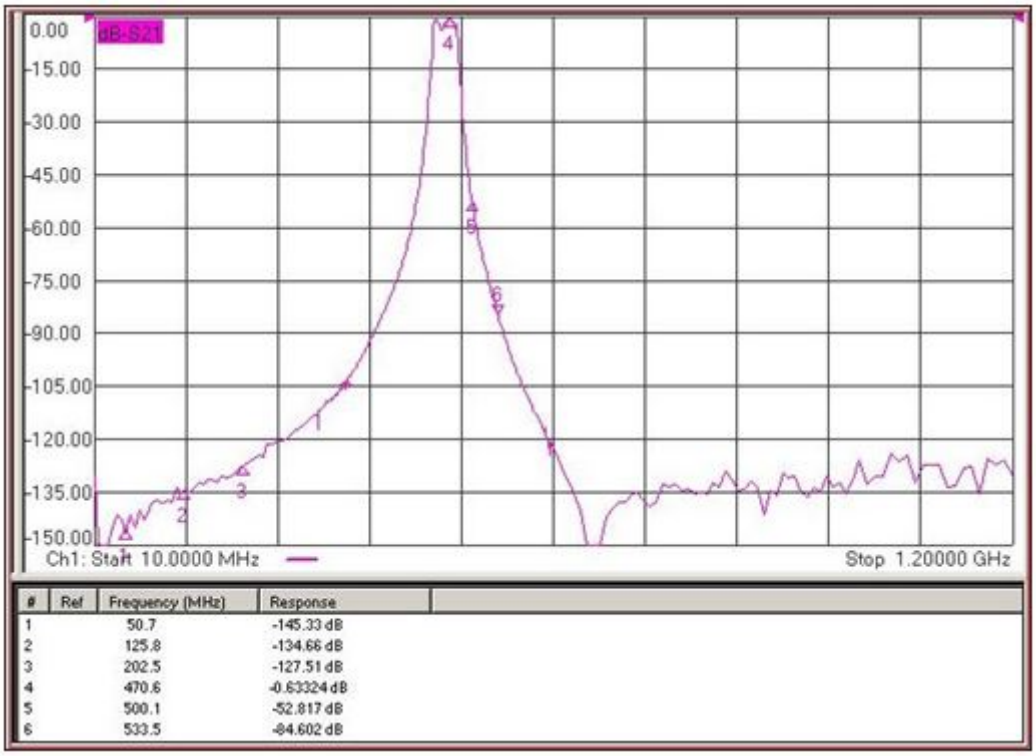


Figure 3.6: W1346251 - Filter HQ 500 ^{19}F BP (-^{31}P, ^{1}H)

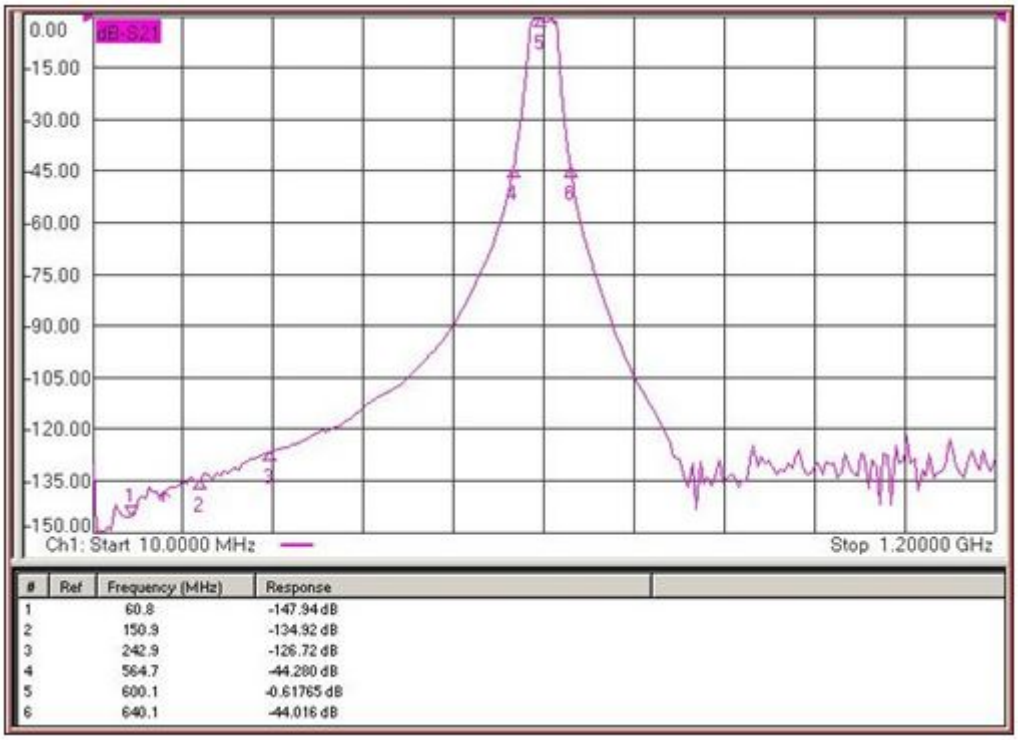


Figure 3.7: W1346241 - Filter HQ 600 ^{1}H BP (-^{31}P, ^{19}F)

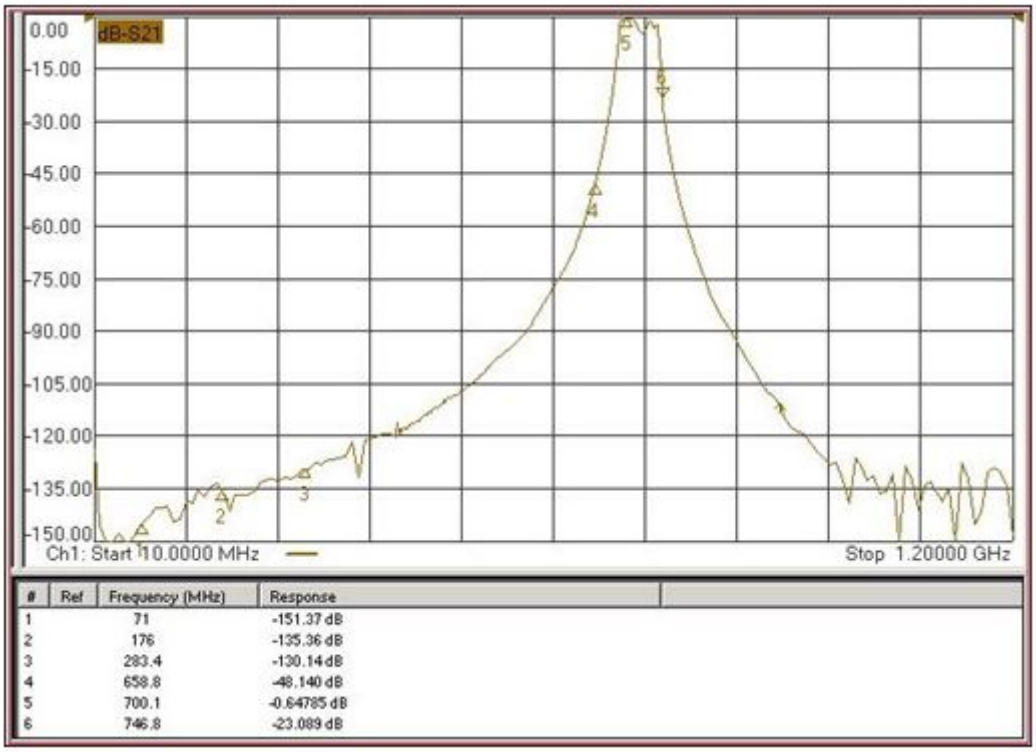


Figure 3.8: W1346296 - Filter HQ 700 ^{1}H BP (-^{31}P, ^{19}F)

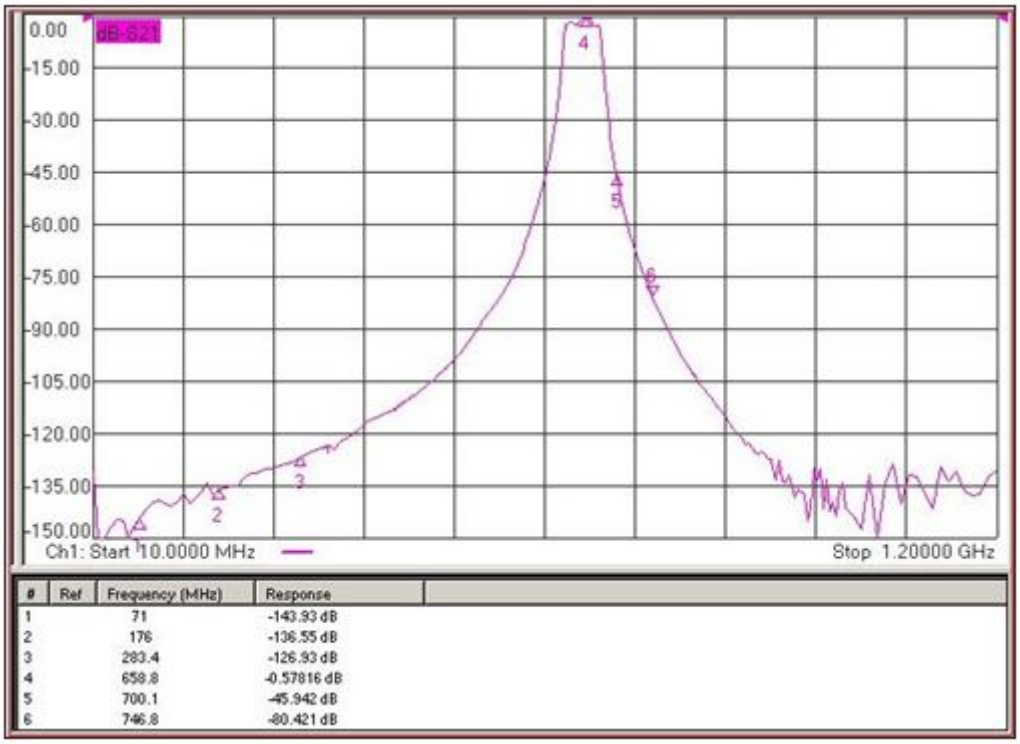


Figure 3.9: W1346300 - Filter HQ 700 ^{19}F BP (-^{31}P, ^{1}H)

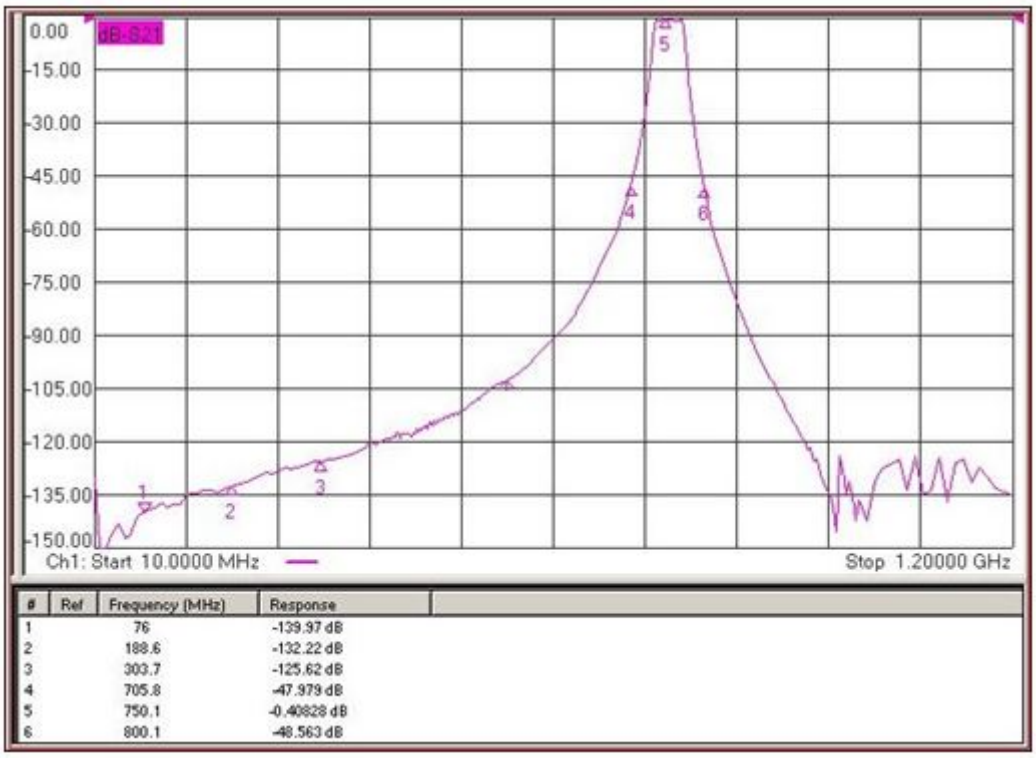


Figure 3.10: W1346297 - Filter HQ 750 ^{1}H BP (-^{31}P, ^{19}F)

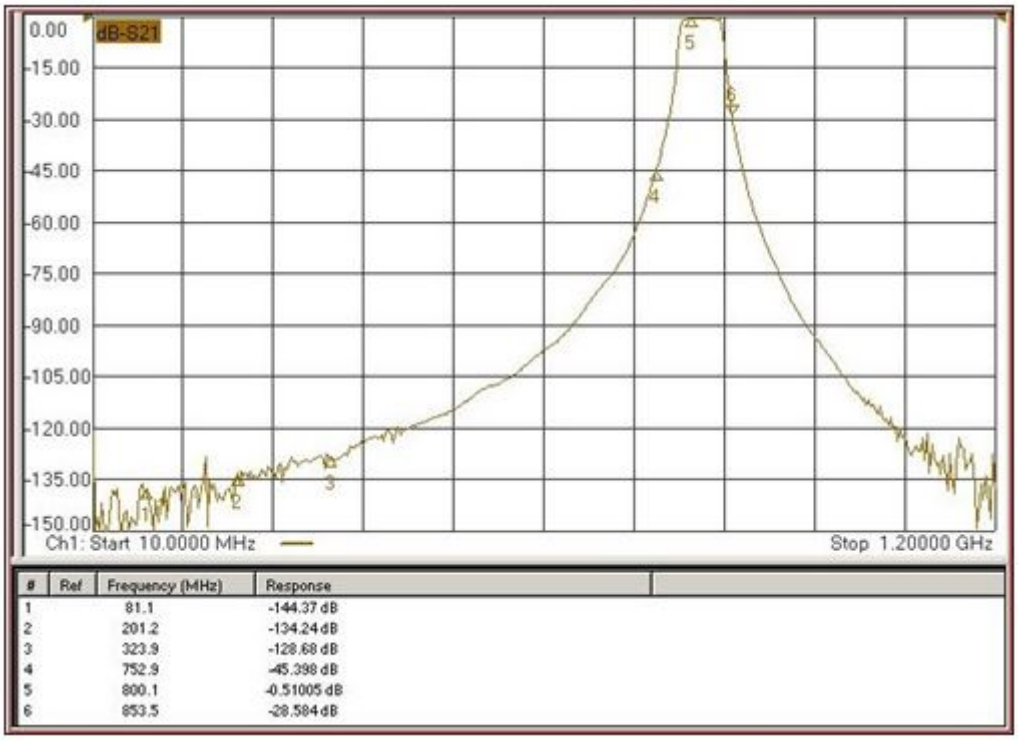


Figure 3.11: W1346298 - Filter HQ 800 ^{1}H BP (-^{31}P, ^{19}F)

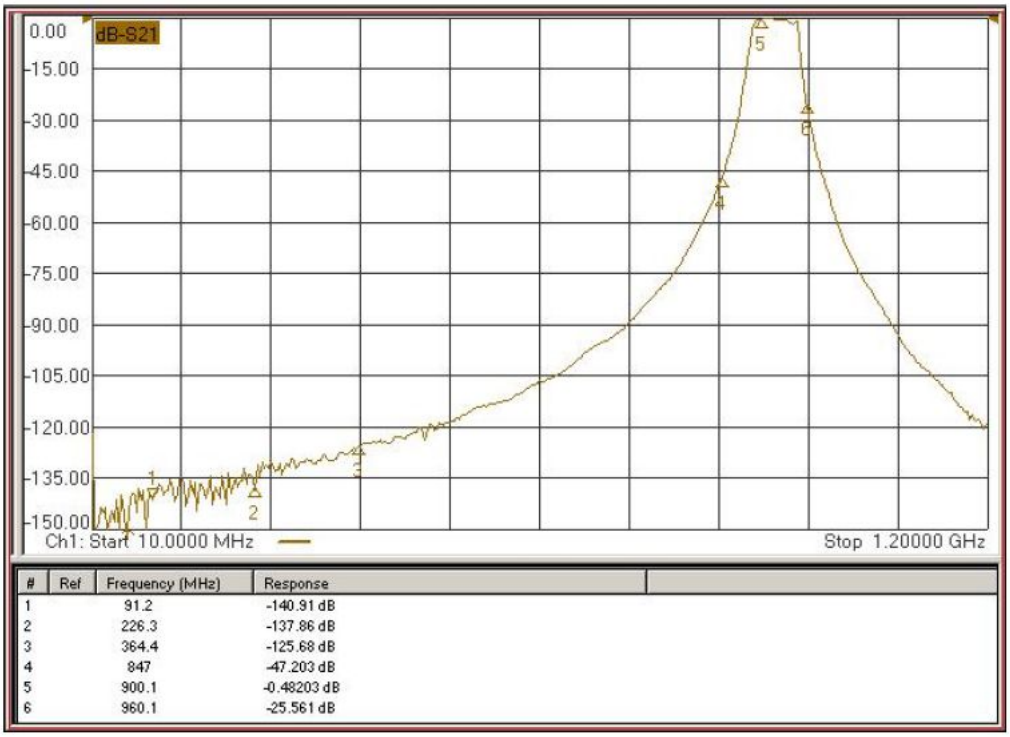


Figure 3.12: W1346299- Filter HQ 900 ^{1}H BP (-^{31}P, ^{19}F)

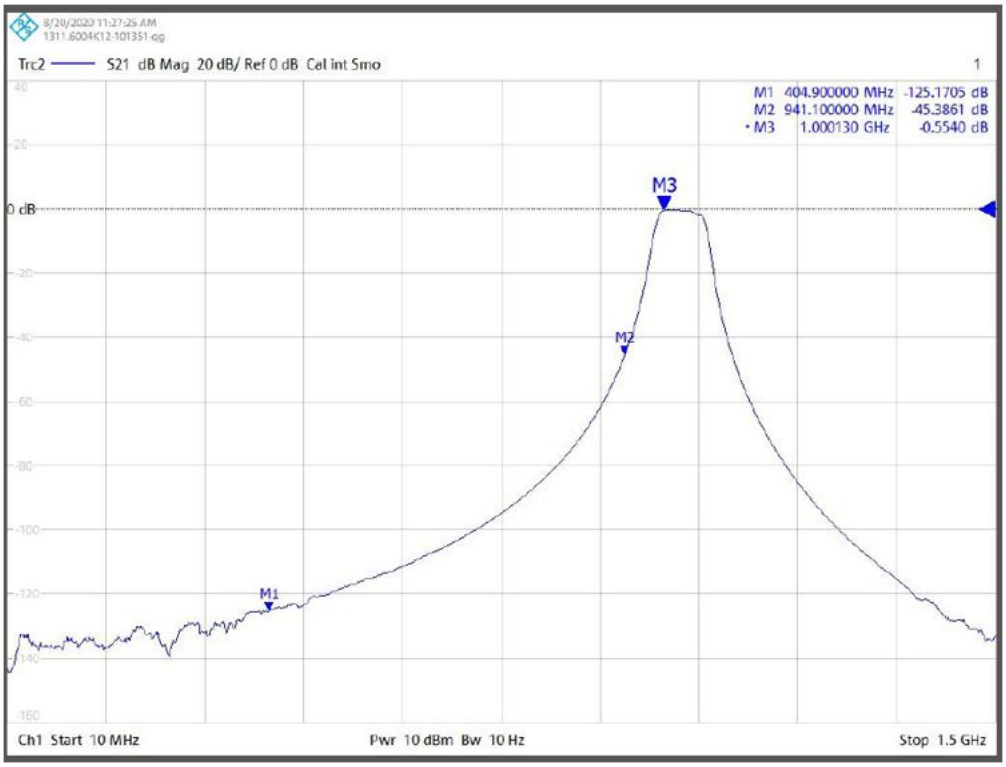


Figure 3.13: Filter HQ 1000 ^{1}H BP (-^{31}P, ^{19}F)

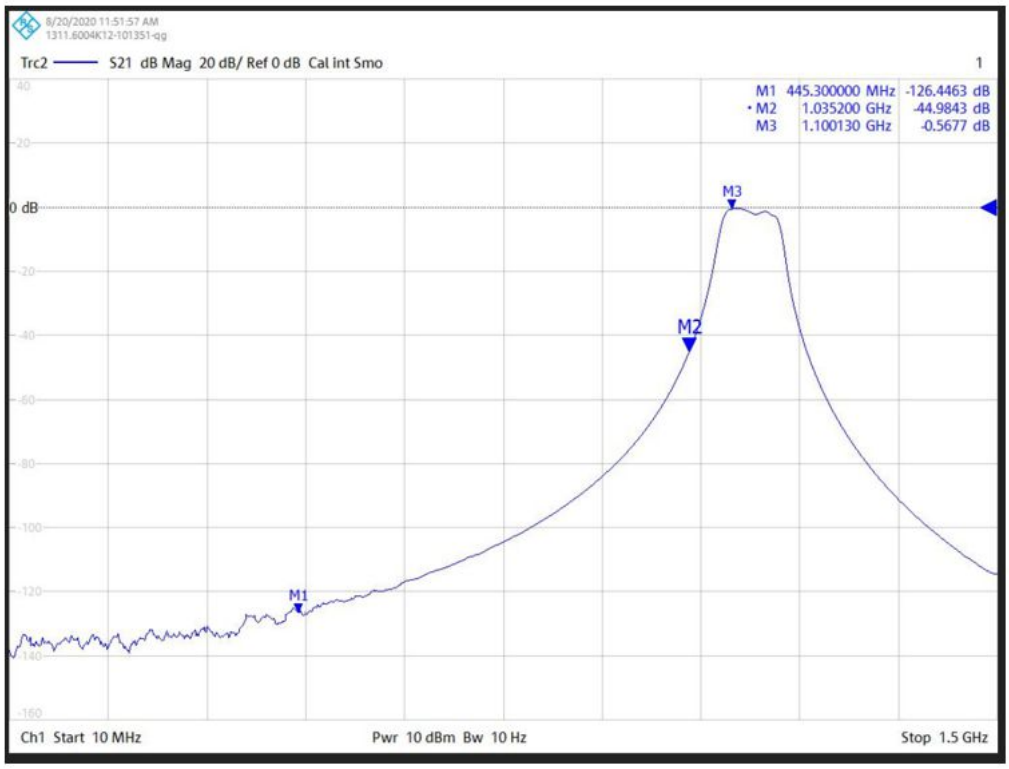


Figure 3.14: Filter HQ 1100 ^{1}H BP (-^{31}P, ^{19}F)

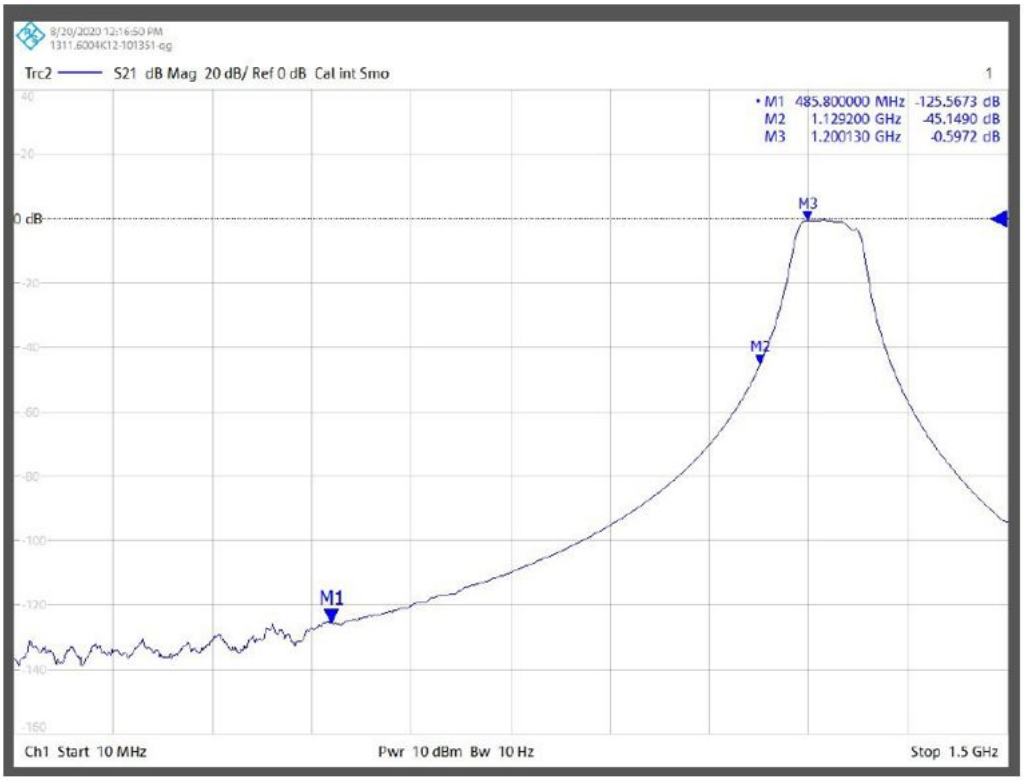


Figure 3.15: Filter HQ 1200 ^{1}H BP (-^{31}P, ^{19}F)

4 Chemicool

4.1 Periodic Table

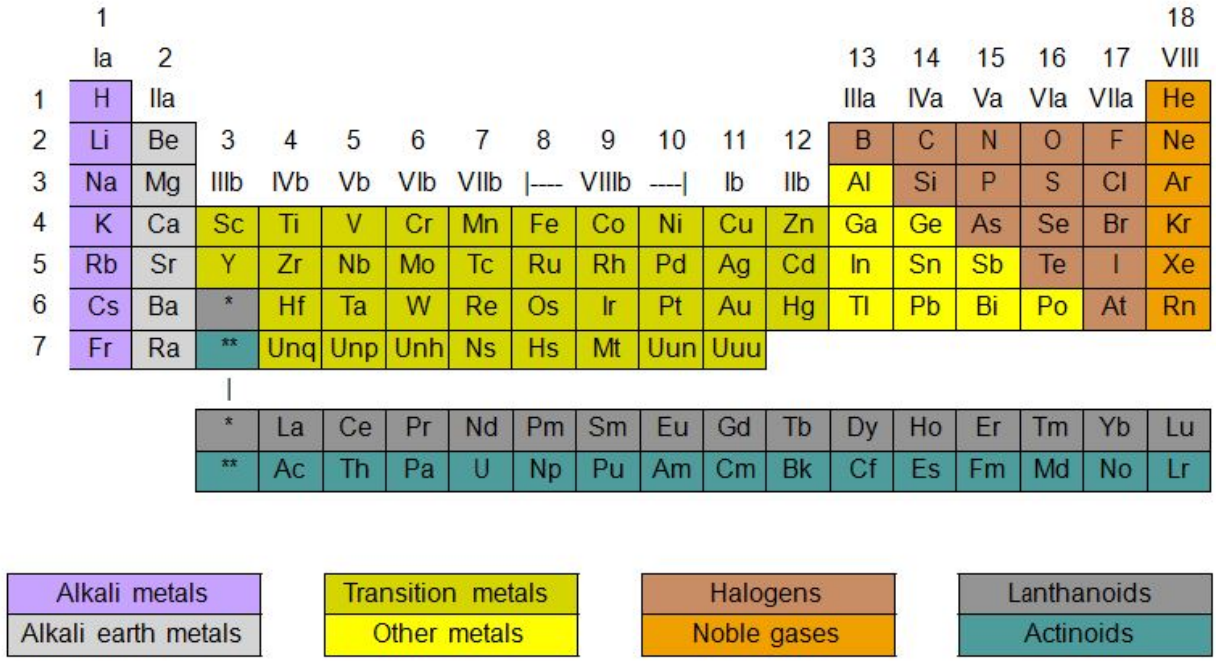


Figure 4.1: Periodic Table of Elements

4.2 NMR Applications Frequencies

4.2.1 NMR Frequency Table

See also

- NMR Frequency Table (1) [▶ 239]
- NMR Frequency Table (2) [▶ 240]

	NMR Field (Tesla)												
Isotope	7,049	9,398	11,747	14,095	16,444	17,619	18,793	19,967	21,142	22,316	23,490	25,840	28,189
^{1}H	**300,130**	**400,130**	**500,130**	**600,130**	**700,130**	**750,130**	**800,130**	**850,130**	**900,130**	**950,130**	**1000,130**	**1100,130**	**1200,130**
^{2}H	46,072	61,423	76,773	92,124	107,475	115,150	122,825	130,501	138,176	145,851	153,527	168,877	184,228
^{3}H	320,131	426,795	533,459	640,123	746,787	800,120	853,452	906,784	960,116	1013,448	1066,780	1173,444	1280,108
^{3}He	228,636	304,815	380,994	457,173	533,352	571,441	609,531	647,620	685,710	723,799	761,889	838,068	914,247
^{6}Li	44,167	58,883	73,599	88,315	103,031	110,389	117,747	125,105	132,463	139,821	147,179	161,895	176,611
^{7}Li	116,642	155,506	194,370	233,233	272,097	291,529	310,961	330,393	349,825	369,257	388,689	427,553	466,416
^{9}Be	42,174	56,226	70,278	84,330	98,382	105,408	112,434	119,460	126,485	133,511	140,537	154,589	168,641
^{10}B	32,245	42,989	53,732	64,476	75,220	80,592	85,963	91,335	96,707	102,079	107,451	118,194	128,938
^{11}B	96,294	128,378	160,462	192,546	224,630	240,672	256,714	272,757	288,799	304,841	320,883	352,967	385,051
^{13}C	75,468	100,613	125,758	150,903	176,048	188,621	201,194	213,766	226,339	238,911	251,484	276,629	301,774
^{14}N	21,688	28,914	36,140	43,367	50,593	54,206	57,819	61,432	65,045	68,658	72,271	79,498	86,724
^{15}N	30,423	40,560	50,696	60,833	70,969	76,038	81,106	86,174	91,243	96,311	101,379	111,516	121,652
^{17}O	40,687	54,243	67,800	81,356	94,913	101,691	108,469	115,248	122,026	128,804	135,582	149,139	162,695
^{19}F	282,404	376,498	470,592	564,686	658,780	705,827	752,873	799,920	846,967	894,014	941,061	1035,155	1129,249
^{21}Ne	23,693	31,587	39,481	47,376	55,270	59,217	63,164	67,111	71,058	75,006	78,953	86,847	94,741
^{23}Na	79,390	105,842	132,294	158,746	185,197	198,423	211,649	224,875	238,101	251,327	264,553	291,005	317,457
^{25}Mg	18,373	24,495	30,616	36,738	42,860	45,921	48,981	52,042	55,103	58,164	61,225	67,346	73,468
^{27}Al	78,204	104,261	130,317	156,374	182,431	195,459	208,488	221,516	234,544	247,573	260,601	286,658	312,714
^{29}Si	59,627	79,494	99,361	119,228	139,095	149,029	158,962	168,896	178,829	188,763	198,696	218,563	238,431
^{31}P	121,495	161,976	202,457	242,937	283,418	303,659	323,899	344,139	364,380	384,620	404,861	445,341	485,822
^{33}S	23,038	30,714	38,390	46,066	53,742	57,580	61,418	65,256	69,094	72,932	76,770	84,446	92,122
^{35}Cl	29,406	39,204	49,002	58,799	68,597	73,496	78,395	83,294	88,193	93,091	97,990	107,788	117,586
^{37}Cl	24,478	32,634	40,790	48,945	57,101	61,179	65,257	69,335	73,413	77,491	81,569	89,724	97,880
^{39}K	14,005	18,671	23,338	28,004	32,670	35,003	37,337	39,670	42,003	44,336	46,669	51,335	56,002
^{41}K	7,687	10,248	12,809	15,371	17,932	19,213	20,493	21,774	23,054	24,335	25,616	28,177	30,738
^{43}Ca	20,199	26,929	33,659	40,389	47,119	50,484	53,849	57,214	60,580	63,945	67,310	74,040	80,770
^{45}Sc	72,907	97,199	121,491	145,782	170,074	182,220	194,366	206,512	218,658	230,804	242,950	267,241	291,533
^{47}Ti	16,920	22,558	28,195	33,833	39,470	42,289	45,108	47,927	50,745	53,564	56,383	62,020	67,658
^{49}Ti	16,924	22,563	28,202	33,841	39,480	42,299	45,118	47,938	50,757	53,577	56,396	62,035	67,674
^{50}V	29,924	39,894	49,865	59,835	69,805	74,791	79,776	84,761	89,746	94,731	99,716	109,687	119,657
^{51}V	78,943	105,246	131,549	157,852	184,155	197,306	210,458	223,609	236,761	249,912	263,064	289,366	315,669
^{53}Cr	16,965	22,618	28,270	33,923	39,575	42,401	45,228	48,054	50,880	53,707	56,533	62,185	67,838
^{55}Mn	74,400	99,189	123,979	148,768	173,557	185,952	198,346	210,741	223,136	235,530	247,925	272,714	297,503
^{57}Fe	9,718	12,956	16,194	19,432	22,670	24,289	25,908	27,527	29,146	30,765	32,384	35,621	38,859
^{59}Co	71,212	94,939	118,666	142,393	166,120	177,984	189,847	201,711	213,574	225,438	237,301	261,028	284,755
^{61}Ni	26,820	35,756	44,692	53,628	62,565	67,033	71,501	75,969	80,437	84,905	89,373	98,309	107,245
^{63}Cu	79,581	106,097	132,612	159,128	185,643	198,901	212,159	225,416	238,674	251,932	265,190	291,705	318,221
^{65}Cu	85,248	113,652	142,055	170,459	198,863	213,065	227,266	241,468	255,670	269,872	284,074	312,478	340,881
^{67}Zn	18,779	25,036	31,293	37,550	43,807	46,935	50,064	53,192	56,321	59,449	62,578	68,835	75,092
^{69}Ga	72,035	96,036	120,038	144,039	168,040	180,041	192,041	204,042	216,043	228,043	240,044	264,045	288,046
^{71}Ga	91,530	122,027	152,524	183,020	213,517	228,766	244,014	259,262	274,511	289,759	305,007	335,504	366,001
^{73}Ge	10,469	13,957	17,445	20,933	24,422	26,166	27,910	29,654	31,398	33,142	34,886	38,374	41,862
^{75}As	51,390	68,513	85,635	102,758	119,880	128,442	137,003	145,564	154,125	162,687	171,248	188,371	205,493
^{77}Se	57,239	76,310	95,382	114,453	133,525	143,060	152,596	162,132	171,667	181,203	190,739	209,810	228,882
^{79}Br	75,195	100,249	125,303	150,357	175,412	187,939	200,466	212,993	225,520	238,047	250,574	275,628	300,682
^{81}Br	81,055	108,062	135,068	162,075	189,082	202,585	216,088	229,591	243,095	256,598	270,101	297,108	324,115
^{85}Rb	28,977	38,632	48,287	57,941	67,596	72,424	77,251	82,078	86,906	91,733	96,561	106,216	115,870
^{87}Rb	98,204	130,924	163,645	196,365	229,086	245,446	261,806	278,167	294,527	310,887	327,247	359,968	392,688
^{87}Sr	13,007	17,341	21,675	26,008	30,342	32,509	34,676	36,843	39,010	41,177	43,344	47,677	52,011

	NMR Field (Tesla)												
Isotope	7,049	9,398	11,747	14,095	16,444	17,619	18,793	19,967	21,142	22,316	23,490	25,840	28,189
^{89}Y	14,707	19,607	24,507	29,408	34,308	36,758	39,208	41,658	44,108	46,558	49,008	53,909	58,809
^{91}Zr	27,901	37,197	46,494	55,790	65,086	69,734	74,383	79,031	83,679	88,327	92,975	102,271	111,568
^{93}Nb	73,460	97,936	122,412	146,888	171,364	183,602	195,840	208,078	220,316	232,554	244,792	269,268	293,745
^{95}Mo	19,559	26,076	32,593	39,110	45,626	48,885	52,143	55,402	58,660	61,918	65,177	71,694	78,211
^{97}Mo	19,970	26,624	33,278	39,931	46,585	49,912	53,239	56,566	59,893	63,220	66,546	73,200	79,854
^{99}Ru	13,821	18,426	23,031	27,636	32,241	34,544	36,846	39,149	41,451	43,754	46,056	50,661	55,266
^{101}Ru	15,491	20,652	25,814	30,975	36,137	38,717	41,298	43,879	46,460	49,040	51,621	56,782	61,944
^{103}Rh	9,563	12,749	15,936	19,122	22,308	23,901	25,494	27,088	28,681	30,274	31,867	35,053	38,240
^{105}Pd	13,734	18,310	22,886	27,462	32,038	34,326	36,614	38,902	41,190	43,478	45,766	50,342	54,918
^{107}Ag	12,149	16,197	20,245	24,293	28,341	30,365	32,389	34,413	36,436	38,460	40,484	44,532	48,580
^{109}Ag	13,967	18,621	23,274	27,928	32,582	34,908	37,235	39,562	41,889	44,216	46,543	51,196	55,850
^{111}Cd	63,674	84,889	106,105	127,320	148,536	159,144	169,751	180,359	190,967	201,575	212,182	233,398	254,613
^{113}Cd	66,608	88,801	110,994	133,187	155,380	166,477	177,573	188,670	199,766	210,863	221,959	244,152	266,345
^{113}In	65,626	87,492	109,358	131,224	153,089	164,022	174,955	185,888	196,821	207,754	218,687	240,553	262,419
^{115}In	65,766	87,679	109,591	131,504	153,416	164,372	175,329	186,285	197,241	208,197	219,154	241,066	262,979
^{117}Sn	106,943	142,575	178,207	213,840	249,472	267,288	285,104	302,920	320,736	338,552	356,369	392,001	427,633
^{119}Sn	111,920	149,211	186,501	223,792	261,082	279,727	298,373	317,018	335,663	354,308	372,954	410,244	447,535
^{121}Sb	71,823	95,754	119,684	143,615	167,546	179,511	191,476	203,441	215,407	227,372	239,337	263,268	287,199
^{123}Sb	38,894	51,853	64,812	77,771	90,730	97,210	103,689	110,169	116,648	123,128	129,607	142,566	155,525
^{123}Te	78,543	104,713	130,882	157,052	183,222	196,306	209,391	222,476	235,561	248,646	261,731	287,900	314,070
^{125}Te	94,690	126,240	157,789	189,339	220,889	236,663	252,438	268,213	283,988	299,763	315,538	347,087	378,637
^{127}I	60,048	80,055	100,063	120,070	140,077	150,081	160,085	170,088	180,092	190,096	200,099	220,107	240,114
^{129}Xe	83,467	111,277	139,088	166,898	194,708	208,613	222,518	236,424	250,329	264,234	278,139	305,949	333,760
^{131}Xe	24,742	32,986	41,230	49,473	57,717	61,839	65,961	70,083	74,205	78,326	82,448	90,692	98,936
^{133}Cs	39,365	52,481	65,597	78,713	91,829	98,387	104,945	111,503	118,061	124,619	131,177	144,293	157,409
^{135}Ba	29,816	39,750	49,685	59,619	69,553	74,521	79,488	84,455	89,422	94,389	99,357	109,291	119,225
^{137}Ba	33,353	44,466	55,579	66,692	77,804	83,361	88,917	94,474	100,030	105,587	111,143	122,256	133,369
^{138}La	39,600	52,794	65,989	79,183	92,377	98,974	105,571	112,169	118,766	125,363	131,960	145,154	158,349
^{139}La	42,395	56,521	70,646	84,772	98,897	105,960	113,023	120,086	127,148	134,211	141,274	155,399	169,525
^{141}Pr	91,890	122,507	153,123	183,740	214,357	229,665	244,974	260,282	275,590	290,899	306,207	336,824	367,441
^{143}Nd	16,350	21,798	27,245	32,693	38,141	40,864	43,588	46,312	49,036	51,760	54,483	59,931	65,379
^{177}Hf	12,180	16,238	20,296	24,355	28,413	30,442	32,471	34,500	36,529	38,559	40,588	44,646	48,704
^{179}Hf	7,650	10,199	12,748	15,297	17,846	19,120	20,394	21,669	22,943	24,218	25,492	28,041	30,590
^{181}Ta	35,984	47,973	59,963	71,952	83,942	89,937	95,931	101,926	107,921	113,916	119,910	131,900	143,889
^{183}W	12,505	16,672	20,838	25,005	29,171	31,254	33,338	35,421	37,504	39,587	41,671	45,837	50,004
^{185}Re	67,603	90,128	112,652	135,177	157,701	168,964	180,226	191,488	202,750	214,013	225,275	247,800	270,324
^{187}Re	68,284	91,035	113,787	136,538	159,290	170,666	182,041	193,417	204,793	216,169	227,544	250,296	273,047
^{189}Os	23,306	31,071	38,837	46,602	54,367	58,250	62,133	66,015	69,898	73,780	77,663	85,428	93,194
^{191}Ir	5,400	7,199	8,998	10,798	12,597	13,496	14,396	15,296	16,195	17,095	17,995	19,794	21,593
^{193}Ir	5,860	7,812	9,765	11,717	13,670	14,646	15,622	16,599	17,575	18,551	19,527	21,480	23,432
^{195}Pt	64,518	86,015	107,511	129,008	150,505	161,253	172,001	182,750	193,498	204,246	214,995	236,491	257,988
^{197}Au	5,310	7,079	8,848	10,618	12,387	13,272	14,156	15,041	15,925	16,810	17,695	19,464	21,233
^{199}Hg	53,756	71,667	89,578	107,489	125,400	134,355	143,311	152,266	161,221	170,177	179,132	197,043	214,954
^{201}Hg	19,843	26,454	33,066	39,677	46,289	49,595	52,900	56,206	59,512	62,818	66,123	72,735	79,346
^{203}Ti	171,444	228,567	285,690	342,814	399,937	428,499	457,060	485,622	514,183	542,745	571,307	628,430	685,553
^{205}Ti	173,127	230,811	288,495	346,179	403,863	432,705	461,547	490,389	519,231	548,073	576,915	634,599	692,283
^{207}Pb	62,789	83,710	104,630	125,551	146,471	156,932	167,392	177,852	188,313	198,773	209,233	230,154	251,074
^{209}Bi	48,229	64,298	80,368	96,437	112,506	120,541	128,576	136,611	144,645	152,680	160,715	176,784	192,853
^{235}U	5,527	7,369	9,210	11,052	12,893	13,814	14,735	15,655	16,576	17,497	18,418	20,259	22,101

4.2.2 With increasing NMR Frequency

See also

- With increasing NMR Frequency (1) [▶ 242]
- With increasing NMR Frequency (2) [▶ 243]

	NMR Field (Tesla)												
Isotope	7,049	9,398	11,747	14,095	16,444	17,619	18,793	19,967	21,142	22,316	23,490	25,840	28,189
^{197}Au	5,310	7,079	8,848	10,618	12,387	13,272	14,156	15,041	15,925	16,810	17,695	19,464	21,233
^{191}Ir	5,400	7,199	8,998	10,798	12,597	13,496	14,396	15,296	16,195	17,095	17,995	19,794	21,593
^{235}U	5,527	7,368	9,210	11,052	12,893	13,814	14,735	15,655	16,576	17,497	18,418	20,259	22,101
^{193}Ir	5,860	7,812	9,765	11,717	13,670	14,646	15,622	16,599	17,575	18,551	19,527	21,480	23,432
^{179}Hf	7,650	10,199	12,748	15,297	17,846	19,120	20,394	21,669	22,943	24,218	25,492	28,041	30,590
^{41}K	7,687	10,248	12,809	15,371	17,932	19,213	20,493	21,774	23,054	24,335	25,616	28,177	30,738
^{103}Rh	9,563	12,749	15,936	19,122	22,308	23,901	25,494	27,088	28,681	30,274	31,867	35,053	38,240
^{57}Fe	9,718	12,956	16,194	19,432	22,670	24,289	25,908	27,527	29,146	30,765	32,384	35,621	38,859
^{73}Ge	10,469	13,957	17,445	20,933	24,422	26,166	27,910	29,654	31,398	33,142	34,886	38,374	41,862
^{107}Ag	12,149	16,196	20,245	24,293	28,341	30,365	32,389	34,413	36,436	38,460	40,484	44,532	48,580
^{177}Hf	12,180	16,238	20,296	24,355	28,413	30,442	32,471	34,500	36,529	38,559	40,588	44,646	48,704
^{183}W	12,505	16,671	20,838	25,005	29,171	31,254	33,338	35,421	37,504	39,587	41,671	45,837	50,004
^{87}Sr	13,007	17,340	21,675	26,008	30,342	32,509	34,676	36,843	39,010	41,177	43,344	47,677	52,011
^{105}Pd	13,734	18,309	22,886	27,462	32,038	34,326	36,614	38,902	41,190	43,478	45,766	50,342	54,918
^{99}Ru	13,821	18,425	23,031	27,636	32,241	34,544	36,846	39,149	41,451	43,754	46,056	50,661	55,266
^{109}Ag	13,967	18,620	23,274	27,928	32,582	34,908	37,235	39,562	41,889	44,216	46,543	51,196	55,850
^{39}K	14,005	18,671	23,338	28,004	32,670	35,003	37,337	39,670	42,003	44,336	46,669	51,335	56,002
^{89}Y	14,707	19,607	24,507	29,408	34,308	36,758	39,208	41,658	44,108	46,558	49,008	53,909	58,809
^{101}Ru	15,491	20,652	25,814	30,975	36,137	38,717	41,298	43,879	46,460	49,040	51,621	56,782	61,944
^{143}Nd	16,350	21,797	27,245	32,693	38,141	40,864	43,588	46,312	49,036	51,760	54,483	59,931	65,379
^{47}Ti	16,920	22,557	28,195	33,833	39,470	42,289	45,108	47,927	50,745	53,564	56,383	62,020	67,658
^{49}Ti	16,924	22,562	28,202	33,841	39,480	42,299	45,118	47,938	50,757	53,577	56,396	62,035	67,674
^{53}Cr	16,965	22,617	28,270	33,923	39,575	42,401	45,228	48,054	50,880	53,707	56,533	62,185	67,838
^{25}Mg	18,373	24,494	30,616	36,738	42,860	45,921	48,981	52,042	55,103	58,164	61,225	67,346	73,468
^{67}Zn	18,779	25,035	31,293	37,550	43,807	46,935	50,064	53,192	56,321	59,449	62,578	68,835	75,092
^{95}Mo	19,559	26,075	32,593	39,110	45,626	48,885	52,143	55,402	58,660	61,918	65,177	71,694	78,211
^{201}Hg	19,843	26,454	33,066	39,677	46,289	49,595	52,900	56,206	59,512	62,818	66,123	72,735	79,346
^{97}Mo	19,970	26,623	33,278	39,931	46,585	49,912	53,239	56,566	59,893	63,220	66,546	73,200	79,854
^{43}Ca	20,199	26,928	33,659	40,389	47,119	50,484	53,849	57,214	60,580	63,945	67,310	74,040	80,770
^{14}N	21,688	28,913	36,140	43,367	50,593	54,206	57,819	61,432	65,045	68,658	72,271	79,498	86,724
^{33}S	23,038	30,713	38,390	46,066	53,742	57,580	61,418	65,256	69,094	72,932	76,770	84,446	92,122
^{189}Os	23,306	31,070	38,837	46,602	54,367	58,250	62,133	66,015	69,898	73,780	77,663	85,428	93,194
^{21}Ne	23,693	31,586	39,481	47,376	55,270	59,217	63,164	67,111	71,058	75,006	78,953	86,847	94,741
^{37}Cl	24,478	32,633	40,790	48,945	57,101	61,179	65,257	69,335	73,413	77,491	81,569	89,724	97,880
^{131}Xe	24,742	32,985	41,230	49,473	57,717	61,839	65,961	70,083	74,205	78,326	82,448	90,692	98,936
^{61}Ni	26,820	35,755	44,692	53,628	62,565	67,033	71,501	75,969	80,437	84,905	89,373	98,309	107,245
^{91}Zr	27,901	37,196	46,494	55,790	65,086	69,734	74,383	79,031	83,679	88,327	92,975	102,271	111,568
^{85}Rb	28,977	38,631	48,287	57,941	67,596	72,424	77,251	82,078	86,906	91,733	96,561	106,216	115,870
^{35}Cl	29,406	39,202	49,002	58,799	68,597	73,496	78,395	83,294	88,193	93,091	97,990	107,788	117,586
^{135}Ba	29,816	39,749	49,685	59,619	69,553	74,521	79,488	84,455	89,422	94,389	99,357	109,291	119,225
^{50}V	29,924	39,893	49,865	59,835	69,805	74,791	79,776	84,761	89,746	94,731	99,716	109,687	119,657
^{15}N	30,423	40,558	50,696	60,833	70,969	76,038	81,106	86,174	91,243	96,311	101,379	111,516	121,652
^{10}B	32,245	42,987	53,732	64,476	75,220	80,592	85,963	91,335	96,707	102,079	107,451	118,194	128,938
^{137}Ba	33,353	44,464	55,579	66,692	77,804	83,361	88,917	94,474	100,030	105,587	111,143	122,256	133,369
^{181}Ta	35,984	47,972	59,963	71,952	83,942	89,937	95,931	101,926	107,921	113,916	119,910	131,900	143,889
^{123}Sb	38,894	51,851	64,812	77,771	90,730	97,210	103,689	110,169	116,648	123,128	129,607	142,566	155,525
^{133}Cs	39,365	52,479	65,597	78,713	91,829	98,387	104,945	111,503	118,061	124,619	131,177	144,293	157,409
^{138}La	39,600	52,793	65,989	79,183	92,377	98,974	105,571	112,169	118,766	125,363	131,960	145,154	158,349
^{17}O	40,687	54,242	67,800	81,356	94,913	101,691	108,469	115,248	122,026	128,804	135,582	149,139	162,695

	NMR Field (Tesla)												
Isotope	**7,049**	**9,398**	**11,747**	**14,095**	**16,444**	**17,619**	**18,793**	**19,967**	**21,142**	**22,316**	**23,490**	**25,840**	**28,189**
^{9}Be	42,174	56,226	70,278	84,330	98,382	105,408	112,434	119,460	126,485	133,511	140,537	154,589	168,641
^{139}La	42,395	56,521	70,646	84,772	98,897	105,960	113,023	120,086	127,148	134,211	141,274	155,399	169,525
^{6}Li	44,167	58,883	73,599	88,315	103,031	110,389	117,747	125,105	132,463	139,821	147,179	161,895	176,611
^{2}H	46,072	61,423	76,773	92,124	107,475	115,150	122,825	130,501	138,176	145,851	153,527	168,877	184,228
^{209}Bi	48,229	64,298	80,368	96,437	112,506	120,541	128,576	136,611	144,645	152,680	160,715	176,784	192,853
^{75}As	51,390	68,513	85,635	102,758	119,880	128,442	137,003	145,564	154,125	162,687	171,248	188,371	205,493
^{199}Hg	53,756	71,667	89,578	107,489	125,400	134,355	143,311	152,266	161,221	170,177	179,132	197,043	214,954
^{77}Se	57,239	76,310	95,382	114,453	133,525	143,060	152,596	162,132	171,667	181,203	190,739	209,810	228,882
^{29}Si	59,627	79,494	99,361	119,228	139,095	149,029	158,962	168,896	178,829	188,763	198,696	218,563	238,431
^{127}I	60,048	80,055	100,063	120,070	140,077	150,081	160,085	170,088	180,092	190,096	200,099	220,107	240,114
^{207}Pb	62,789	83,710	104,630	125,551	146,471	156,932	167,392	177,852	188,313	198,773	209,233	230,154	251,074
^{111}Cd	63,674	84,889	106,105	127,320	148,536	159,144	169,751	180,359	190,967	201,575	212,182	233,398	254,613
^{195}Pt	64,518	86,015	107,511	129,008	150,505	161,253	172,001	182,750	193,498	204,246	214,995	236,491	257,988
^{113}In	65,626	87,492	109,358	131,224	153,089	164,022	174,955	185,888	196,821	207,754	218,687	240,553	262,419
^{115}In	65,766	87,679	109,591	131,504	153,416	164,372	175,329	186,285	197,241	208,197	219,154	241,066	262,979
^{113}Cd	66,608	88,801	110,994	133,187	155,380	166,477	177,573	188,670	199,766	210,863	221,959	244,152	266,345
^{185}Re	67,603	90,128	112,652	135,177	157,701	168,964	180,226	191,488	202,750	214,013	225,275	247,800	270,324
^{187}Re	68,284	91,035	113,787	136,538	159,290	170,666	182,041	193,417	204,793	216,169	227,544	250,296	273,047
^{59}Co	71,212	94,939	118,666	142,393	166,120	177,984	189,847	201,711	213,574	225,438	237,301	261,028	284,755
^{121}Sb	71,823	95,754	119,684	143,615	167,546	179,511	191,476	203,441	215,407	227,372	239,337	263,268	287,199
^{69}Ga	72,035	96,036	120,038	144,039	168,040	180,041	192,041	204,042	216,043	228,430	240,044	264,045	288,046
^{45}Sc	72,907	97,199	121,491	145,782	170,074	182,220	194,366	206,512	218,658	230,804	242,950	267,241	291,533
^{93}Nb	73,460	97,936	122,412	146,888	171,364	183,602	195,840	208,078	220,316	232,554	244,792	269,268	293,745
^{55}Mn	74,400	99,189	123,979	148,768	173,557	185,952	198,346	210,741	223,136	235,530	247,925	272,714	297,503
^{79}Br	75,195	100,249	125,303	150,357	175,412	187,939	200,466	212,993	225,520	238,047	250,574	275,628	300,682
^{13}C	75,468	100,613	125,758	150,903	176,048	188,621	201,194	213,766	226,339	238,911	251,484	276,629	301,774
^{27}Al	78,204	104,261	130,317	156,374	182,431	195,459	208,488	221,516	234,544	247,573	260,601	286,658	312,714
^{123}Te	78,543	104,713	130,882	157,052	183,222	196,306	209,391	222,476	235,561	248,646	261,731	287,900	314,070
^{51}V	78,943	105,246	131,549	157,852	184,155	197,306	210,458	223,609	236,761	249,912	263,064	289,366	315,669
^{23}Na	79,390	105,842	132,294	158,746	185,197	198,423	211,649	224,875	238,101	251,327	264,553	291,005	317,457
^{63}Cu	79,581	106,097	132,612	159,128	185,643	198,901	212,159	225,416	238,674	251,932	265,190	291,705	318,221
^{81}Br	81,055	108,062	135,068	162,075	189,082	202,585	216,088	229,591	243,095	256,598	270,101	297,108	324,115
^{129}Xe	83,467	111,277	139,088	166,898	194,708	208,613	222,518	236,424	250,329	264,234	278,139	305,949	333,760
^{65}Cu	85,248	113,652	142,055	170,459	198,863	213,065	227,266	241,468	255,670	269,872	284,074	312,478	340,881
^{71}Ga	91,530	122,027	152,524	183,020	213,517	228,766	244,014	259,262	274,511	289,759	305,007	335,504	366,001
^{141}Pr	91,890	122,507	153,123	183,740	214,357	229,665	244,974	260,282	275,590	290,899	306,207	336,824	367,441
^{125}Te	94,690	126,240	157,789	189,339	220,889	236,663	252,438	268,213	283,988	299,763	315,538	347,087	378,637
^{11}B	96,294	128,378	160,462	192,546	224,630	240,672	256,714	272,757	288,799	304,841	320,883	352,967	385,051
^{87}Rb	98,204	130,924	163,645	196,365	229,086	245,446	261,806	278,167	294,527	310,887	327,247	359,968	392,688
^{117}Sn	106,943	142,575	178,207	213,840	249,472	267,288	285,104	302,920	320,736	338,552	356,369	392,001	427,633
^{119}Sn	111,920	149,211	186,501	223,792	261,082	279,727	298,373	317,018	335,663	354,308	372,954	410,244	447,535
^{7}Li	116,642	155,506	194,370	233,233	272,097	291,529	310,961	330,393	349,825	369,257	388,689	427,553	466,416
^{31}P	121,495	161,976	202,457	242,937	283,418	303,659	323,899	344,139	364,380	384,620	404,861	445,341	485,822
^{203}Ti	171,444	228,567	285,690	342,814	399,937	428,499	457,060	485,622	514,183	542,745	571,307	628,430	685,553
^{205}Ti	173,127	230,811	288,495	346,179	403,863	432,705	461,547	490,389	519,231	548,073	576,915	634,599	692,283
^{3}He	228,636	304,815	380,994	457,173	533,352	571,441	609,531	647,620	685,710	723,799	761,889	838,068	914,247
^{19}F	282,404	376,498	470,592	564,686	658,780	705,827	752,873	799,920	846,967	894,014	941,061	1035,155	1129,249
^{1}H	**300,130**	**400,130**	**500,130**	**600,130**	**700,130**	**750,130**	**800,130**	**850,130**	**900,130**	**950,130**	**1000,130**	**1100,130**	**1200,130**
^{3}H	320,131	426,795	533,459	640,123	746,787	800,120	853,452	906,784	960,116	1013,448	1066,780	1173,444	1280,108

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