Dynamic Trace Autonomous Platform (DTAP-GPS) ™

Kestrel TSCM ® Professional Software

Signals Intelligence Support System

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Dynamic Trace Autonomous Platform (DTAP-GPS) ™

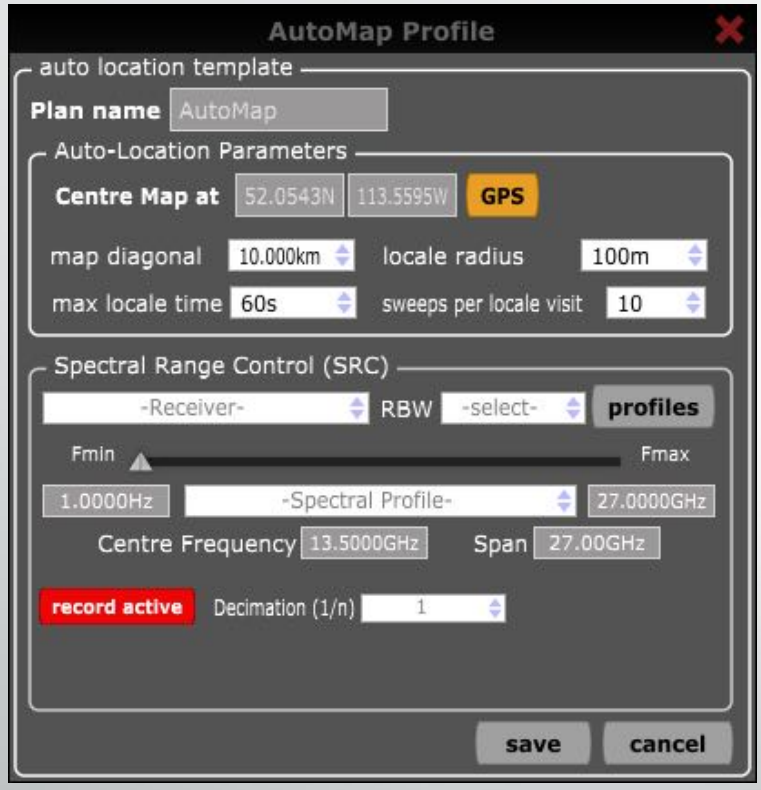
- DTAP-GPS ™ is a specialized RF propagation modeling resource extension of our existing manually deployed Tap Capture Plot (TCP) ™ capability.
- DTAP-GPS ™ provides a fully autonomous GPS based geo-location heat mapping process for ground mobile, air and space applications.
- DTAP-GPS ™ can dynamically update interactively with a network based real-time moving map, or can operate across a static reference map image.

Dynamic Trace Autonomous Platform (DTAP-GPS) ™

- DTAP-GPS ™ is utilized to capture and plot a wide search Range of Interest (ROI) bandwidth **LDSA ™** capture of the ambient RF spectrum environment.
- The ability to include multiple bands of interest, such as control and talk channels, up-link and down-link spectrum blocks is fully supported.
- The ability to autonomously render a powerful geo-location heat mapping process across any captured bandwidth down to the channel level in both real-time and during post analytical analysis is now a reality.

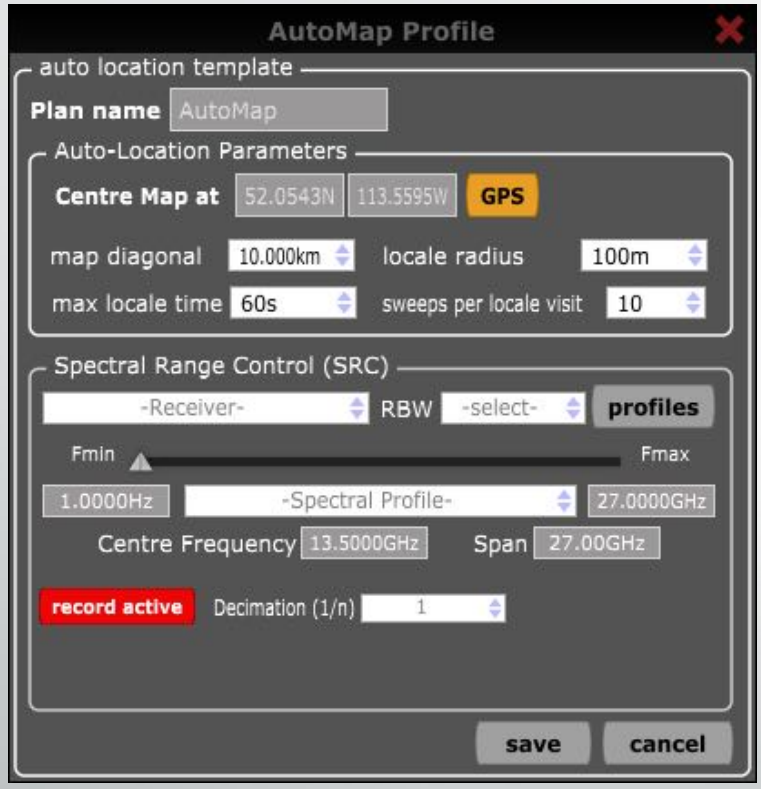
Dynamic Trace Autonomous Platform (DTAP-GPS) ™

- Our operator centric control group simplifies the setup parameters and field deployment of the DTAP-GPS ™ feature.
- Once the DTAP-GPS ™ is programmed by the technical operator our **OneTouch ™** technology engages a fully autonomous collection process allowing the technical operator to give 100% focus on walking (backpack), driving (mobile) or flying, totally hands-free and hands-off.
- Likewise, our **OneTouch ™** technology terminates the DTAP-GPS ™ process cleanly and can be restarted again using the same method.



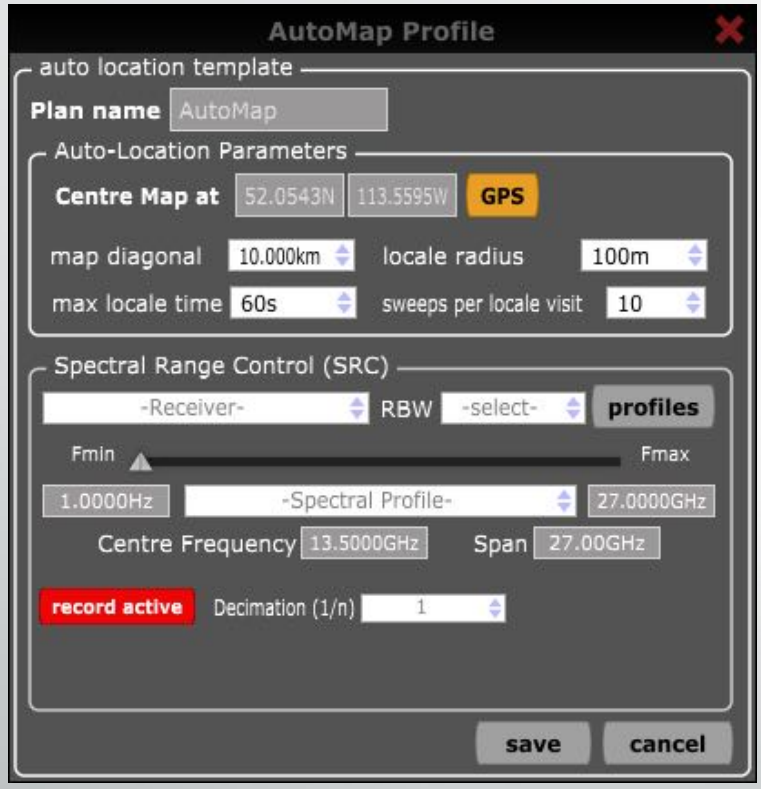
DTAP-GPS ™

- The **AutoMap Profile** control group provides an operator centric programming window where the captured initial GPS coordinates become the center of a dynamically generated moving map.
- The technical operator can define a customized AutoMap **Plan Name** consistent and descriptive of the mission parameters.
- GPS coordinates can be derived from a generic GPS Rx, some modems and / or SDR hardware.



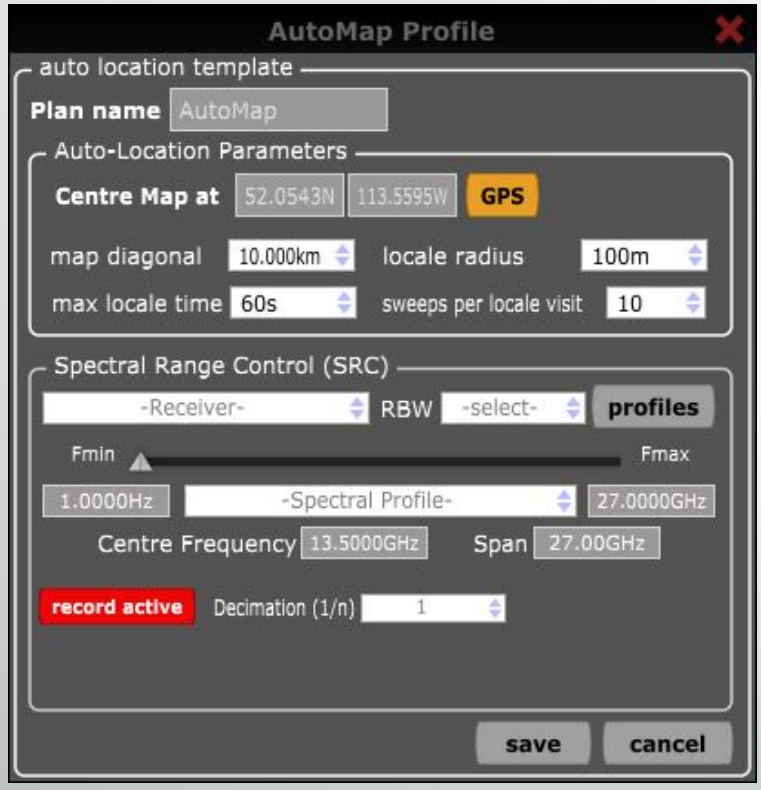
DTAP-GPS ™

- There are currently just four (4) DTAP-GPS ™ programming parameters that will need to be decided and defined by the technical operator in preparation of field deployment.
- Map Diagonal
- Locale Radius
- Max Locale Time
- Max Locale Sweeps



DTAP-GPS ™

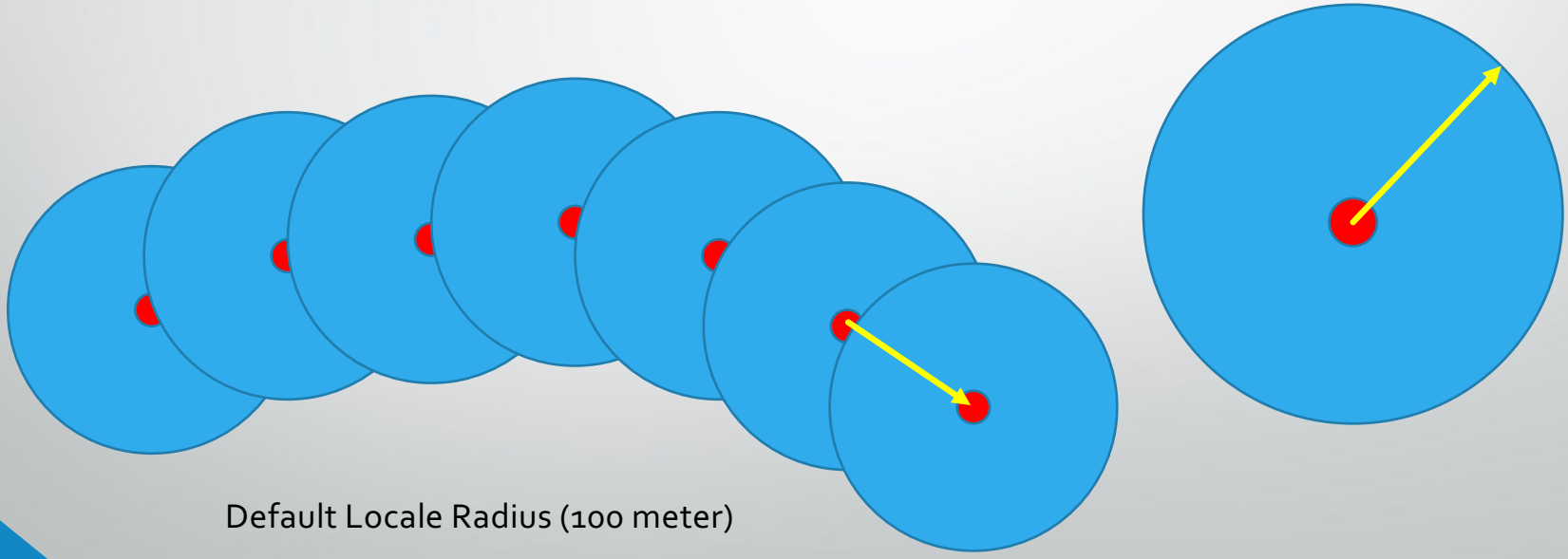
- **Map Diagonal** (Default 10 km) references the initial (width) of the dynamically generated network based map (Map Quest) rendered.
- The diagonal selection is best represented by the minimum map size required for the intended mission parameters.
- If actual deployment should unexpectedly move off or outside the defined **Map Diagonal** the map will automatically update.



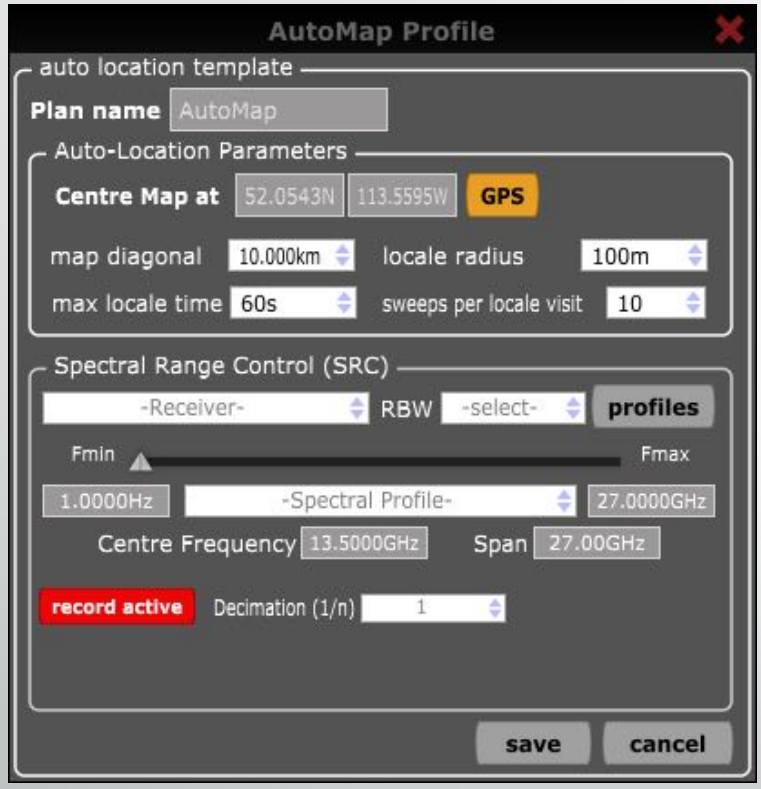
DTAP-GPS ™

- **Locale Radius** (Default 100 m) references the distance that must be made good before the next autonomous **AutoMap** location is automatically rendered.
- The center of each **Locale Radius** defines a 50% overlap based on the value selected.
- It is recommended that smaller **Locale Radius** values be utilized for walk-about (backpack) deployment and for localized target areas.

Dynamic Trace Autonomous Platform (DTAP-GPS) ™

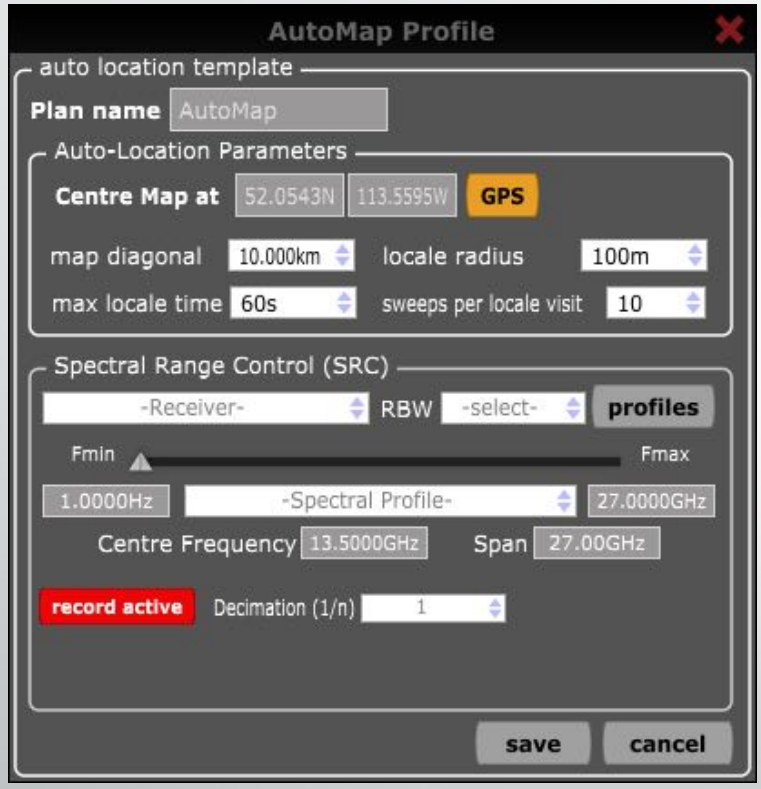


Default Locale Radius (100 meter)



DTAP-GPS ™

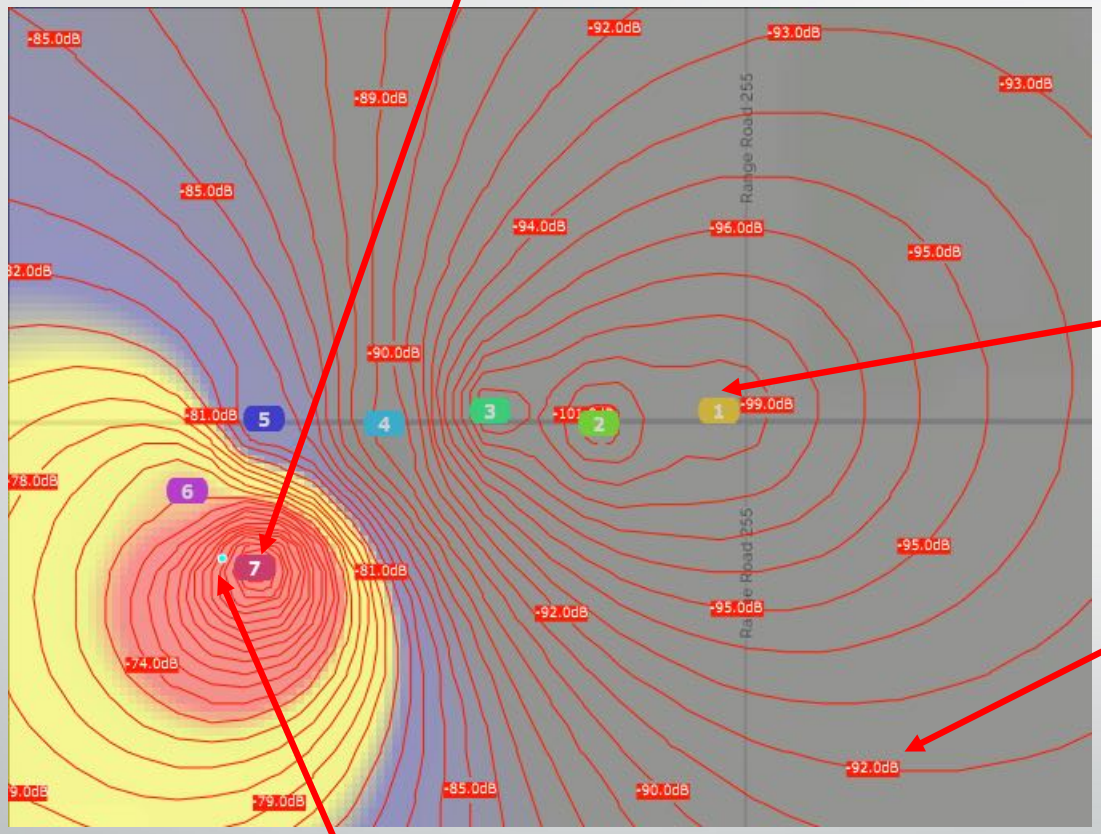
- **Max Locale Time** (Default 6o Sec) references the maximum time of collection relative to the current **Locale Radius** value selected by the technical operator.



DTAP-GPS™

- **Max Locale Sweeps** (Default 10) references the maximum number of captured sweeps based on the **Locale Radius** value selected by the technical operator.
- The value selected for the **Max Locale Sweeps** can have a significant effect relating to peak memory management.

Raw Heat Map Data Indicating Generalized Emitter Location



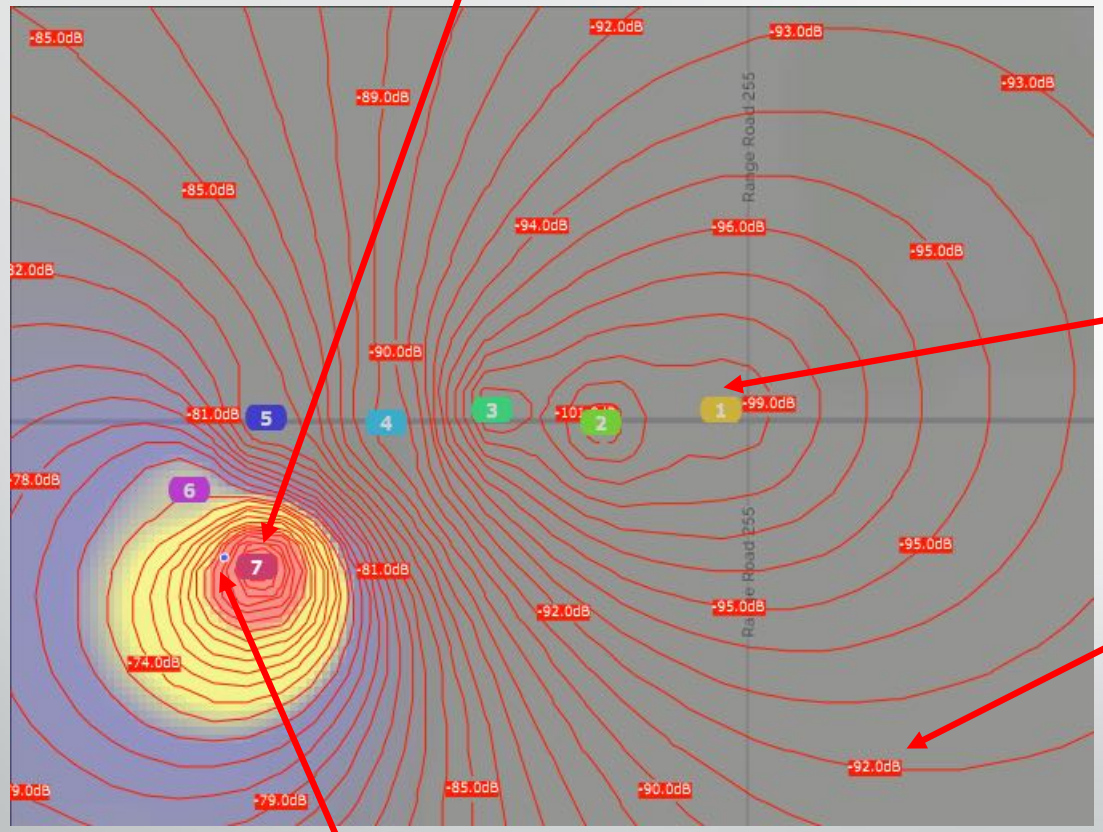
DTAP-GPS ™

DTAP-GPS ™ Starting Point
Approximately 500 Meters
LOS from the Emitter

1 dB Resolution
Propagation Contour
Modeling

Actual GPS Location Reference Marker

Reference Level Off-Set Applied to Localize Emitter Location



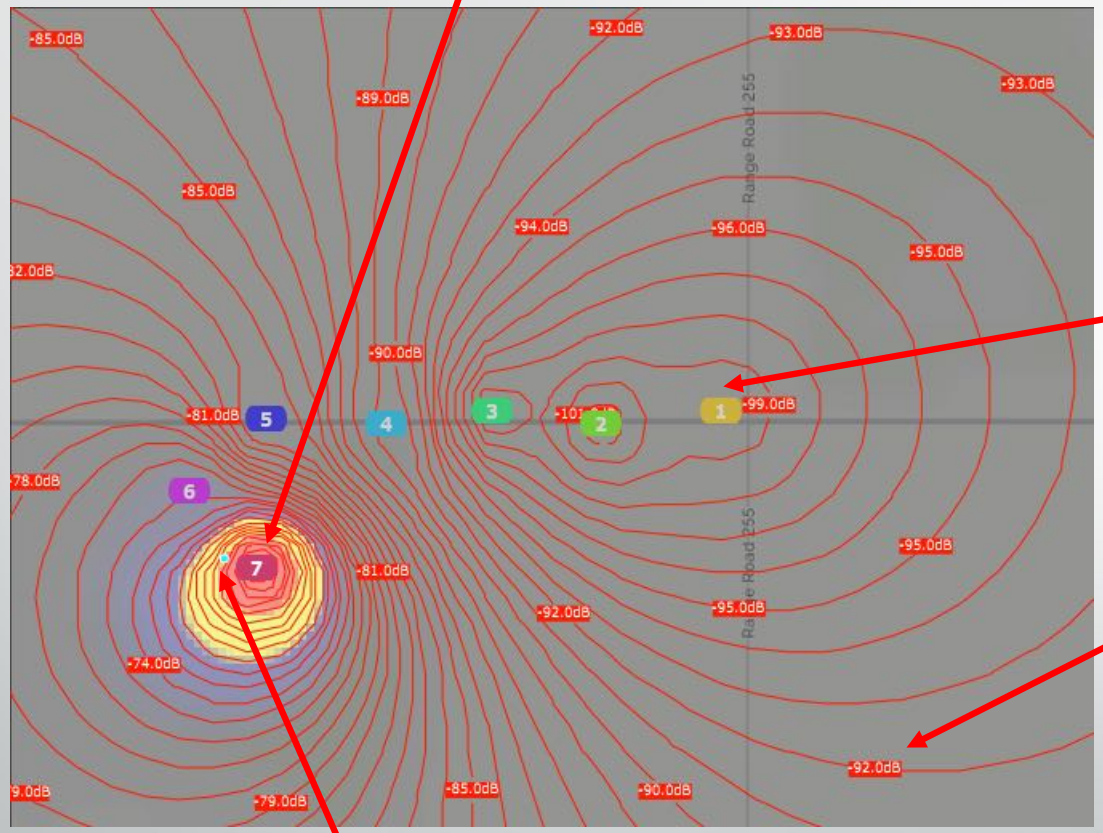
DTAP-GPS ™

DTAP-GPS ™ Starting Point
Approximately 500 Meters
LOS from the Emitter

1 dB Resolution
Propagation Contour
Modeling

Actual GPS Location Reference Marker

Reference Level Off-Set Applied to Further Localize Emitter Location



DTAP-GPS ™

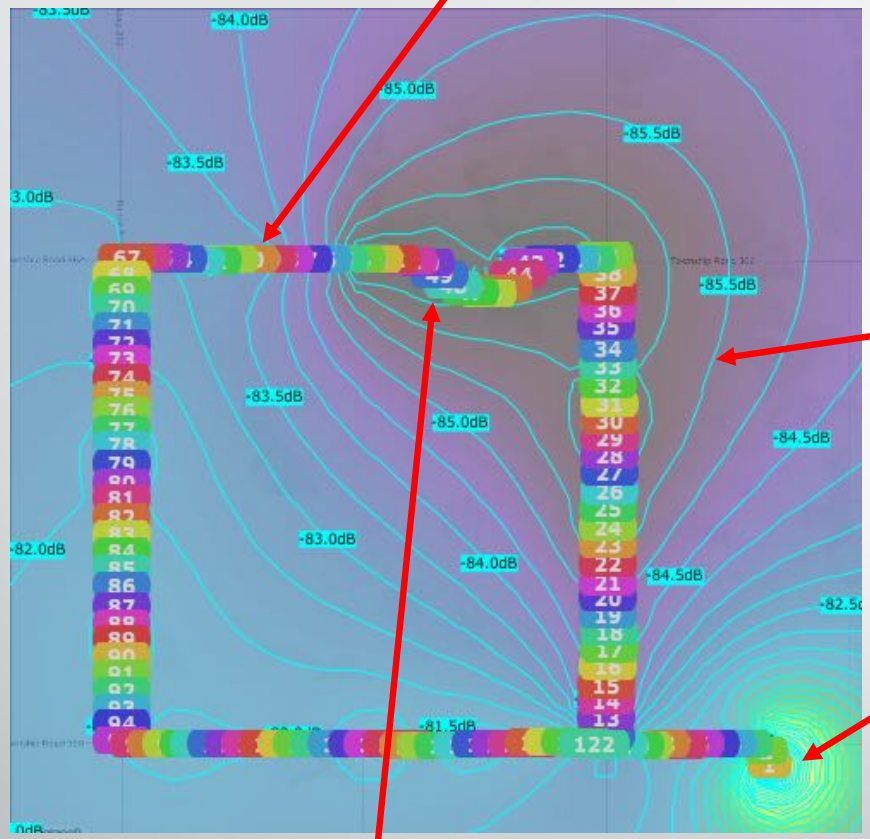
DTAP-GPS ™ Starting Point Approximately 500 Meters LOS from the Emitter

1 dB Resolution Propagation Contour Modeling

Actual GPS Location Reference Marker

DTAP-GPS ™

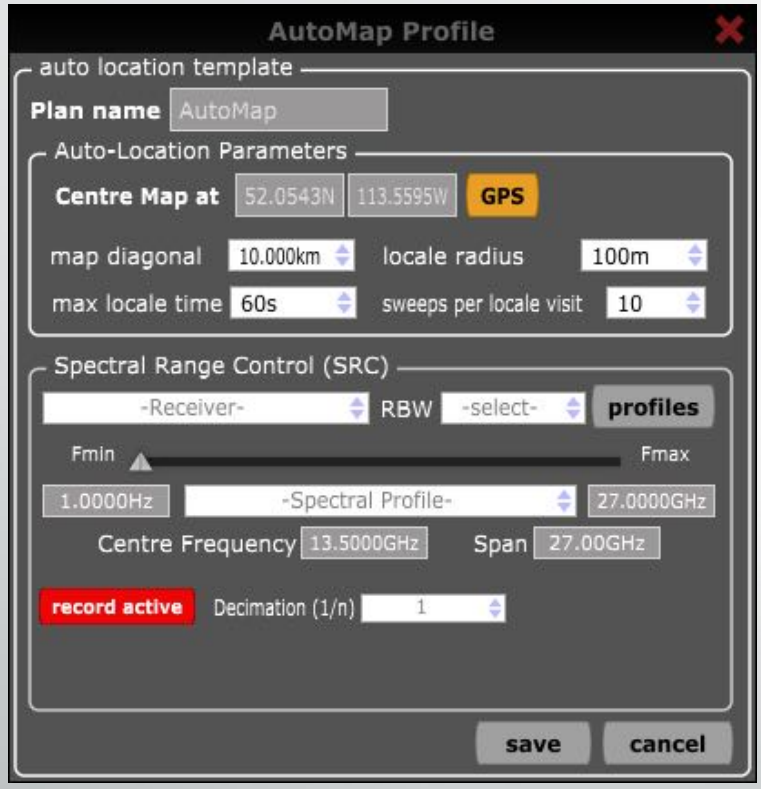
Actual DTAP-GPS ™ 14 Km Capture



1 dB Resolution
Propagation Contour
Modeling

DTAP-GPS ™ Starting Point
and Location of the Emitter

Low Elevation Area of Target Route


AutoMap Profile
auto location template
Plan name
AutoMap
Auto-Location Parameters
Centre Map at
52.0543N
113.5595W
GPS
map diagonal
10.000km
locale radius
100m
max locale time
60s
sweeps per locale visit
10
Spectral Range Control (SRC)
-Receiver-
RBW
-select-
profiles
Fmin
Fmax
1.0000Hz
-Spectral Profile-
27.0000GHz
Centre Frequency
13.5000GHz
Span
27.00GHz
record active
Decimation (1/n)
1
save
cancel