

## Antenna Trimming – Length vs Effect - for some Amateur Radio Bands

| Ham Band<br>(m) | Nominal<br>Frequency<br>MHz | 1/4 wave length antennas |                               |                                    |                                      | 1/2 wave length antennas |                            |                                    |                                      |
|-----------------|-----------------------------|--------------------------|-------------------------------|------------------------------------|--------------------------------------|--------------------------|----------------------------|------------------------------------|--------------------------------------|
|                 |                             | Length 1/4<br>wave, feet | Length<br>1/4 wave,<br>inches | Effect of<br>trimming<br>1" in Mhz | Effect of<br>trimming<br>1/4" in Mhz | Length 1/2<br>wave, ft   | Length<br>1/2 wave,<br>in. | Effect of<br>trimming<br>1" in Mhz | Effect of<br>trimming<br>1/4" in Mhz |
| 160             | 1.900                       | 123.16                   | 1477.89                       | 0.0013                             | 0.000                                | 246.32                   | 2955.79                    | 0.001                              | 0.000                                |
| 80              | 3.750                       | 62.40                    | 748.80                        | 0.0050                             | 0.001                                | 124.80                   | 1497.60                    | 0.003                              | 0.001                                |
| 60              | 5.358                       | 43.67                    | 524.08                        | 0.0102                             | 0.003                                | 87.35                    | 1048.15                    | 0.005                              | 0.001                                |
| 40              | 7.150                       | 32.73                    | 392.73                        | 0.018                              | 0.005                                | 65.45                    | 785.45                     | 0.009                              | 0.002                                |
| 30              | 10.125                      | 23.11                    | 277.33                        | 0.037                              | 0.009                                | 46.22                    | 554.67                     | 0.018                              | 0.005                                |
| 20              | 14.175                      | 16.51                    | 198.10                        | 0.072                              | 0.018                                | 33.02                    | 396.19                     | 0.036                              | 0.009                                |
| 17              | 18.125                      | 12.91                    | 154.92                        | 0.117                              | 0.03                                 | 25.82                    | 309.85                     | 0.058                              | 0.015                                |
| 15              | 21.225                      | 11.02                    | 132.30                        | 0.160                              | 0.04                                 | 22.05                    | 264.59                     | 0.080                              | 0.02                                 |
| 10              | 28.400                      | 8.24                     | 98.87                         | 0.287                              | 0.07                                 | 16.48                    | 197.75                     | 0.144                              | 0.04                                 |
| 6               | 50.125                      | 4.67                     | 56.02                         | 0.895                              | 0.22                                 | 9.34                     | 112.04                     | 0.447                              | 0.11                                 |
| 6               | 52.000                      | 4.50                     | 54.00                         | 0.963                              | 0.24                                 | 9.00                     | 108.00                     | 0.481                              | 0.12                                 |
| 2               | 146.000                     | 1.60                     | 19.23                         | 7.591                              | 1.90                                 | 3.21                     | 38.47                      | 3.796                              | 0.95                                 |
| 1.25            | 223.000                     | 1.05                     | 12.59                         | 17.710                             | 4.43                                 | 2.10                     | 25.18                      | 8.855                              | 2.21                                 |
| 70 cm           | 445.000                     | 0.53                     | 6.31                          | 70.522                             | 17.63                                | 1.05                     | 12.62                      | 35.261                             | 8.82                                 |
| 23 cm           | 1296.000                    | 0.18                     | 2.17                          | 598.154                            | 149.54                               | 0.36                     | 4.33                       | 299.077                            | 74.77                                |

**VA3DDN**

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Note 1. Lengths calculated based on  $1/2 \lambda = 468/f(\text{mhz})$

Note 2. As always, cut longer and then carefully trim

Note 3. Above provided as guidelines, author is not responsible for problems.