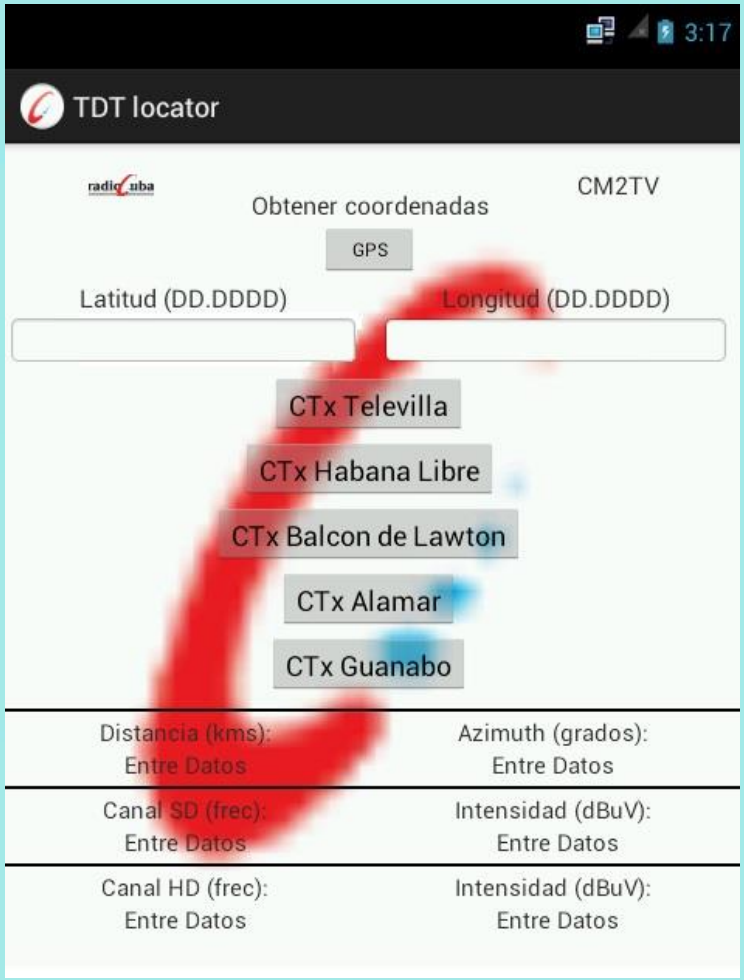


TDT Locator

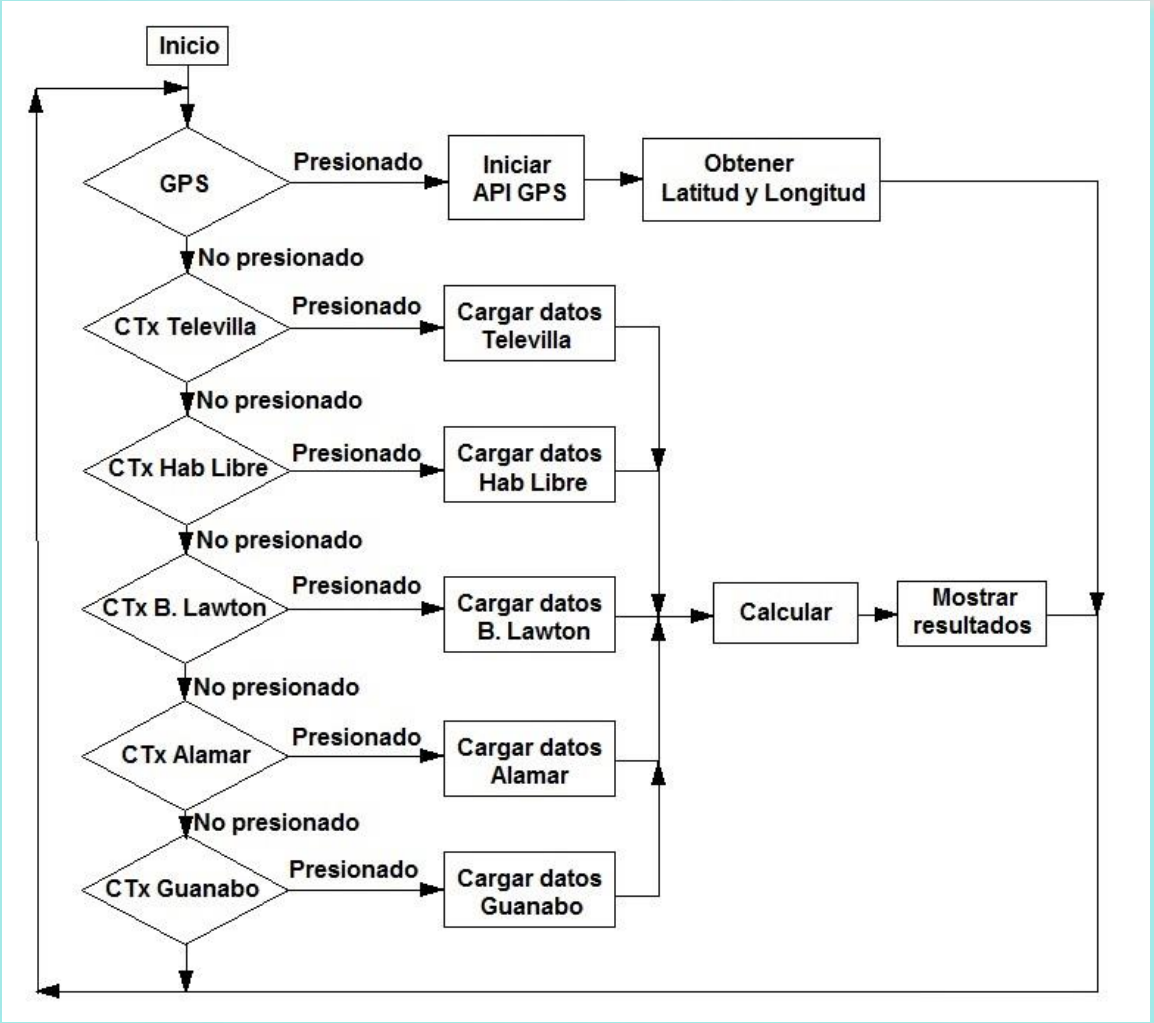
Michel Gómez Pellón
Osmani Mambuca Juan

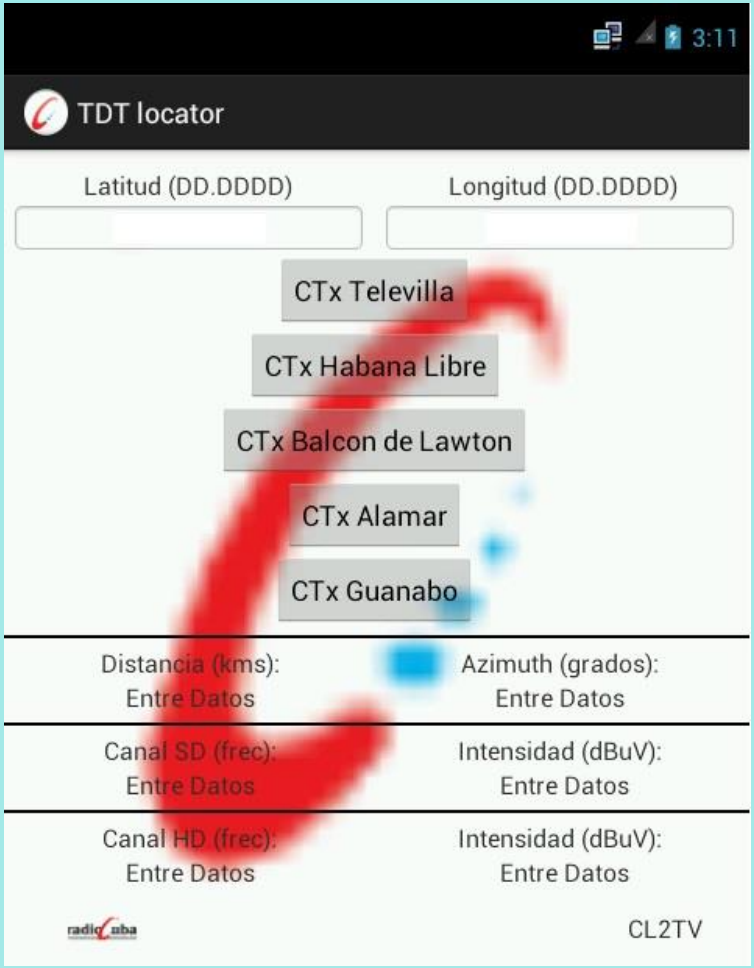
Introducción

It´s necessary to improve the orientation process of TDT's receiving antennas without requiring previous training or knowledge of Radiocuba´s transmitters network. Smartphones have taken to people's pocket a powerful tool with a very high computing capability, that allows to automatize this annoying calculation process.

Eclipse version 22.3.0 for Windows operating system

API14 (Android 4.0 “IceCreamSandwich”

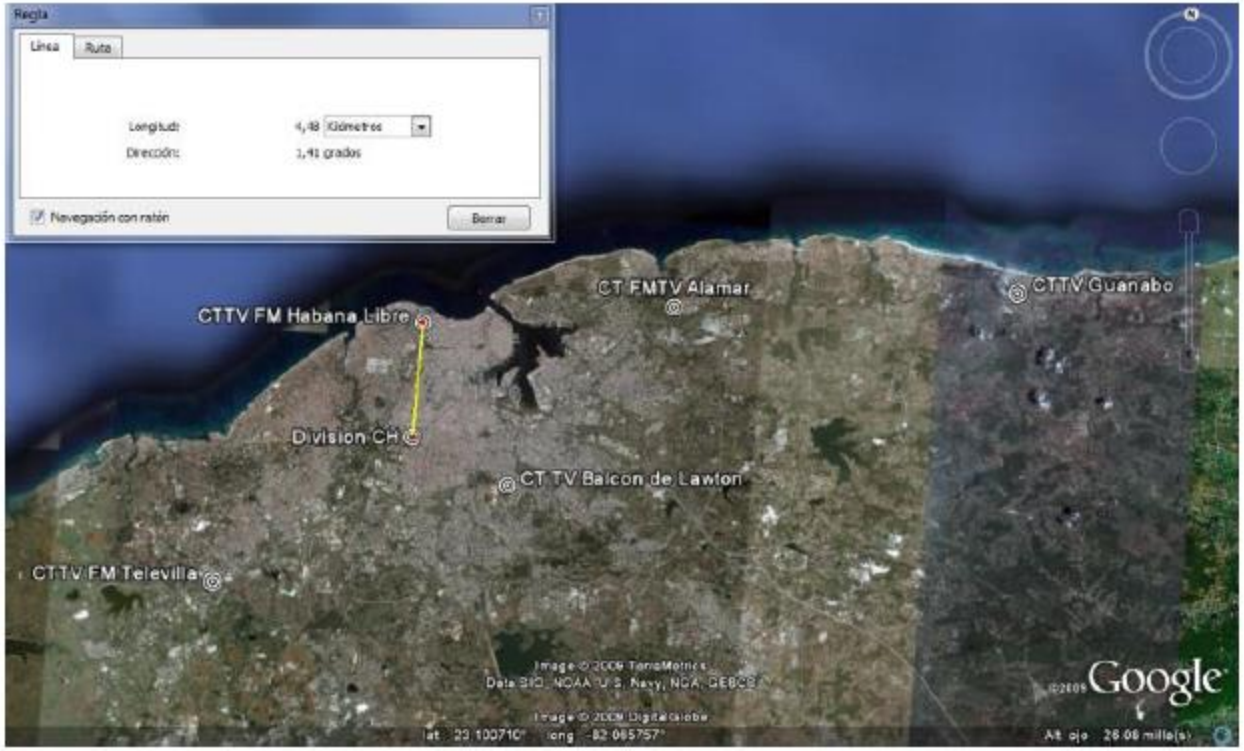


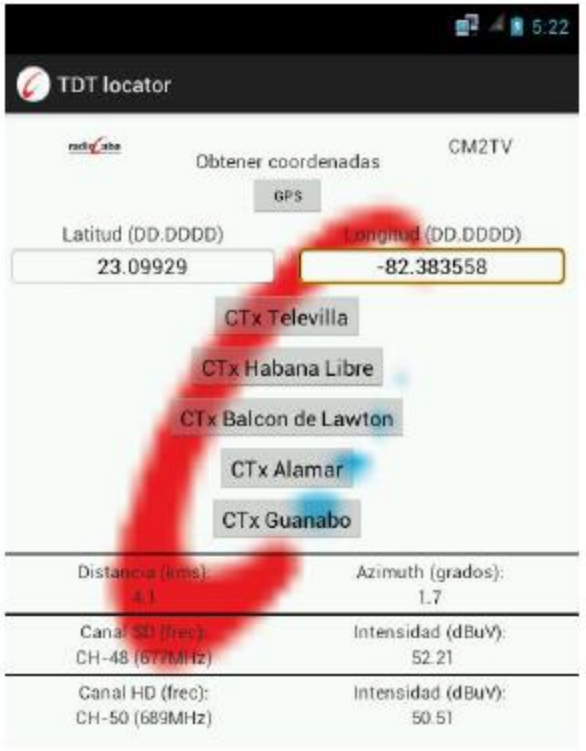


TDT Locator 1.0

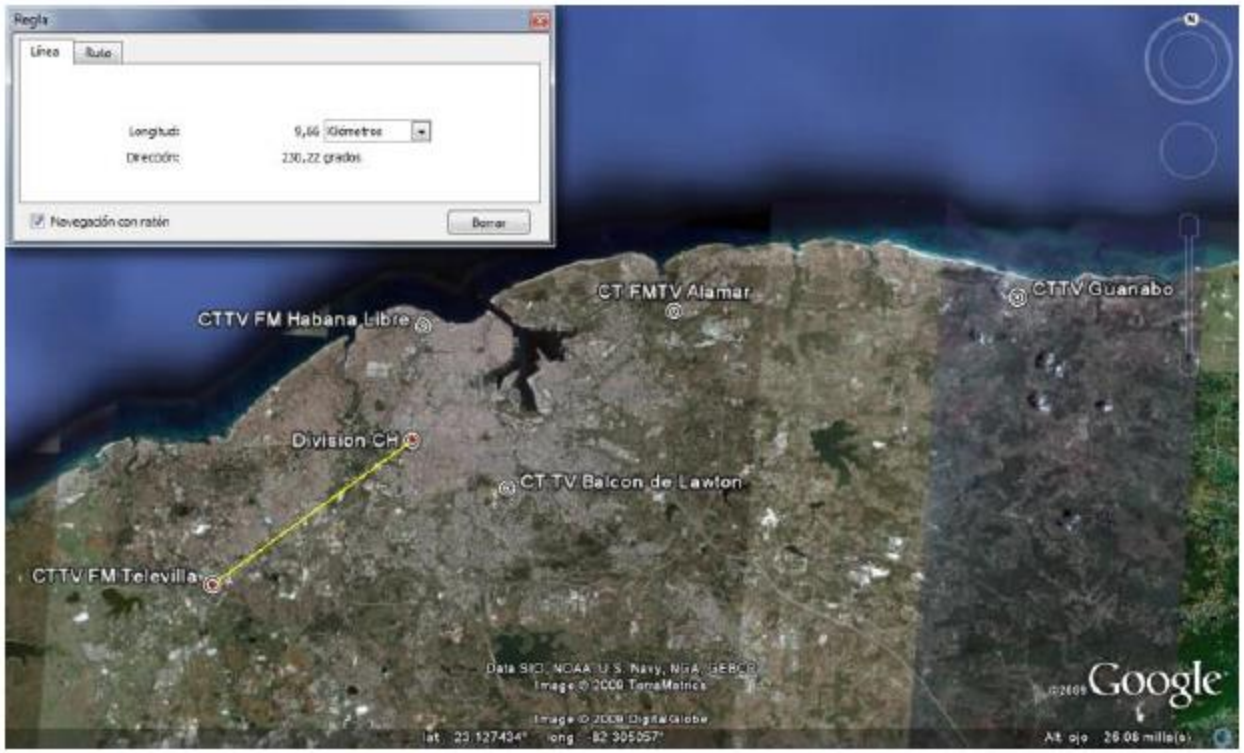
The version 1.0 is a pilot test for the mathematical process used by the application to calculate distance and azimuth to broadcasting sites.

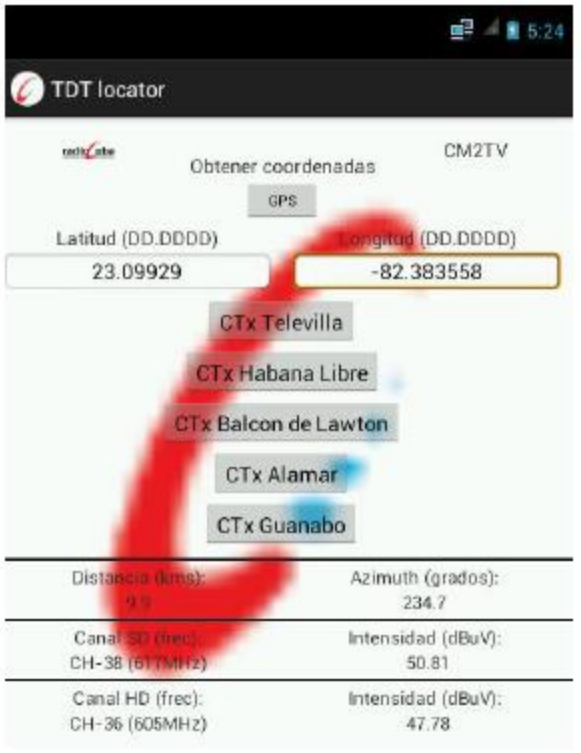
División Radiocuba Ciudad Habana

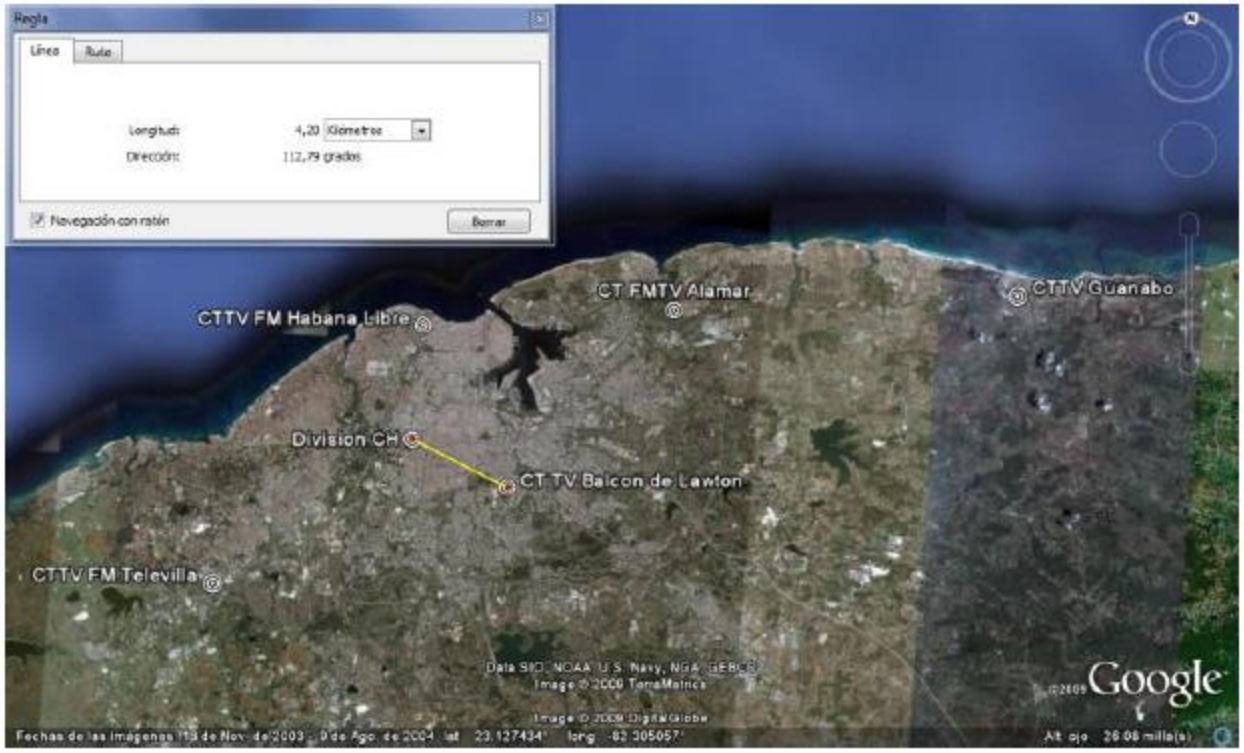


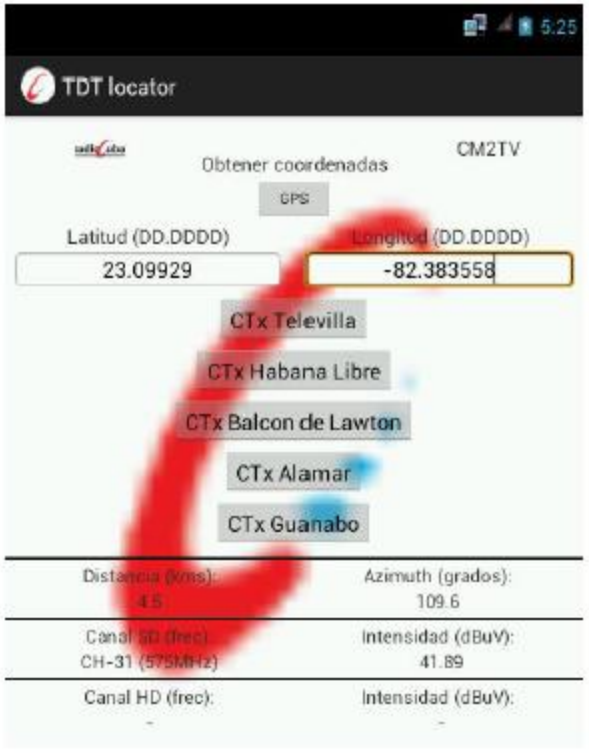


División Radiocuba Ciudad Habana

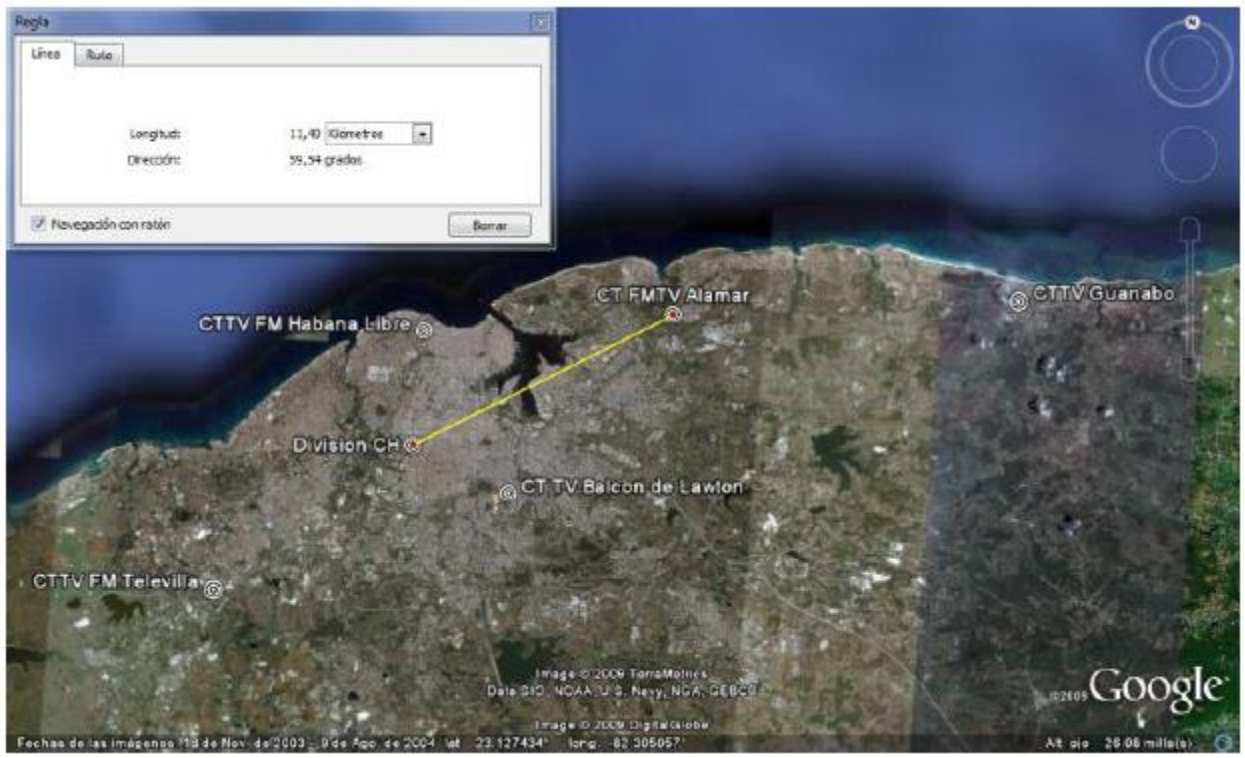




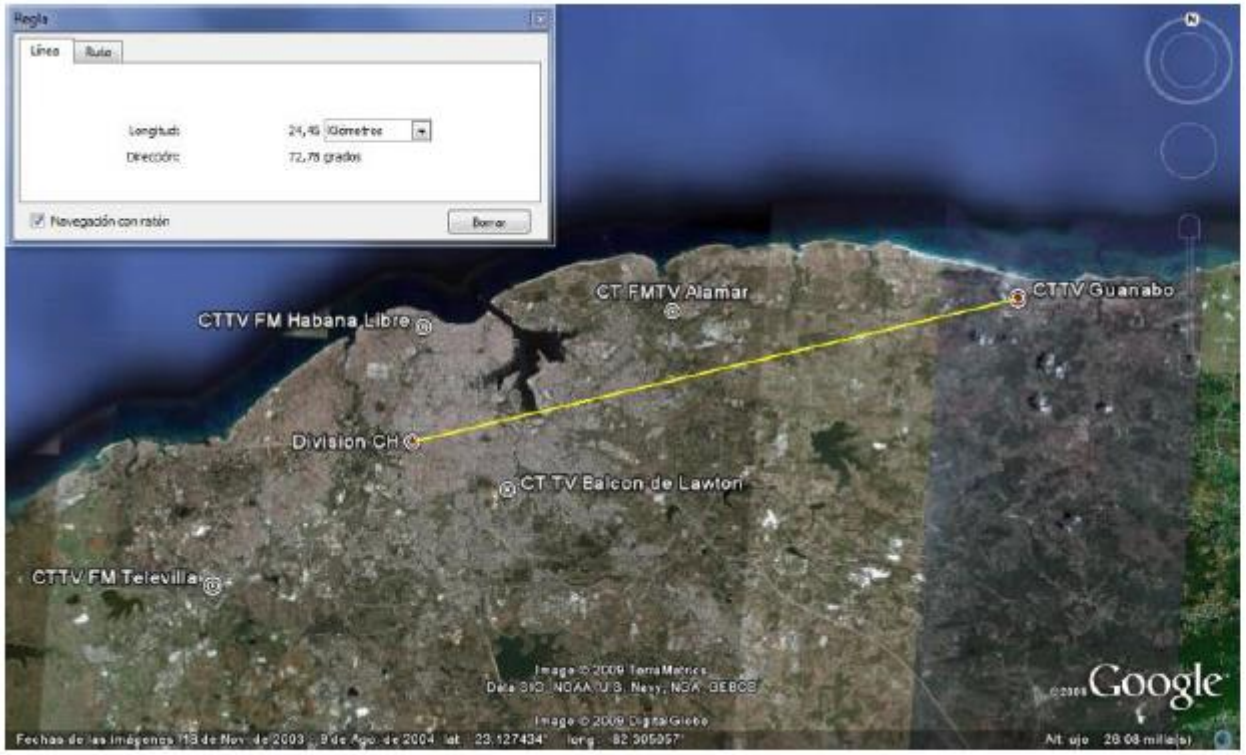

Regla
Línea
Ruta
Longitud:
4,20 Kilometros
Dirección:
112,79 grados
Navegación con ratón
Borrar
CTTV FM Habana Libre
CT FMTV Alamar
CTTV Guanabo
Division CH
CT TV Balcon de Lawton
CTTV FM Televilla
Google

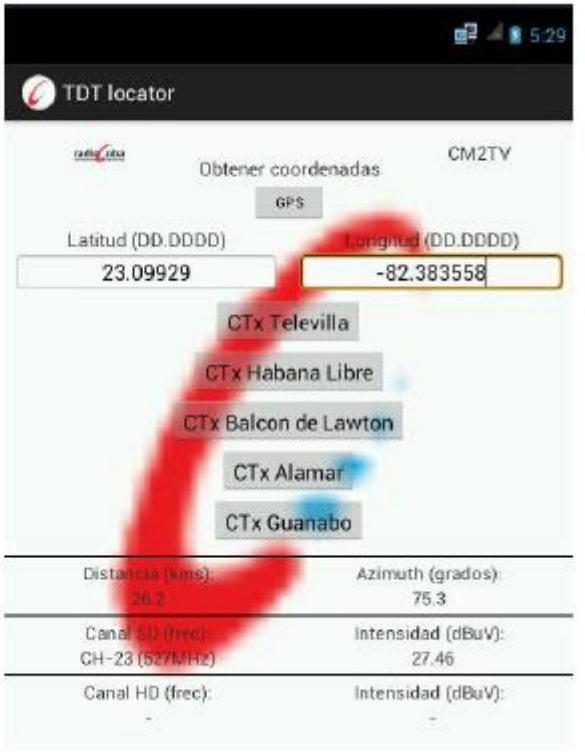

5:25
TDT locator
CM2TV
Obtener coordenadas
GPS
Latitud (DD.DDDD)
Longitud (DD.DDDD)
23.09929
-82.383558
CTx Televilla
CTx Habana Libre
CTx Balcon de Lawton
CTx Alamar
CTx Guanabo
Distancia (kms):
4.5
Azimuth (grados):
109.6
Canal SD (frec):
CH-31 (575MHz)
Intensidad (dBuV):
41.89
Canal HD (frec):
Intensidad (dBuV):

División Radiocuba Ciudad Habana



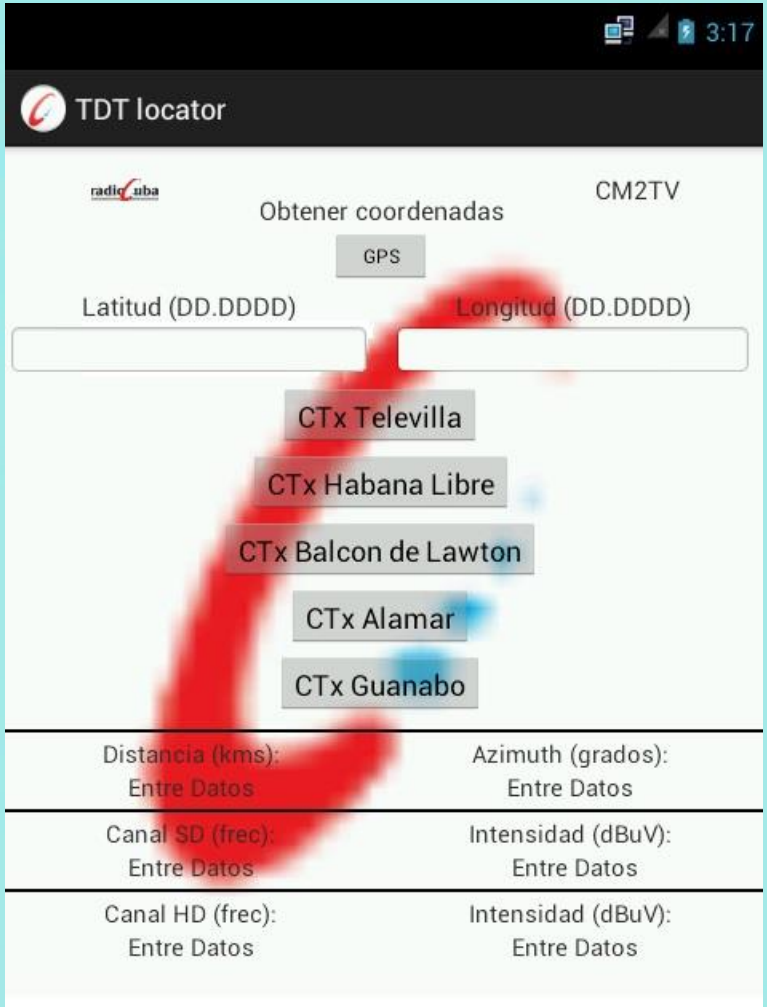
División Radiocuba Ciudad Habana





TDT Locator 1.1

This version includes the possibility of automatic coordinates search, this function works only with smartphones that uses GPS (Global Position Systems) location service.

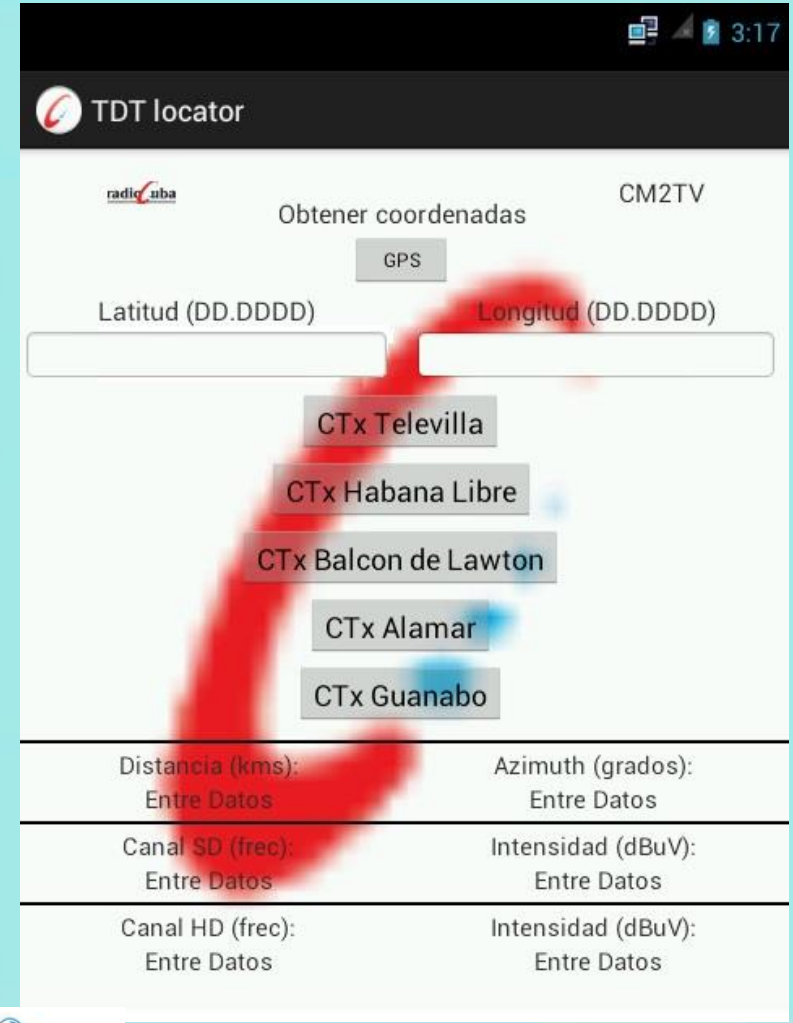


TDT Locator 1.2

1. In this version the graphic interface is rectified.
2. It´s rectified the difference of kilometers that represents one longitude degree in terms of the latitude.
3. Introduces the formula corresponding to the free- space losses.

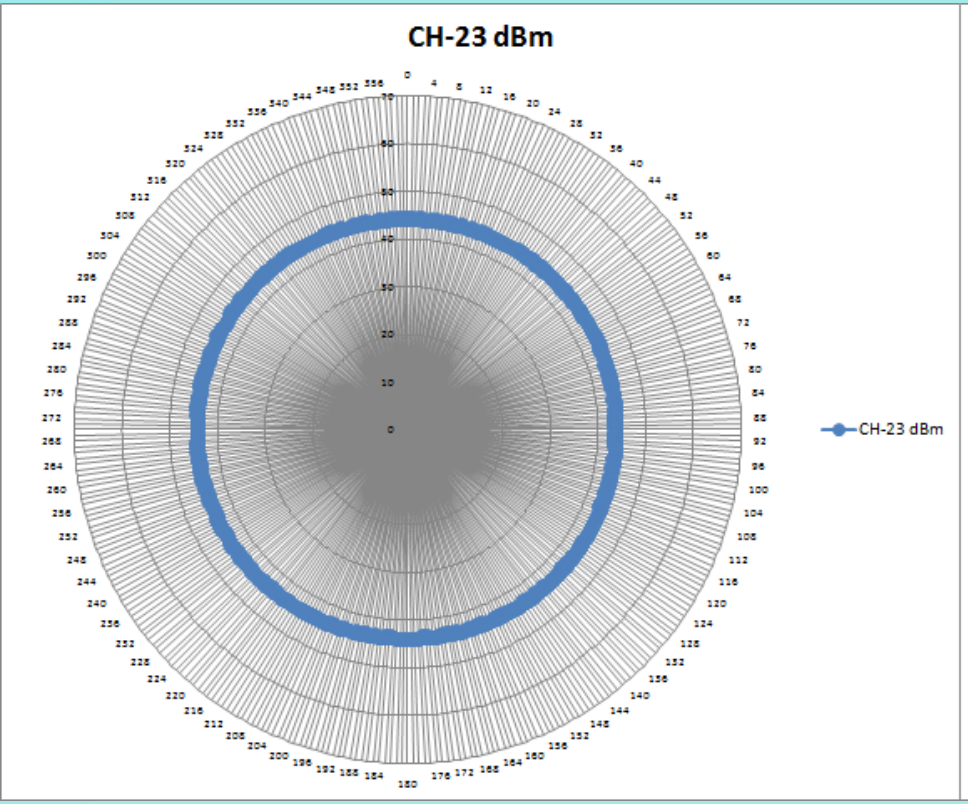
Free- space losses

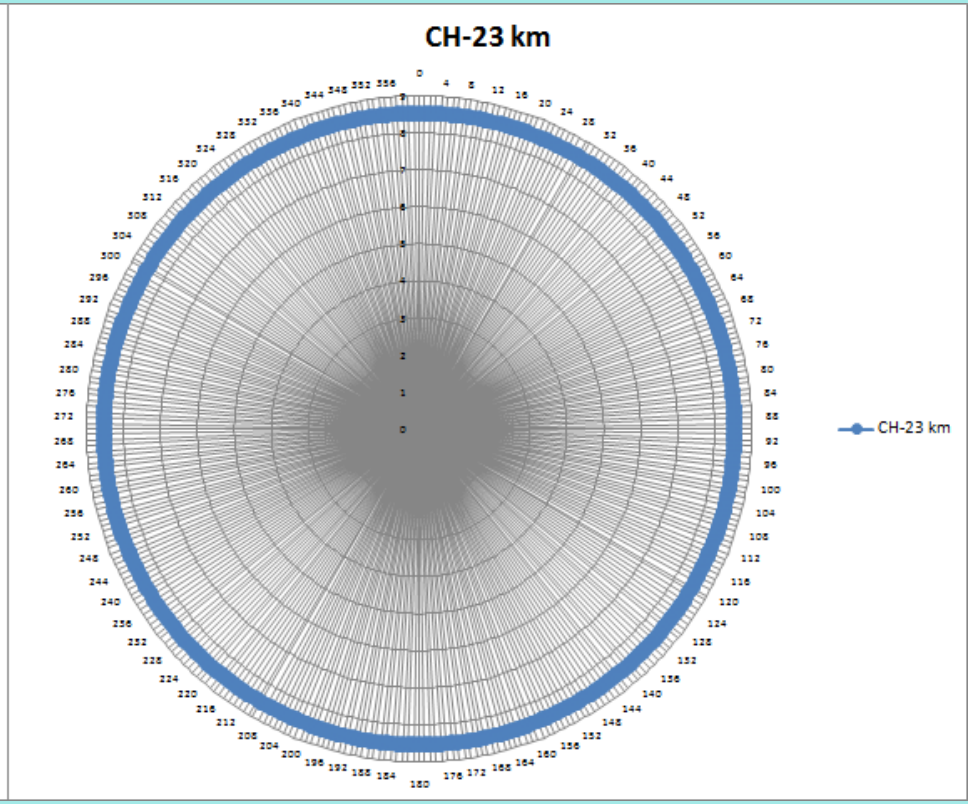
$$L_{fs} = 32.45 + 20*\log(D) + 20*\log(f)$$

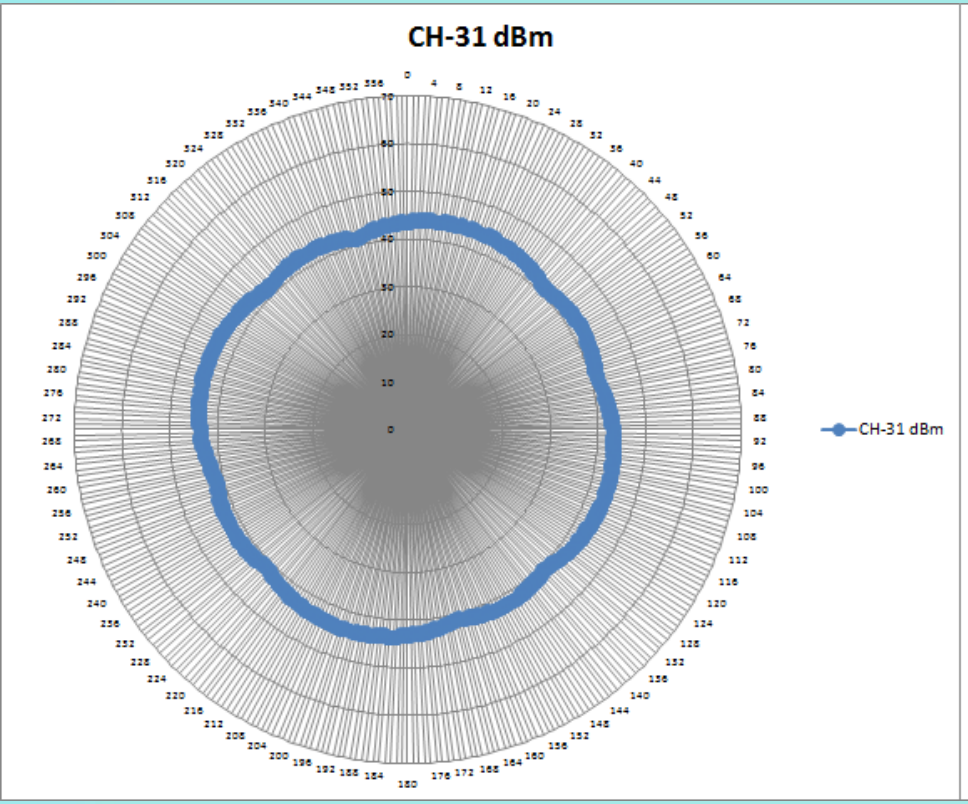


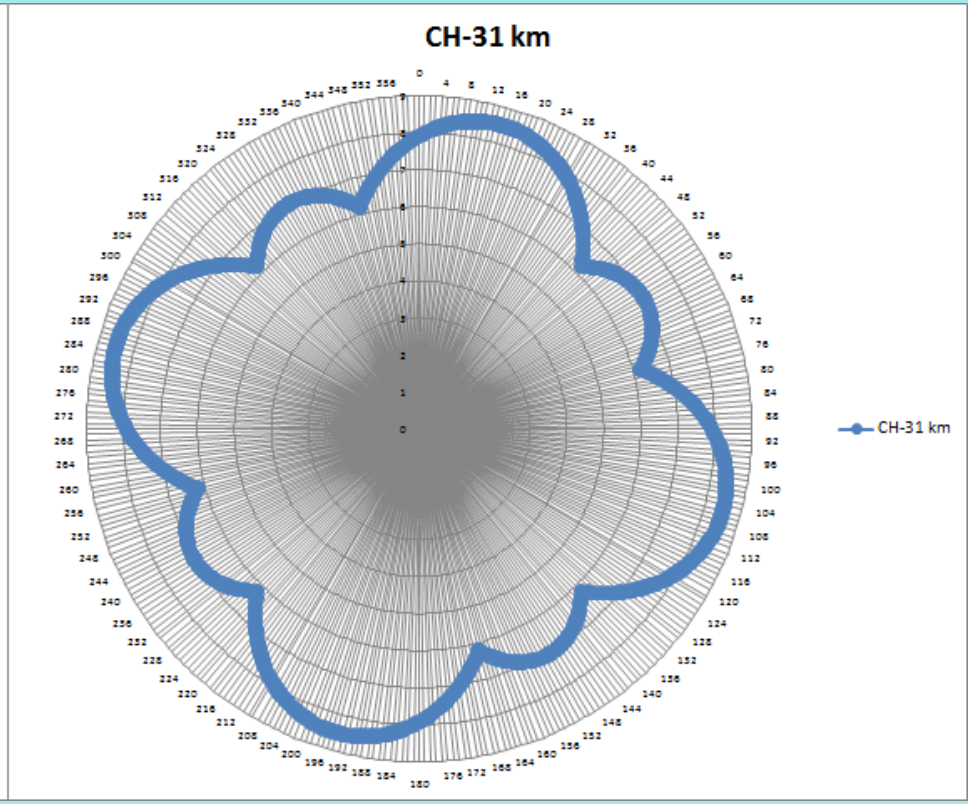
TDT Locator 1.3

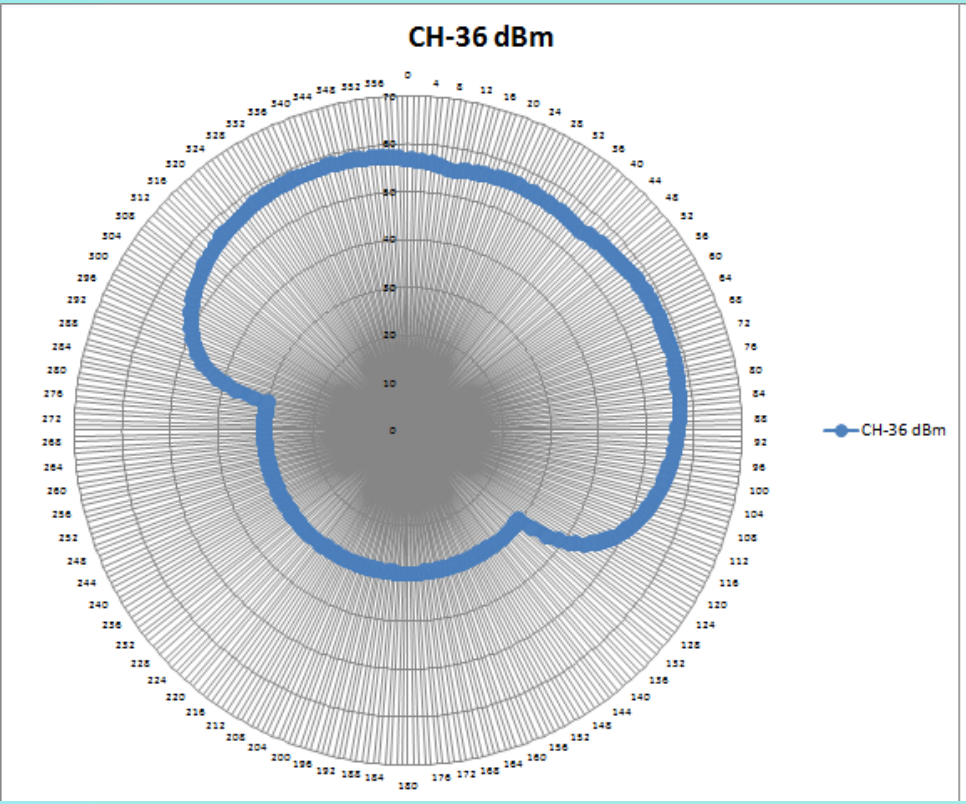
This version achieved the study of the radiation pattern's for the broadcasting sites to calculate the intensity expected, thus the reliability is improved.

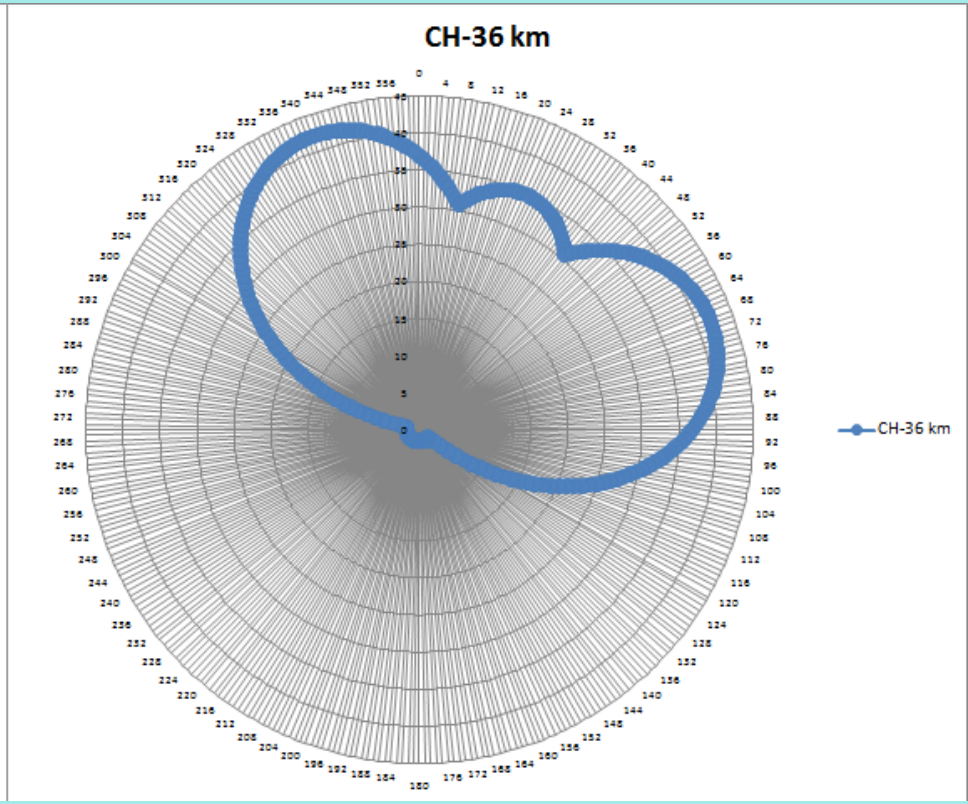

CH-23 dBm
CH-23 dBm

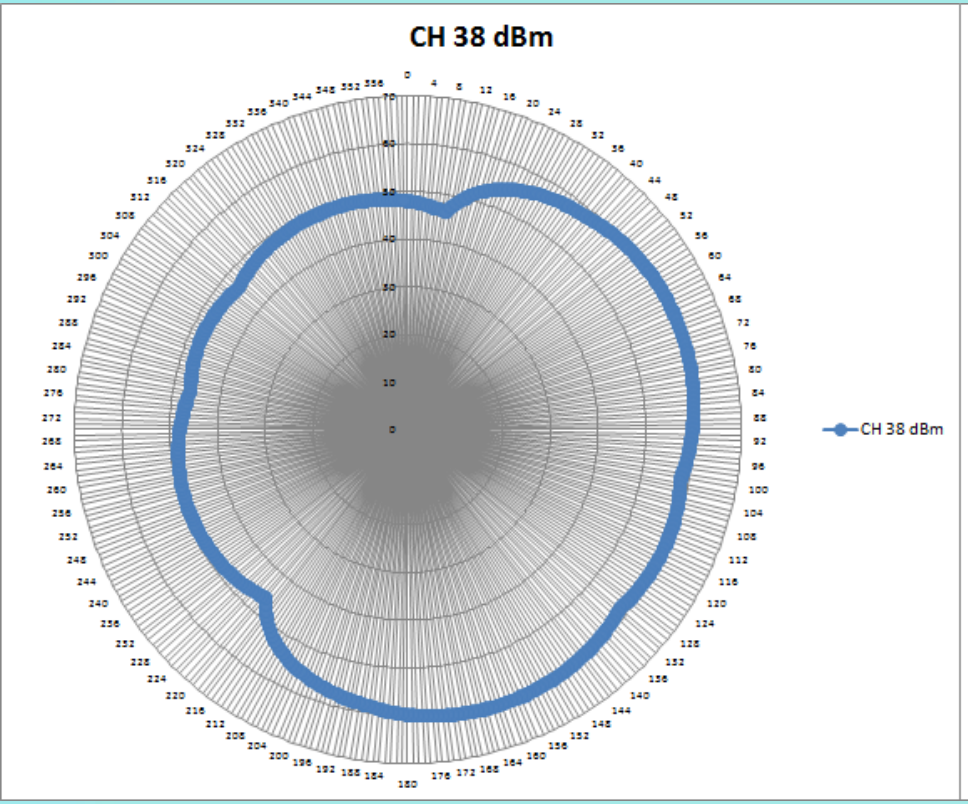

CH-23 km
CH-23 km

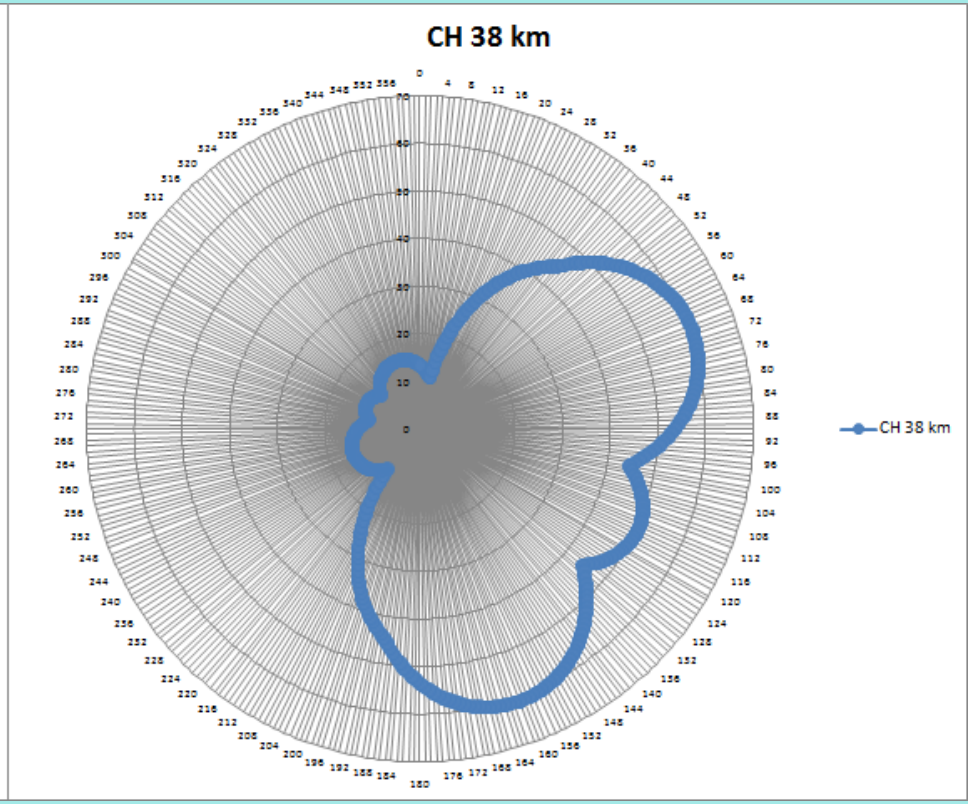

CH-31 dBm
CH-31 dBm

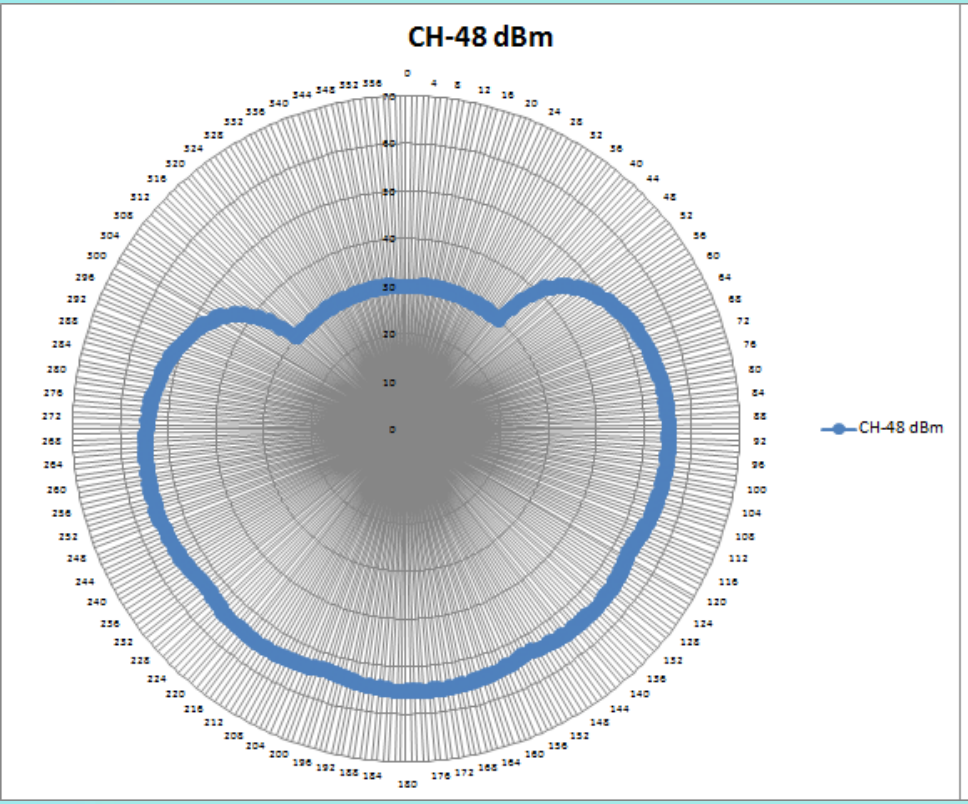

CH-31 km
CH-31 km

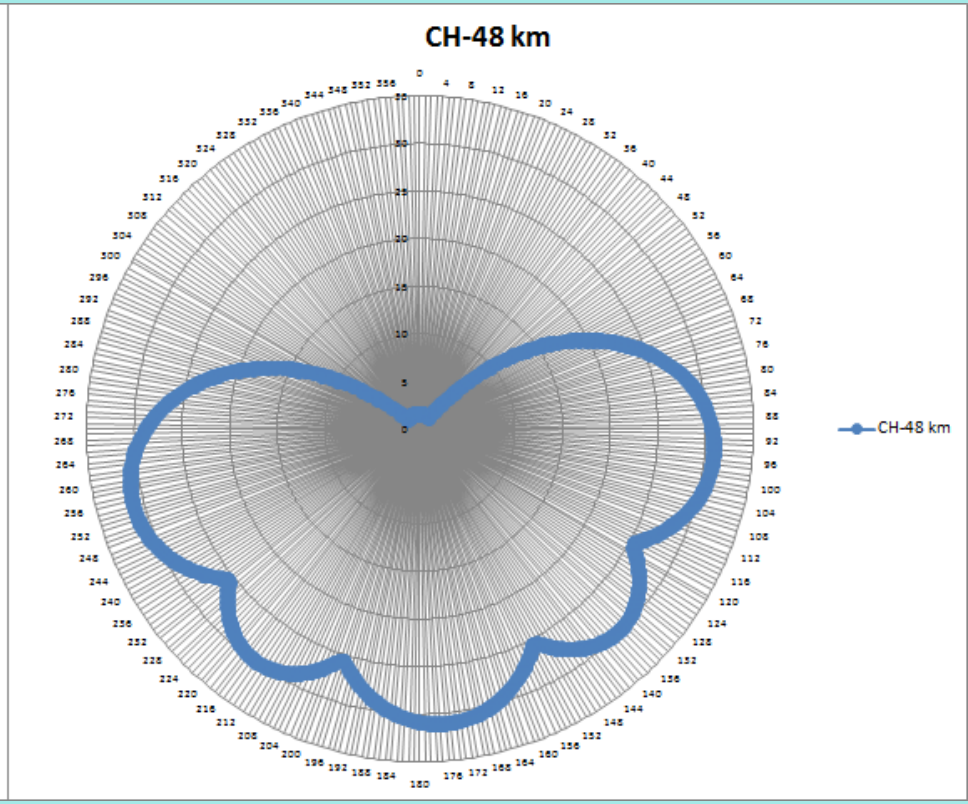

CH-36 dBm
CH-36 dBm

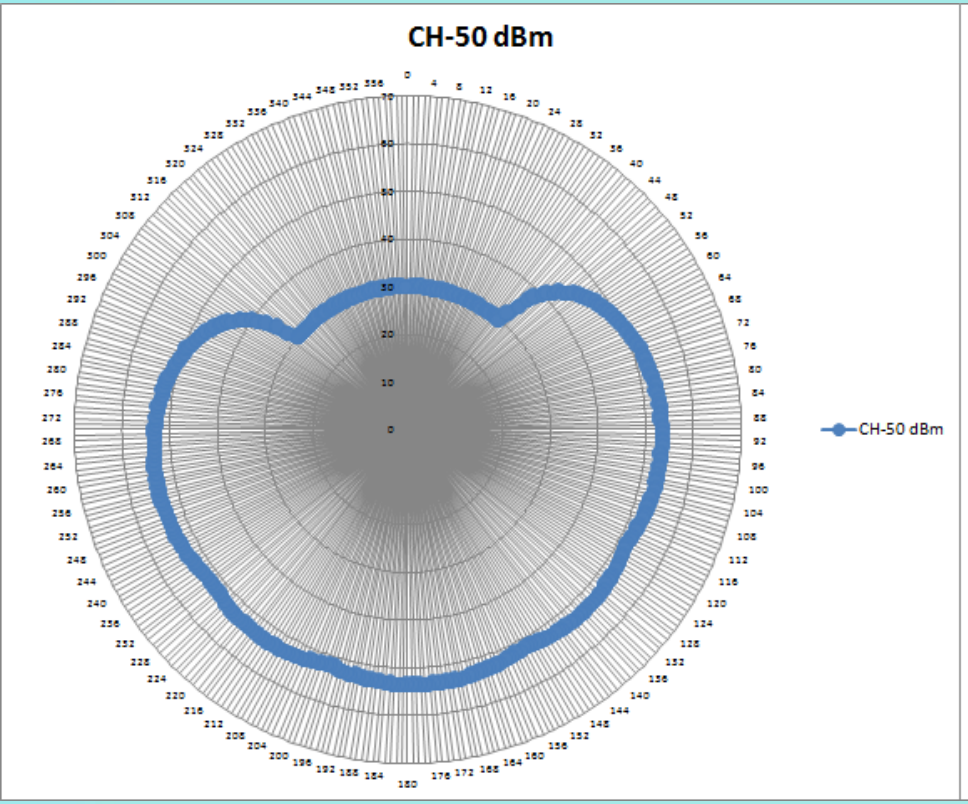

CH-36 km
CH-36 km

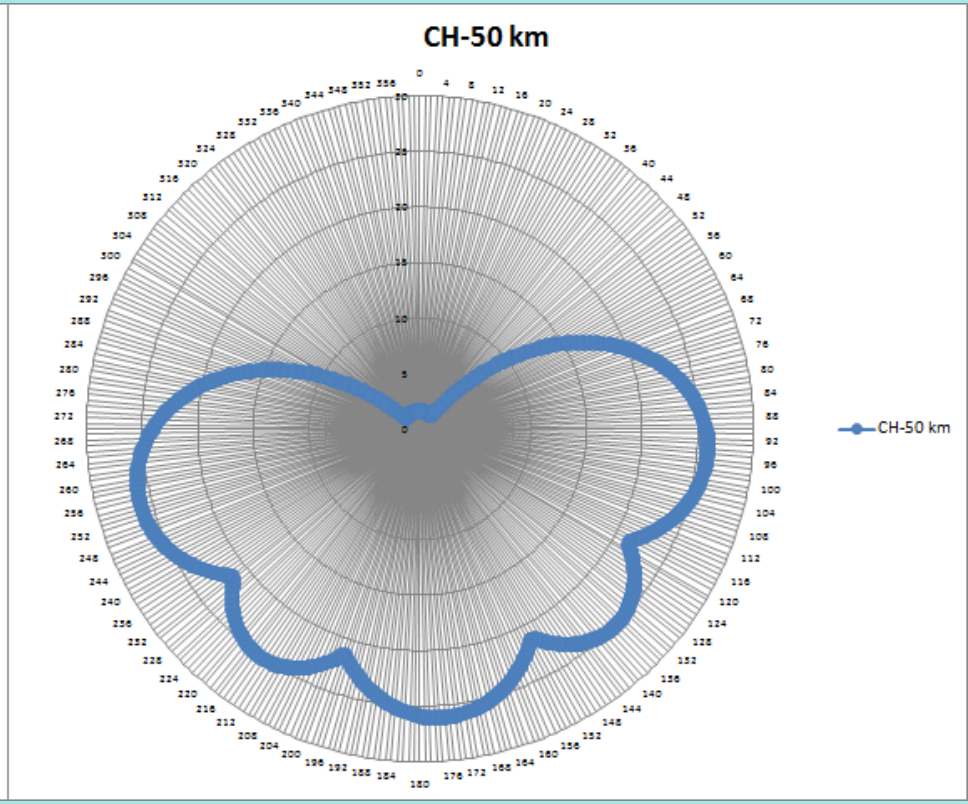

CH 38 dBm
CH 38 dBm

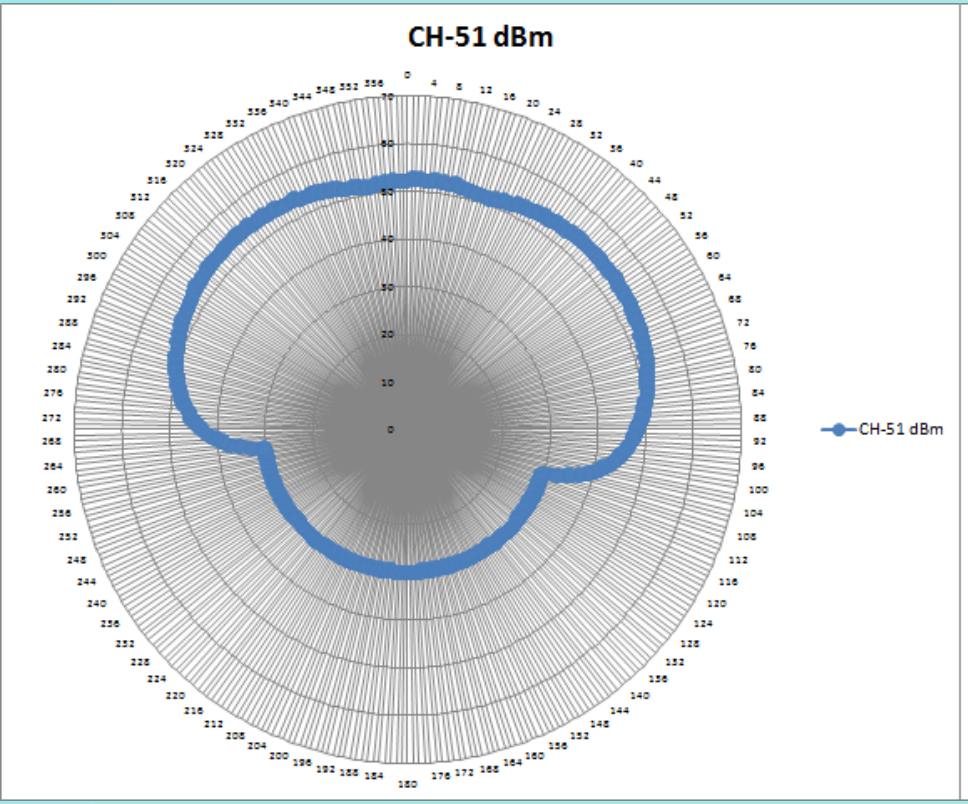

CH 38 km
CH 38 km

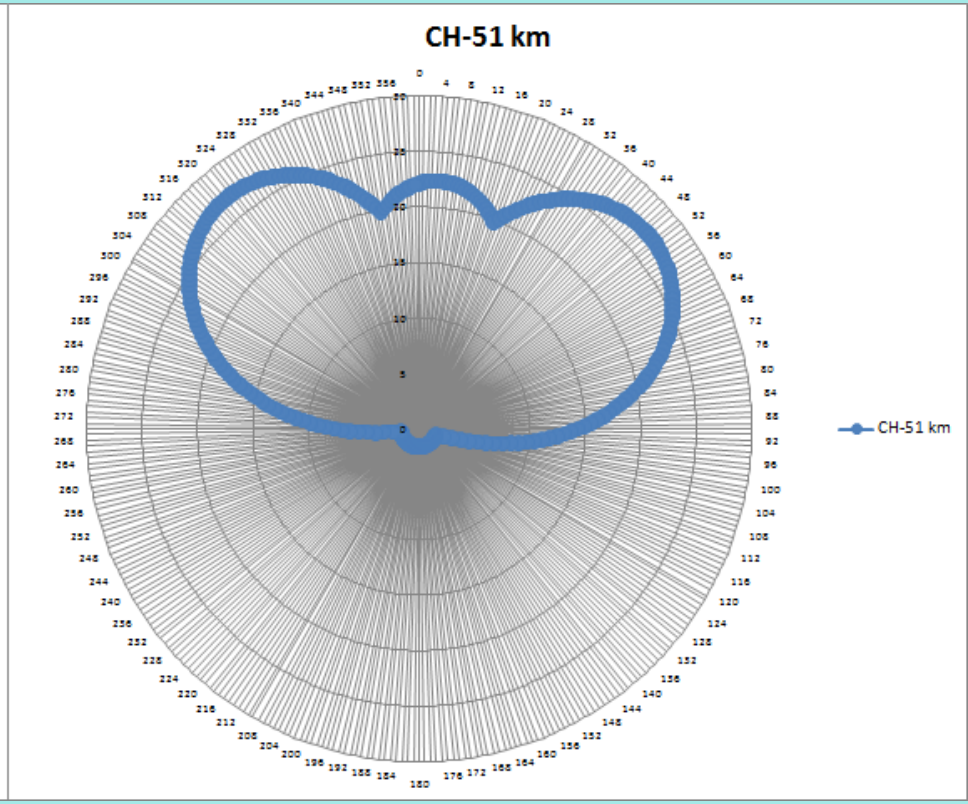

CH-48 dBm
CH-48 dBm


CH-48 km
CH-48 km


CH-50 dBm
CH-50 dBm


CH-50 km
CH-50 km


CH-51 dBm
CH-51 dBm


CH-51 km
CH-51 km

Note:

It's important emphasize, this APK does not constitute a field intensity simulator, as it only uses the free-space losses, not land heights neither the height of the transmitter or receiver antenna.

Conclusiones

The use of this application reduces considerably time and effort required to guide an antenna toward the television broadcasting sites, becoming an easy-access tool near anyone, technician or not.

With this APK there is no need to know a huge amount of technical data to choose the proper broadcasting sites for each location, because proximity do not imply a better receiving signal, as it depends on the radiation patterns.

Thank you