Which values do I enter for antenna correction factors on my spectrum analyzer?

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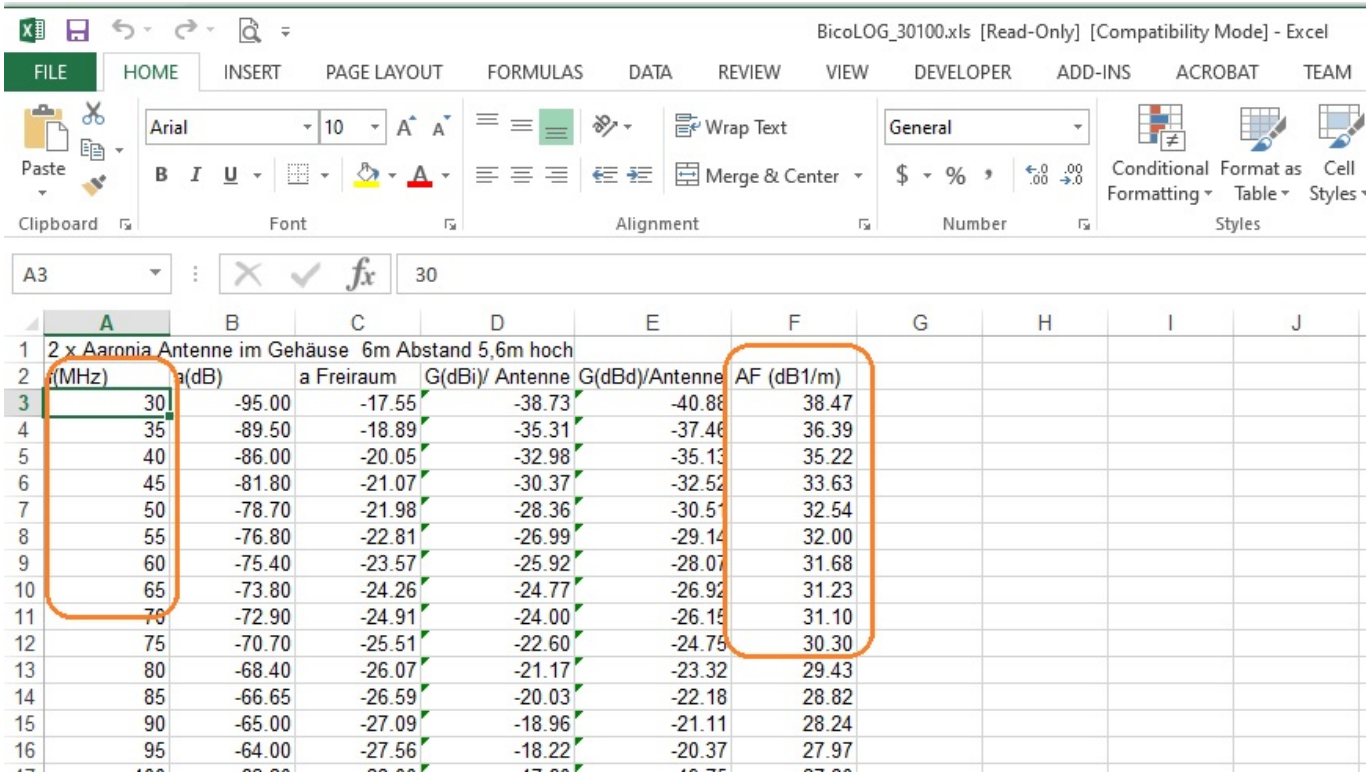
If you have an antenna with calibration data, chances are it includes a number of columns of data. One column should be the frequency being tested. The others can include free-range performance, gain, and more.

Here is an example of antenna correction data from a German antenna manufacturer:



	A	B	C	D	E	F
1	2 x Aaronia Antenne im Gehäuse 6m Abstand 5,6m hoch					
2	(MHz)	(dB)	a Freiraum	G(dBi)/ Antenne	G(dBd)/Antenne	AF (dB1/m)
3	30	-95.00	-17.55	-38.73	-40.88	38.47
4	35	-89.50	-18.89	-35.31	-37.46	36.39
5	40	-86.00	-20.05	-32.98	-35.13	35.22
6	45	-81.80	-21.07	-30.37	-32.52	33.63
7	50	-78.70	-21.98	-28.36	-30.51	32.54
8	55	-76.80	-22.81	-26.99	-29.14	32.00
9	60	-75.40	-23.57	-25.92	-28.07	31.68
10	65	-73.80	-24.26	-24.77	-26.92	31.23
11	70	-72.90	-24.91	-24.00	-26.15	31.10
12	75	-70.70	-25.51	-22.60	-24.75	30.30
13	80	-68.40	-26.07	-21.17	-23.32	29.43
14	85	-66.65	-26.59	-20.03	-22.18	28.82
15	90	-65.00	-27.09	-18.96	-21.11	28.24
16	95	-64.00	-27.56	-18.22	-20.37	27.97

The most useful entry is the AF, or antenna factor data. This data has positive values and typically has units of dB/m (decibels per meter) and can be directly entered into a spectrum analyzers correction table. This data mathematically corrects the incoming data and “removes” the antenna characteristics from the measurement.

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