Product updates – September 2021

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RADAR

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21/07/2021 V23.3.2

= Radar interference Point 2 Point mode (RADARS Tx and Rx): Rotary antenna mode no longer taken into account

Use beam steering to limit azimuth and tilt range (Radar / antenna settings)

25/07/2021 V23.3.3

= HTZ tables (STATIONX64 and EQUIPMENT): Radar Pulse compression field added (install required)

= Radar parameters: Pulse compression parameters re-introduced

$R0'=R0*PCR^{1/4}$.

26/07/2021 V23.3.3

= Radar parameters: KTBF in dBm added (calculated value)

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HTZ WARFARE

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02/09/2021 V23.3.5

= Search node (HTZ warfare): Max number of Repeater connections added

07/07/2021 V23.3.1 (CRM)

= Search node: Net ID filter added (by default in action code mode)

28/07/2021 V23.3.3

= Menu: OTM/Flight track: functions Rx and Tx merged

New Options: AGL/ASL and Meters/Feet

Coordinate code supported: 4DEC (only), coordinate code in the input file now removed.

Separator: "," or ";"

Load and save settings (including mobile parameters)

01/08/2021 V23.3.4

= New sub-menu (Menu: CEW / Temporary cell) (Warfare only)

Network efficiency...:

This feature creates a coverage map where the signal received from the temporary cell(s) (deactivated station(s)) >= Activated station(s) coverage + Margin,

with a result displayed with 255 code (pink colour by default).

For 3G/4G/5G stations, the analysis can be made for Reference Signal or RSSI .

Prerequisite: Activated and deactivated stations must have a coverage attached.

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MY LOCATION

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10/09/2021 V23.3.5

= External GPS added. Used by My location if coordinates are valid.

Priorities:

1 - GPS

2 - Windows geolocation

20/07/2021 V23.3.2

= Click station / Move to My location

= Icon (bottom left):

My location (static) : get location and display the last known position every time the map is displayed (if checked)

My location (dynamic) : get location every 10 sec and refresh map and cursor/error (if checked)

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PROPAGATION MODELS AND PROFILE WINDOW

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07/09/2021 V23.3.5

= Deygout V1: removed. Not compatible with the new propagation engine V23.2.9)

07/07/2021 V23.3.1 (CRM)

= Model 1546: 90% Time added F(90%)=F(50%)-(F(10%)-F(50%)) in dBuV/m (ref: https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-BT.2383-2-2019-PDF-E.pdf). For ATSC and ISDB-T

20/07/2021 V23.3.2

= Propagation model: Scintillation added (from ITU-R P.618-13)

Scintillation tropospheric: always calculated

Scintillation ionospheric: if Ht >=42 km (S4 is user defined)

Beam spreading: always calculated

13/07/2021 V23.3.2

= The following options have been added/modified to the "Display options":

- Display ellipsoid: Yes (1) / No (0). If Yes, the first Fresnel zone is displayed;

- Display ray: Yes (1) / No (0). If Yes, the direct ray between the transmitter to the receiver is displayed.

- Display tilt + ray offset (m): If the offset is greater than 0, 2 lines will be displayed. The first one (light blue by default), is corresponding to the horizontal line starting from

the transmitter location in the direction of the antenna tilt. The second one (dark blue by default), is corresponding to the horizontal line starting from the transmitter location

in the direction of the antenna tilt and horizontally translated by the offset value (in m).

If the second line is crossing the Terrain + Clutter + Building line, it means that the area crossed is illuminated by the main vertical beam of the antenna.

= Profile / Export .TXT. In the CSV report ("Export profile" option), the following columns have been added:

- DIST BEAM/TERRAIN (m) = Distance in m between the antenna beam ray and the Terrain + Clutter + Building + Protection_offset line.

If the distance is negative, it means that the area crossed is illuminated by the main vertical beam of the antenna.

- TILT (deg) = Tilt of the transmitting antenna in degree.

- PROTECTION OFFSET (m) = Offset value in m to be considered.

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SPECTRUM MANAGEMENT

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04/07/2021 V23.3.0 (CRM)

= Menu: Coverage / Interference / COFDM LP map:

If the LP target is set to 100%, the location probability value corresponding to the best (C/N+I) is now displayed on the map.

Notes:

If the LP target is set to 0, the best C/N+I value is displayed on the map.

If LP target >= 1% and <=99%, the first case giving a location probability value >= LP target is displayed on the map.

= Menu Spectrum / Network ID check frequency: new Interference plus best server algorithm (faster) and Global interference mode removed

19/07/2021 V23.3.2

= Menu: Statistics/Coverage map/Virtual Tx/UE to stations (exclusion area)... Spurious now supported

21/07/2021 V23.3.2

= Functions (Menu: Statistic/coverage map) Stations to Virtual Rx... and Virtual Tx/UE to stations (exclusion area)... renamed:

Coexistence - Rx... and Coexistence - Exclusion area...

27/07/2021 V23.3.3

= Menu: Statistics/Monte-Carlo: The "In Vector polygons" and "Out vector polygons" options have been added. They will distribute the random stations inside/outside vector polygons.

The "Spurious" option has been removed. It can be defined in the IRF settings.

Note: The power received from Spurious emissions is calculated only if the interfering frequency is outside the filter (IRF from Ts/Rif, NFD, Masks or Tables).

The options related to dual model and propagation variability in point to point mode have also been removed.

They can be defined directly in the settings of the propagation model.

10/09/2021 V23.3.5

= SM1009: DOC no longer required for calculation

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INTERFACE + REPORTS

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06/09/2021 V23.3.5

+ DB station / Remote simulation: unlimited CALs

06/09/2021 V23.3.5

= Menu: Report / Raster file / Raster+SHP polygons covered... new options: Server layer and site by site

06/07/2021 V23.3.0

= Click on station / popup: Display of Azimuth added

= Translation file updated

25/07/2021 V23.3.3

= HTZ tables (MWX64): antenna1 and antenna2 fields raised to 51 chars (install required)

26/07/2021 V23.3.3

= Tx/Rx parameter box / Antenna tab / Beamwidth calculator: ITU formula added

12/09/2021 V23.3.5

= Menu: Coverage / Network analysis / Site by site simultaneous server...

report overlapping level for each activated station (server >= threshold and best server)

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CARTO

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06/09/2021 V23.3.5

= Menu: Map / Raster operation / Geocoding / Geocode to Clutter layer... new option: Convert to vegetation (codes: 0,5,8,14)

02/09/2021 V23.3.5

= Geoconv: EPSG:2081 Chos Malal 1914 / Argentina 2 (ARG2) added

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ACTION CODES

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13/09/2021 V23.3.5

= NEW action code: 1028

Import Station on map from SQL database linked and display composite coverage (RS if station = 3G/4G/5G)

Tasks: Import station(s) from SQL database, display composite coverage and export coverage color values to TIF/TFW output code = WMAS

File name convention:

TIFF/TFW: userdrive\userdir\userfilename.TIF (c:\ATDI\ExchangeFolder\userfilename.TIF) userdrive\userdir\userfilename.TFW (c:\ATDI\ExchangeFolder\userfilename.TFW)

example: c:\ATDI\htzx.exe TEST.PRO -ADMIN 1004 1000 c:\ATDI\ExchangeFolder\userfilename.tif

with: 1000 = import all, from 0 to 114 (or more in future versions) select station having signal sent in command line (i.e. 2=generic, 0=FM mono...)

c:\ATDI\ExchangeFolder\userfilename.tif: export filename (folder must exist)

SQL link must be set.

TIFF files are located in folder passed in the command line i.e. c:\ATDI\ExchangeFolder\Userfilename.tif

Export TIFF modified for action codes: 1019 and 1012 and Menu: File / Share / HTZ Webview (TIFF/WMS)...