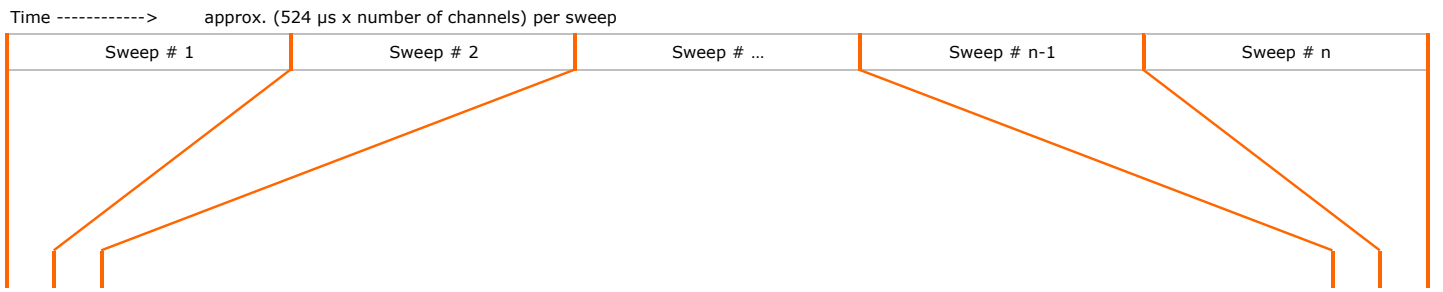


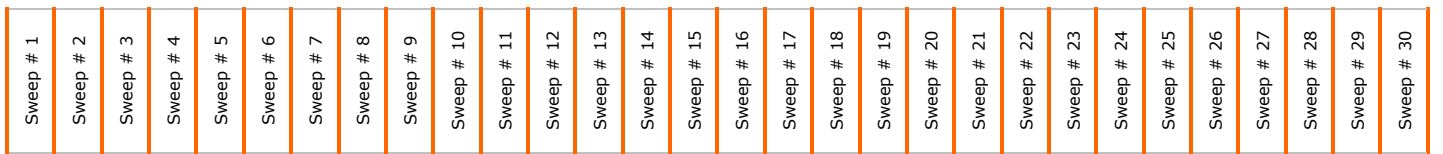
FS-xxx hardware + RSS software, swept frequency spectrograph data is taken this way

f_c (MHz)	Ch #	Raw Data, ADC mV																													
26.000	1	2203	no data	no data	...	no data	no data	2100	no data	no data	...	no data	no data	2817	no data	no data	...	no data	no data	2251	no data	no data	...	no data	no data	2419	no data	no data	...	no data	no data
25.960	2	no data	2316	no data	...	no data	no data	no data	2743	no data	...	no data	no data	no data	2070	no data	...	no data	no data	no data	2468	no data	...	no data	no data	no data	2011	no data	...	no data	no data
25.920	3	no data	no data	2024	...	no data	no data	no data	no data	2207	...	no data	no data	no data	no data	2319	...	no data	no data	no data	no data	2491	...	no data	no data	no data	2951	...	no data	no data	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	
18.040	199	no data	no data	no data	...	2504	no data	no data	no data	...	2779	no data	no data	no data	...	2404	no data	no data	no data	...	2180	no data	no data	no data	...	2679	no data	no data	no data		
18.000	200	no data	no data	no data	...	no data	2460	no data	no data	...	no data	2260	no data	no data	...	no data	2431	no data	no data	...	no data	2643	no data	no data	...	no data	no data	no data	no data		



30 sweeps of spectrograph data is stored this way inside an SPS data file

f_c (MHz)	Ch #	Raw Data, ADC mV																													
26.000	1	2203	2100	2817	2251	2419	1668	1579	1777	1882	2245	1737	1589	1730	1645	1843	2069	1889	2470	2122	1816	1696	1923	1630	1917	1922	2228	2022	1567	2251	2419
25.960	2	2316	2743	2070	2468	2011	2392	1602	2265	2268	1797	2072	1666	2180	2021	2173	1940	2419	1678	2471	2389	2270	2031	2447	1565	1561	2415	1731	2173	2468	2011
25.920	3	2024	2207	2319	2491	2951	1802	1957	1736	2059	2186	1977	1576	1536	1793	2278	2484	2138	2206	1569	2395	1992	2146	2113	2084	1514	1882	2472	2127	2491	2951
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
18.040	199	2504	2779	2404	2180	2679	1910	2846	1951	1877	1540	1839	2079	1588	1756	2448	1727	1955	2111	2103	2154	1814	1661	2202	1741	1860	1897	1910	1528	2180	2679
18.000	200	2460	2260	2431	2643	2243	1866	2207	1761	1781	2366	1820	2425	2291	1607	2371	1761	1788	2424	2457	1508	1854	2015	2293	1707	1690	1679	1943	1838	2643	2243



Data decimation process

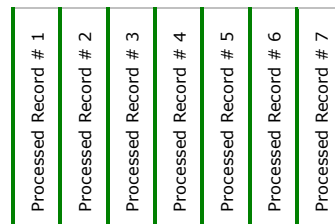
E.g., fit 30 sweeps of data into 7 records for display

f_c (MHz)	Ch #	Mean Values, ADC mV						
26.000	1	2343	1865	1825	1862	2026	1924	2065
25.960	2	2399	2108	1929	2138	2202	2004	2096
25.920	3	2260	2101	1819	2173	2041	1948	2510
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
18.040	199	2467	2253	1762	1972	2046	1872	2074
18.000	200	2449	1972	2226	1882	2061	1877	2167

Each element in the decimated data can represent:
 a) the mean (used in this example) of,
 b) the median of,
 c) any other desired function of $N[Z]$ elements in the original data.

Z = processed record number ----->

S = number of sweeps in data = 30
 A = number of records desired in processed data = 7
 R = S/A = ratio of sweeps to processed records = 30/7



B[Z] = beginning sweep to process = Round[1+(Z-1)*R] ----->
 E[Z] = ending sweep to process = Round[Z*R] ----->
 N[Z] = number of sweeps to process = E[Z] - B[Z] + 1 ----->

Processed Record #	1	2	3	4	5	6	7
B[Z]	1	5	10	14	18	22	27
E[Z]	4	9	13	17	21	26	30
N[Z]	4	5	4	4	4	5	4