IQ Demodulations

Anritsu provides a supplementary tool for demodulation of RF signals – IQ Demodulations (Demods). The tool reads IQ data **generated by a spectrum monitor** (like the Remote Spectrum Monitor MS27101A) or from a **CSV file** and decodes important base station signal IDs. Results are **displayed in tables** or can be **exported to a database.**

It supports several cellular (LTE / UMTS / GSM / CDMA2000) and digital radio (P-25 / TETRA) technologies together with an AM/FM streaming function. The tool can be launched from **Anritsu's Vision™ application** and also has an interface for **remote control.**

Demodulated Parameters

The following base station IDs and parameters are provided:

LTE

MNC, MCC, Operator, frequency offset, physical cell ID, number of antennas, PHICH duration, CID, TAC, frequency band, TDD indicator, cell barred

UMTS

MNC, MCC, Operator, primary scrambling code, scrambling code group, CID, frames, errors

GSM

MNC, MCC, Operator, BCC, NCC, LAC, CID, cell barred access, cell channels, BCCH channels

CDMA 2000

MNC, MCC, Operator, primary scrambling code, scrambling code group, CID, frames, errors

TETRA

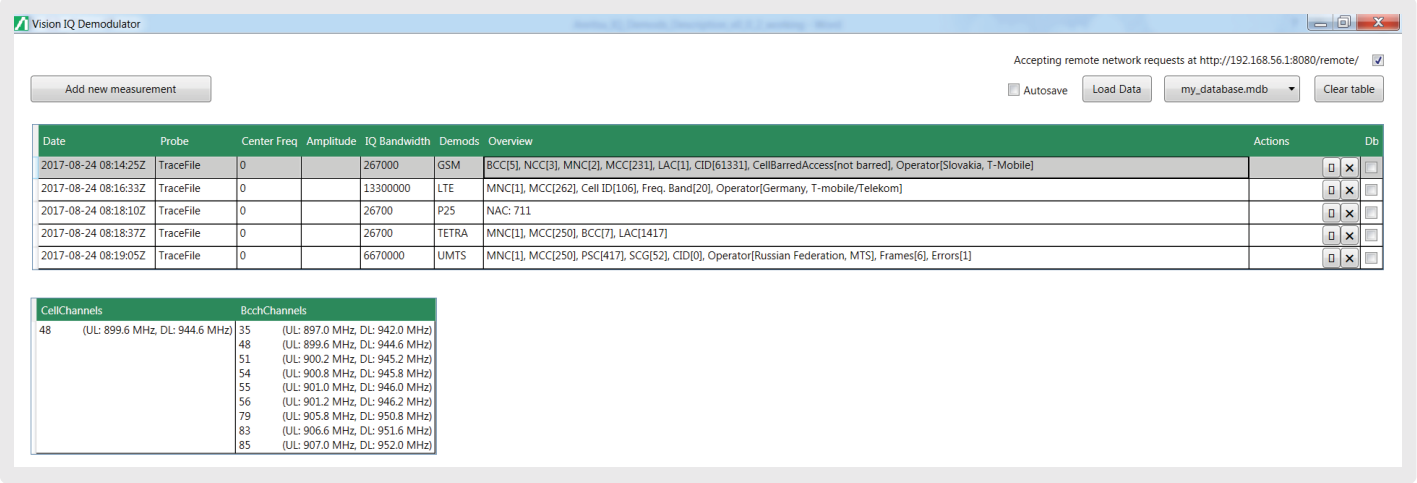
MNC, MCC, BCC, LAC

P-25

NAC, DUID, NET, RF, voice frequencies

AM/FM

Demodulated streamed signal in wav format

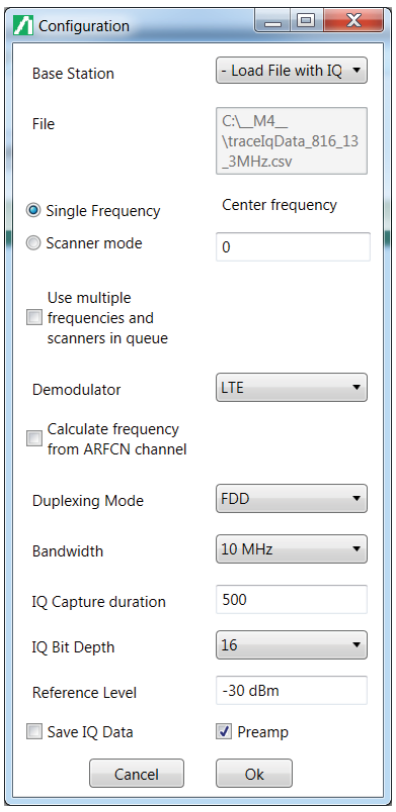


Features

Simple and Scanner Modes

It is used for demodulation of one particular central frequency. Demodulator type and related IQ capturing parameter must be selected. In the case of LTE, users select Duplexing Mode (TDD/FDD) and expected bandwidth. For cellular networks, **it is possible to choose the ARFCN number** and the central **frequency is automatically calculated.**

In scanner mode, a wide range of frequencies are scanned. When a signal is found, then **all channels are decoded.** It allows skipping weak channels (under a pre-defined threshold) if suitable. **Conversion of ARFCN to frequency is also supported.**



PC requirements:
Windows 10 or 8 basic configuration

Database, Remote Control, and Vision Integration

Results are saved into an internal database. User can **create a new database or open an existing one and store measurements.**

The user **can integrate IQ Demods into their system.** An HTTP server interface is provided, through which it is possible to remotely add new measurements into the queue. Retrieving results and status of measurement is also provided.
A simple client is provided as well.

IQ Demods are an optional part of Anritsu's Vision package. They can be launched from the Vision application and pass the selected signal frequency (marker). The Vision internal database is then used for **selecting RSM and measurements.**

AM/FM Streaming

AM/FM signal source can be streamed into the application, demodulated, and saved or **directly listened to in a .wav format.**

Measurement Queue

User puts different measurements into a queue. Single and scanner mode **measurements can be combined.**

Signal Modulation Type

IQ Demods are able to identify what modulation type is used in the signal: **AM, FM, QAM, PSK, GMSK, or FSK.**