

## ***AGTC\_lite\_V2-01.xls*** ***AGTC\_lite\_V2-01.xlsx***

### **About**

---

The *AGTC\_lite\_V2-01.xlsx* has been written in MS Excel, French vers. 14.0.7173.5000 (32 bits), win 7. An Excel 97 - 2003 version is also available (extension *xls*).

### **Decimal Separator**

---

Using individual regional settings holds the challenge of engaging differing decimal separators, "." or ",". When opening the files with an English version of MS Excel/Windows, the commas must be automatically replaced by dots.

### **Setting antenna tilting angle / alpha, T\_Sky, T\_Earth**

---

The cells that can be edited are:

- M2, the alpha angle (antenna tilting angle) in degrees,
- K8, the Sky Temperature in K,
- L8, the Earth Temperature in K,
- F5 to F65345, which hold the 65,341 values of the FF Tables Tot dB for a step size of 1 degree.

The rest of the working sheet is protected.

In case you wish to edit any other cells: the password is just <Return>.

Be very careful: there are no validity checks on your entries!

The first 4 lines are locked with the Freeze Panes command.

### **Validations**

---

The Average Gain is casted to cell Q10 and is computed for each alpha value.

It must stay constant whatever the alpha value is.

However, if this gain is > 0.999, the T\_Loss (cells N22 or L30) is set to 0 K in order to prevent it from falling into a small negative absolute temperature due to the step 1 degree sampling.

"Local Average Gain" is the average gain computed for the given angle alpha, whereas the common Average Gain is computed at alpha = 0 degree.

Cells Q16 and Q17 must be strictly equal.

If they are it is a kind of validation.

### **How to feed an FFTab file into this MS Excel**

---

Use the *azel\_V1-01.bas* program. It asks you the FFTab file name and the Tot\_dB decimal separator ("mark") you need for your PC: a "dot" or a "comma". Just enter your choice.

The program generates a *.txt* file where each line contains only 1 data: a Tot\_dB value.

These lines are sorted in the right way:

- Azimuth increasing (from 0 to 360 deg.),
- Elevation decreasing (from +90 to -90 deg.).

Open this *.txt* file in Excel, copy cells A1 to A65341 into cells F5 to F65345 of *AGTC\_lite\_V2-01.xlsx* or *AGTC\_lite\_V2-01.xls*.

Remember: there are no validity checks on these entries ...

If for any reason the Tot\_dB decimal separator is not the right one, do the correction as a whole with the classical <Ctrl>F shortcut.

### **Specific Notes on entered numbers and computed results**

---

Then proceed by entering the user specific data for the analysis:

M2 = alpha, K8 = T\_Sky, L8 = T\_Earth

Confirm your entries pressing <Return>.

The results are casted to the dedicated cells as:

Q10: Local Average Gain (/) = numerical  
R10: Local Average Gain (dB)  
N14: max Gain (dBi)

J30: alpha (deg.)  
K30: T\_pattern (K)  
L30: T\_loss (K)  
M30: T\_total (K)  
N30: G/T (dB)

K10: total Sky area (zone)  
L10: total Earth area (zone)  
N10: total area (zone)