



go2signals

**RELEASE NEWS
VERSION 21.2**

PROCITEC®
HOUSE OF SIGNALS

What does the new version mean for you?

You have ...

... a valid update service contract?

Then you get the new update delivered automatically.

... another previous version of the software?

Now is the right time to get back into it. We will be happy to help you: sales@procitec.de

... interest, but are not yet a customer

Let's start with go2signals, ask for your trial version: sales@procitec.de

FAQ about the update

Can I update?

Customers using go2signals 21.1 (go2MONITOR 21.1 / go2DECODE 21.1 / go2ANALYSE 21.1) are able to update their instance directly to version 21.2. Also, older versions can be updated; in this case please contact us to discuss your individual solution: sales@procitec.de

Will my data and customizations be preserved?

On a standard update your data will be preserved. If you have made customizations in function and design, we recommend that you check them in advance. If you need consulting or support we are happy to prepare a suitable offer for you: sales@procitec.de

What are the benefits of an update?

There are many benefits. You can find out which ones are specifically important for you while reading the following pages and discuss with us afterwards.

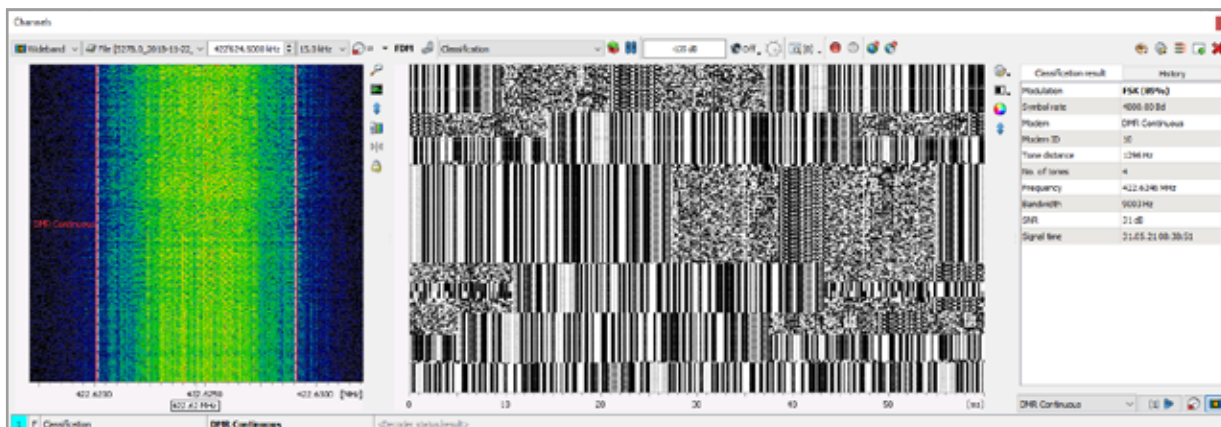
Why are updates generally useful?

The signal world is constantly changing. Updates guarantee that you keep up with the times. In addition to new features, our updates also bring optimization. The optimizations positively effect the speed, the security and the stability of the software. Additionally, updates maintain compatibility with host Operating-Systems' patches and updates, assuring stability of the latest versions of components such as Python etc.

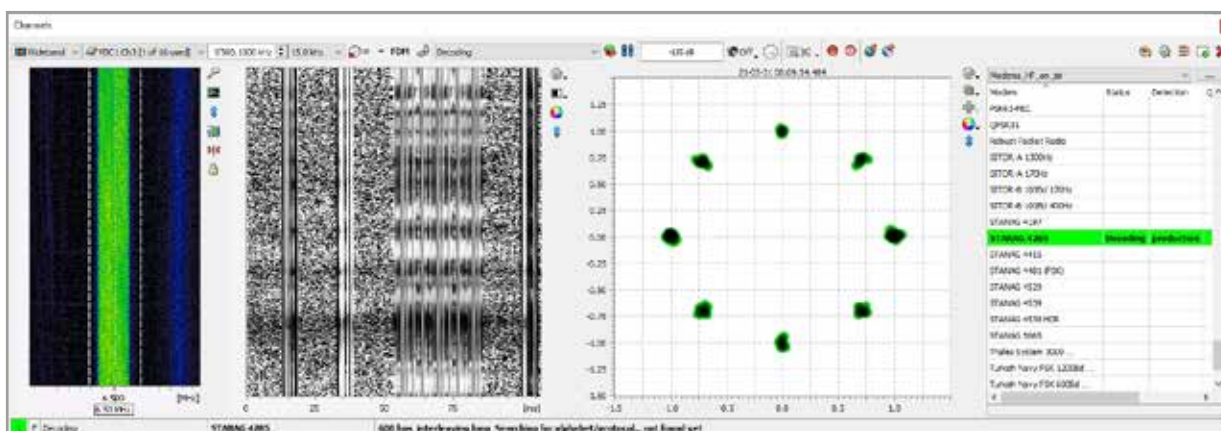
New live Signal Analysis Functions

With go2MONITOR "live" means receiving, analyzing, listening, decoding and recording of any signal of interest. With release 21.2 we added two new features, a raster display

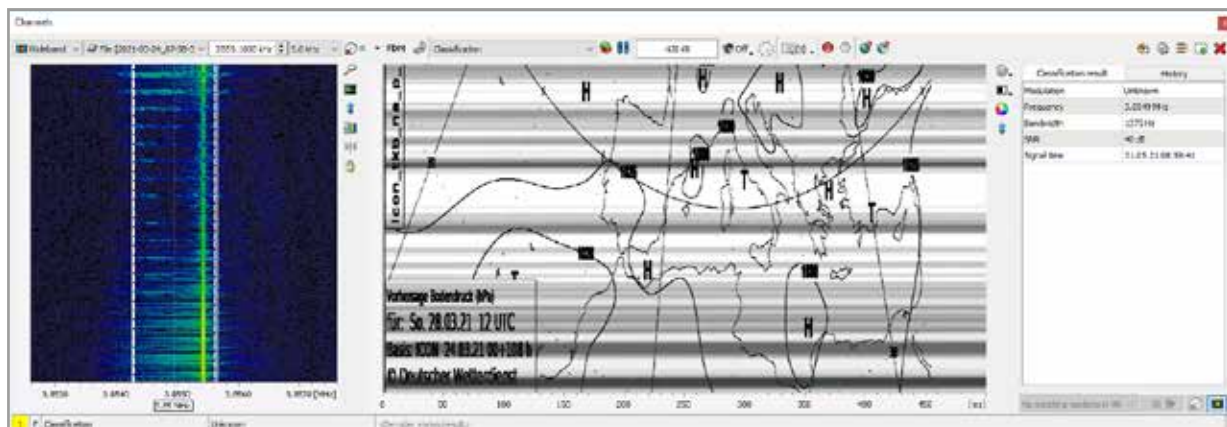
to monitor live emissions data structure and an IQ-Display showing demodulation quality and constellation on coherent (e.g. PSK modulated) signals.



Raster Display of DMR voice conversation, voice data is switching between channel one and two



Frame and quality analysis on an STANAG 4285 signal



HF Weather FAX transmission. Signal sections with low quality marked with darker background

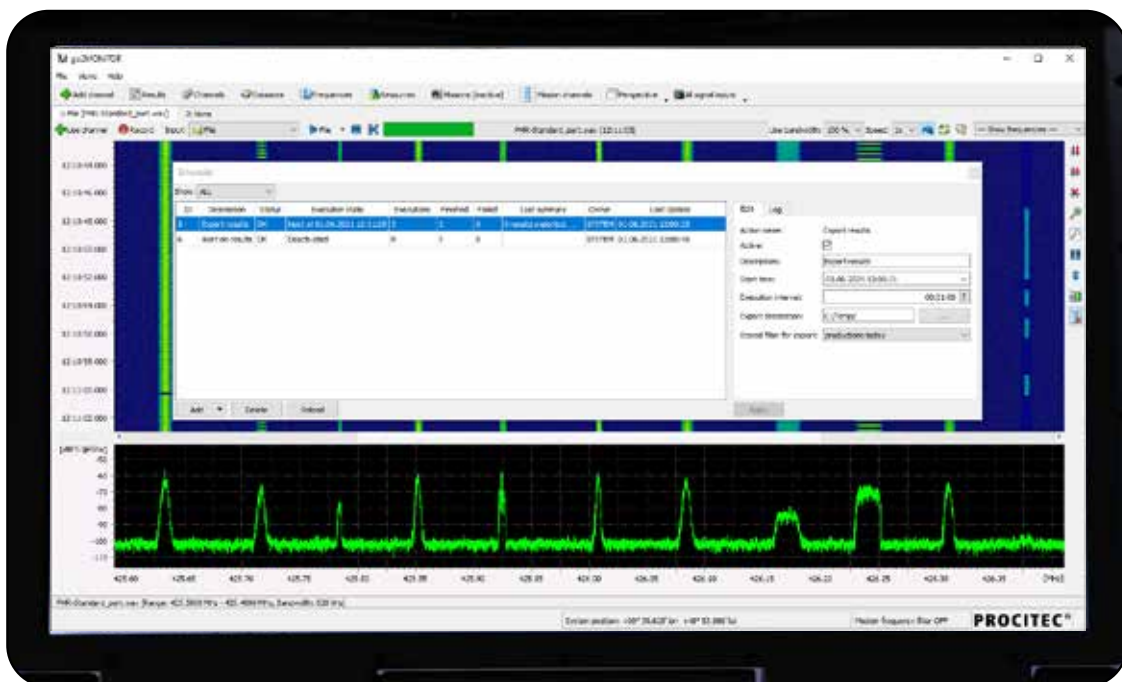
Scheduling

All go2MONITOR licenses get a new feature "Scheduling" activating automatic execution of routine tasks at certain time intervals. Scheduler tasks typically automatically post processes collected result data (filter, delete, mark, export, alert, ...).

Scheduler tasks work on filtered result data stored in the database; operators define their filters very flexible in the ResultViewer (even complex database queries are possible) and use them by parametrizing the scheduler task.

By default, there are following scheduling action types available:

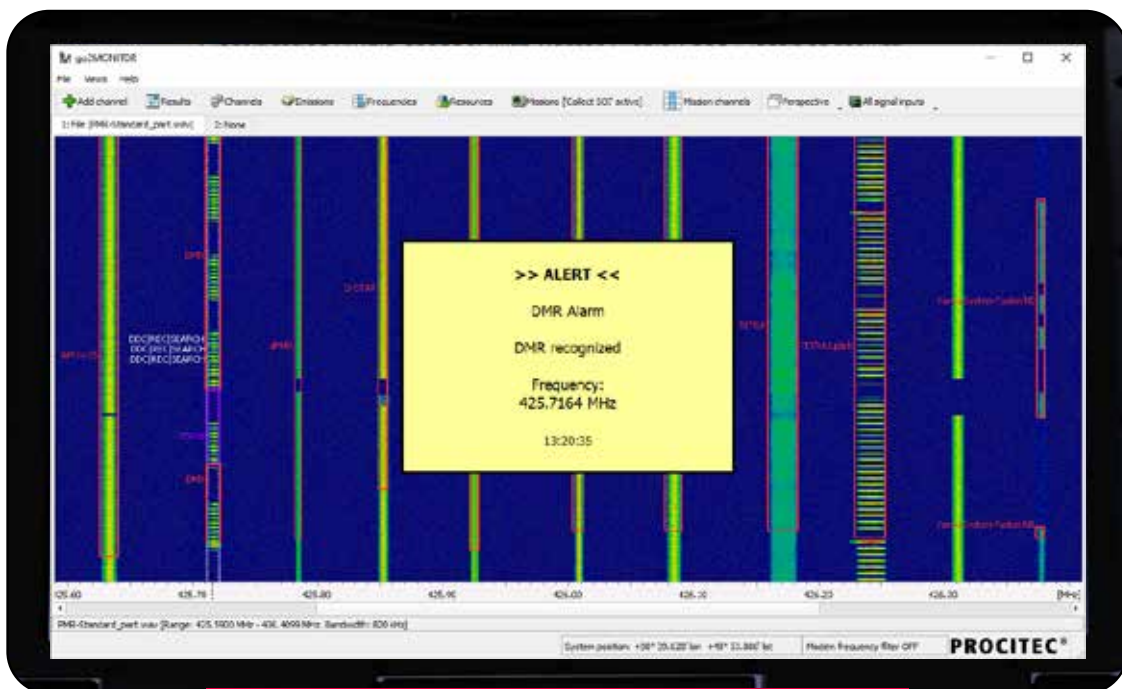
- Delete filtered results
- Set flags on filtered results
- Export filtered results
- Alert on filtered results



Setting up scheduler tasks for a scheduled result export and alert on received content

Alarm / Alert Popup

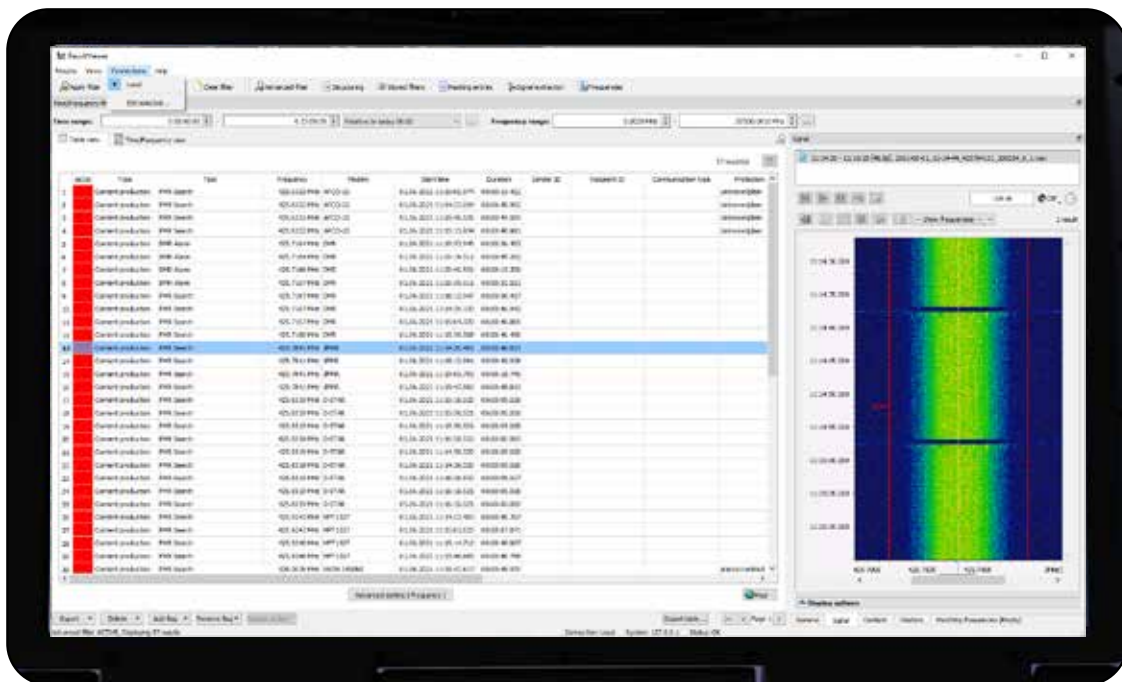
Automatic monitoring tasks can send an alert based on signal events (e.g. signal type detected or user ID decoded) to inform an operator or other systems on priority Signals of Interest. Now, the alert can display a popup in the GUI or, if configured, send an alert to another system for cross-cue.



Setting up scheduler tasks for a scheduled result export and alert on received content

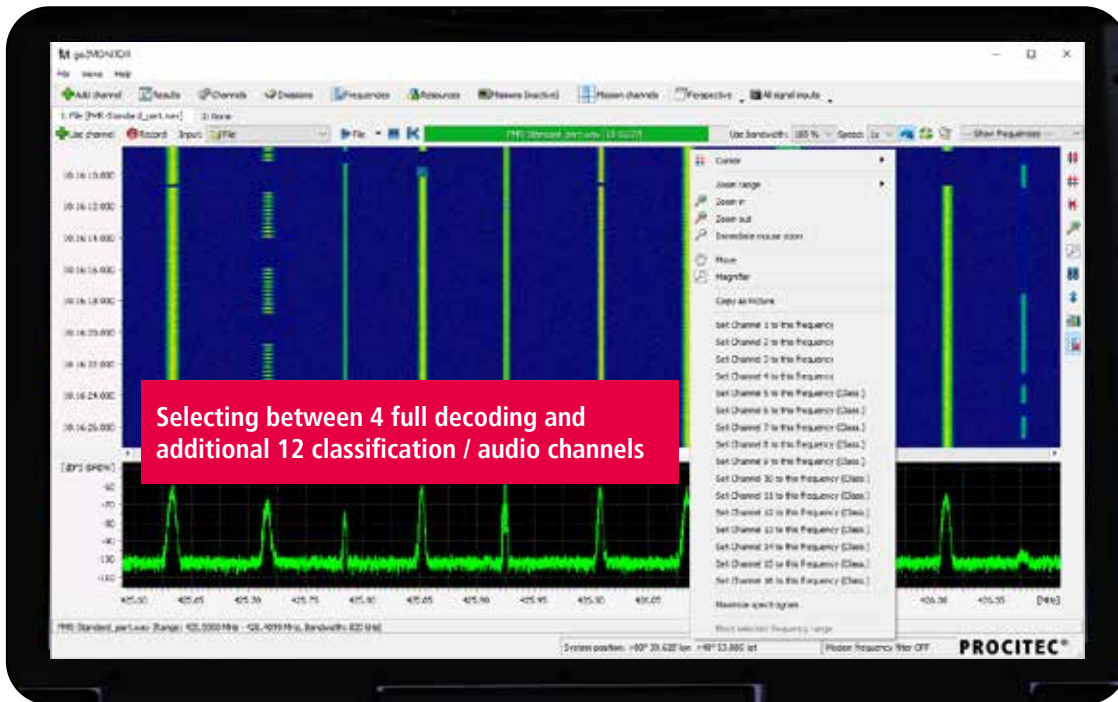
Standalone ResultViewer Application

With go2MONITOR an additional license for the ResultViewer application is now included (integrated ResultViewer is still available). The standalone version is able to connect to external go2MONITOR databases (on other remote computers), watch and process the data stored there.



Standalone ResultViewer connects to local or remote go2MONITOR databases

Enhancement WMPC Option



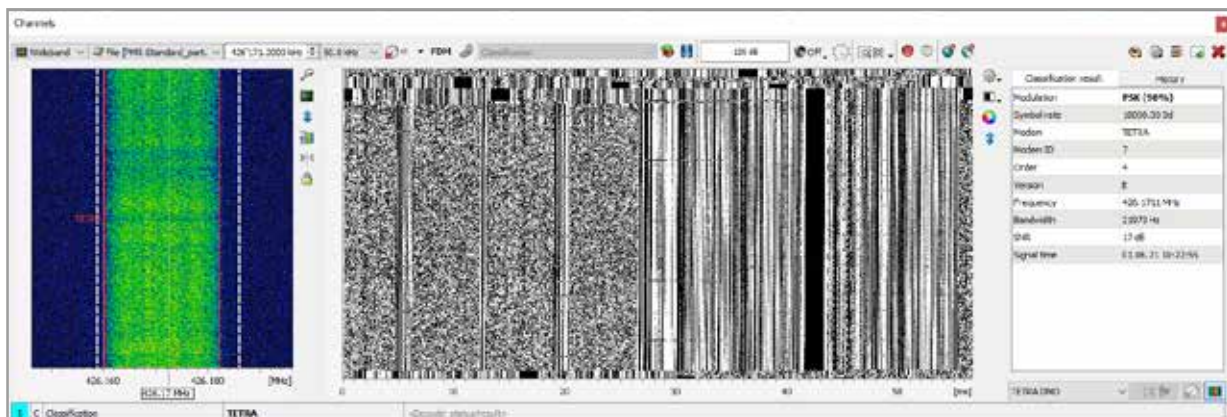
Additional classifier channels with WMPC Option in Manual Mode

With Wideband Multi Channel Production (WMPC) and Automatic Monitoring and Tasking (AMT) go2MONITOR can process hundreds of signals in parallel (automatic monitoring of complete input bands).

In addition to the full decoding channels the classification / audio channels are now available, in manual mode. The channel type is set during startup:

- go2MONITOR-8 with WMPC-32 has 8 full decoding channels and 24 additional classification / audio channels
- go2MONITOR-4 with WMPC-16 has 4 full decoding channels and 12 additional classification / audio channels

These new channels operate with modulation classification, recording and audio demodulation – only decoding needs a full featured channel.



Classification / audio channel with raster display / emission structure and classifier result

Decoder and Demodulator Enhancements

As with every release, we have updated our demodulators and decoders to stay current. A special new feature in demodulation is the new QAM demodulator with configurable constellation. Also of interest is the expansion of the decryption ability for PMR signals like DMR.

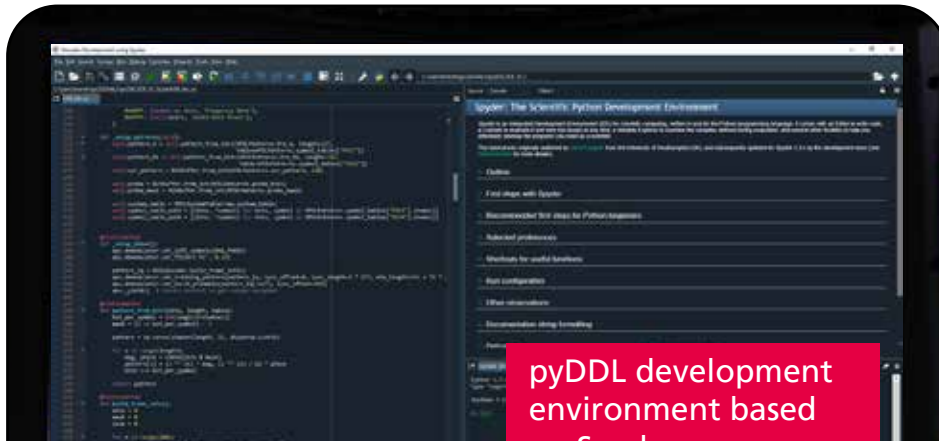
Demodulator News

- + QAM demodulator with variable constellation
 - Demodulation of user customizable constellations
 - Includes burst detection with preamble synchronization feature
 - Includes multichannel support features
- + Added DTMF selcal support for FDM signals
- + QAMn var:
 - APSK16_dvbs2
 - ASK2PSK2 abs/diff
 - ASK2PSK4 abs/diff
 - ASK2PSK8 abs/diff
 - ASK2PSK16 diff
 - QAM 8
 - QAM 16 circle/square
 - QAM 16 v17 abs/diff
 - QAM 16 v22 abs/diff
 - QAM 32 circle
 - QAM 64 circle/square
 - QAM 256 square

Decoder News

- + New modem MPT1327 Uplink
- + New decoder for Bell 103 / ASCII 8 11
- + New decoder for DominoEx
- + New detector for ALE4G / WALE
- + STANAG 4285
 - Includes uncoded modi (no automatic detection)
 - Includes decoding of 8 Bit synchron ASCII (no automatic detection)
 - Improved performance and forward error correction
 - Includes decoder parameters to specify alphabet
- + ASCII 8 Bit: number of stop bits and output codec parametrizable
- + AIS: decoding of additional message types and minor fixes
- + DMR
 - Alinco decrypting with automatic key extraction
 - AES/DES decryption with known key
 - Output of MFID and short message as XML tags
- + TETRA DMO
 - Recognize communication type (normal / repeater / gateway)
- + STANAG 5511 Slew
 - Includes XML tags for MessageType, Address, EOM
- + STANAG 4481 FSK
 - Includes decoder parameters to specify codec and alphabet
 - Includes XML tags for alphabet
 - Includes status output
- + HFDL: added status channel output
- + Baudot & ASCII7: define custom alphabet in external text file

pyDDL News



pyDDL development environment based on Spyder

A special feature of go2MONITOR enables the customer to develop their own decoders and integrate them into their systems. This release is the next step in expanding the decoder development language from DDL to pyDDL. The long list of new features and converted decoders underlines this progress.

Additional pyDDL features

- Added and updated several predefined alphabets
- Binary (octal / hexadecimal decoder parameters up to 1024 bit (was 64 bit)
- New command convert_symbols
- New module RandomInterleaver for convenient and fast deinterleaving
- Predefined parity matrices for golay block codes
- Added signed conversion for BitBuffer to Python int
- Added migration tool for automatic language conversion of DDL decoders to Python
- Allow BitBuffer as input data type for audio codec
- Added reset() method and enabled attribute to preprocessing functions

Updated decoders to pyDDL

- STANAG 4285
- STANAG 4481 FSK
- STANAG 5511 SLEW
- STANAG 4197
- Link22
- AIS
- IsatPhone Uplink
- Golay
- Panther-H
- Robust Packet
- dPMR
- Tetra, Tetra DMO, Tetra Uplink
- NXDN

Classifier Enhancements



Wideband classification of UMTS/LTE emissions up to 10 MHz

With modulation classification and modem classification go2MONITOR gets detailed information to filter for Signals of Interest (SOI). The complete input band is split into individual signals, classified and signal changes tracked.

Following listed the most important changes:

- + DECT modem recognition added
- + All recognized modems are reported (including MIL and PMR) even in the standard version
- + New parameter autocorrelation peak and periodicity estimation for classified PSK signals
- + Optimizations for OTH (Over The Horizon) to reduce large number of unknown signal segments in certain HF radar emissions (optional)
- + NC-Library now classifies signals until End of File

Additional Receiver Support

With this release, we have enhanced the support for popular Rohde & Schwarz communications receivers.

- + R&S ESMD receiver: Added receiver control and IF-Panorama / Panorama-Scan support
- + R&S EB500 receiver: Added IF-Panorama / Panorama-Scan support
- + Added support for Jumbo-Frames to increase maximum bandwidth for R&S receivers
- + Update driver version for USRP receiver to solve some communication problems

Noteworthy Changes

- + Memory Scan / Step function now supports receiver-specific frequency range limitations to enable effective scan / step with multiple receivers simultaneously
- + New result database fields: Auxiliary information, Periodicity, Bearing / BearingDone-Flags, Alert-Flag
- + Detection of new emission from scan / overview spectra improved to reduce false-positives
- + AMT tasks now specify alerts or frequency blocking behavior even if no narrowband action was selected
- + Added separate metadata postprocessing scripts for TETRA DMO and TETRA Uplink
- + Changed some mapping from tags to fields for APCO25 and TETRA modems
- + Units and number of decimal places for frequency display is configured in the application settings dialog. Default format is set to MHz with four decimal places
- + New Alert function in narrowband channel, based on the search function in decoder result display
- + New functions in ResultViewer to create user-results from a selection of other results (available from table view and structuring)
- + New option in ResultViewer, signal-detail, to set if the whole time-range of a recording will be displayed automatically instead of only the first 10s
- + Recording to binary file of raw data after channel decoding for many decoders

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