



Kestrel TSCM

Signal Intelligence Support System

Application Note: **20100526-0001**

Topic: **Chirp Threat Mode (CTM)**

Purpose

The following Kestrel TSCM TM Software qualification testing was completed to evaluate the overall effectiveness of the advanced **Chirp Threat Mode (CTM)**.

Signal Source

The qualification testing involved one (1) signal generated utilizing a **Marconi Instruments 2022D RF Signal Generator** at a frequency of **375.000 MHz** and two (2) active audio based **Technical Surveillance Devices (TSD)** at **398.6000 MHz** and **407.2000 MHz**. The active **Technical Surveillance Devices (TSD)** were typical **Low Power Analog Audio Transmitters**.

Result

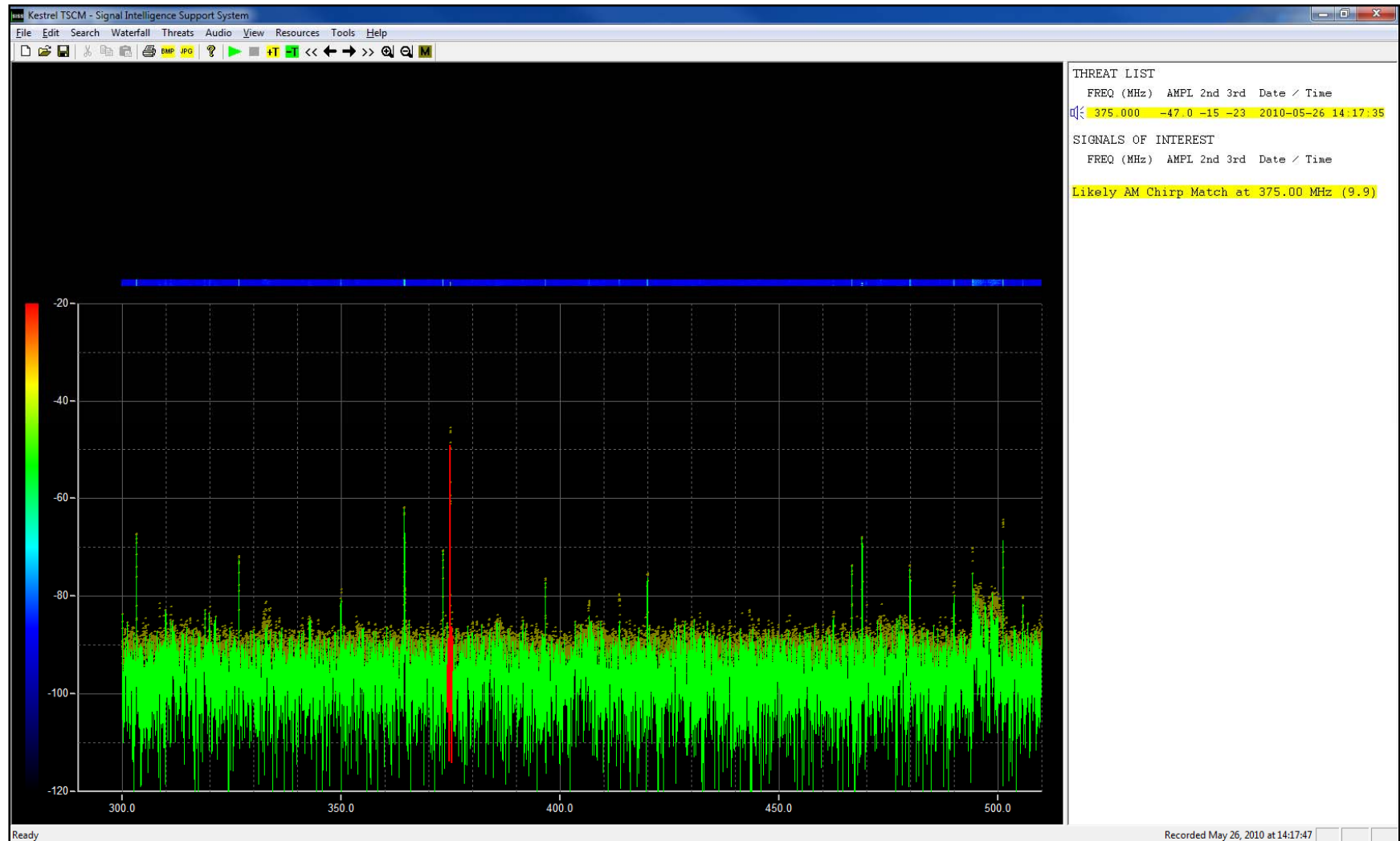
The Kestrel TSCM TM Software correctly responded to each of the hostile signal sources and displayed the signal on to the **Automatic Threat List (ATL)** for the **Search Range** of **300 MHz to 900 MHz**.

Each signal source was activated independently beginning with the **375.0000 MHz** signal, followed by the **398.6000 MHz**, and **407.2000 MHz** signal.

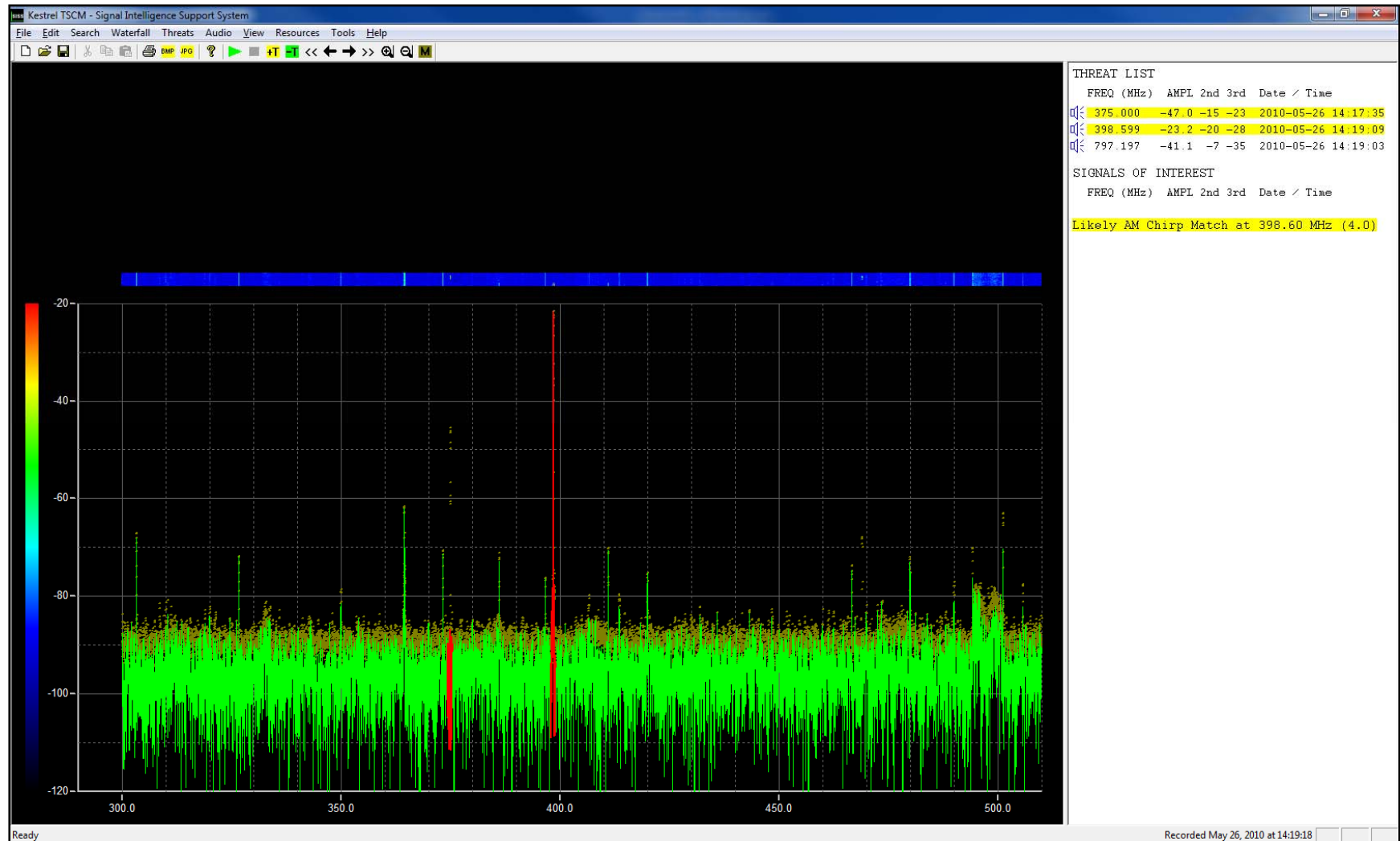
The **Chirp Correlation Mode (CCM)** responded correctly for all of the signal sources utilized during the qualification testing.

The 2nd harmonic of the **398.6000 MHz** signal was also correctly identified at **797.1970 MHz**.

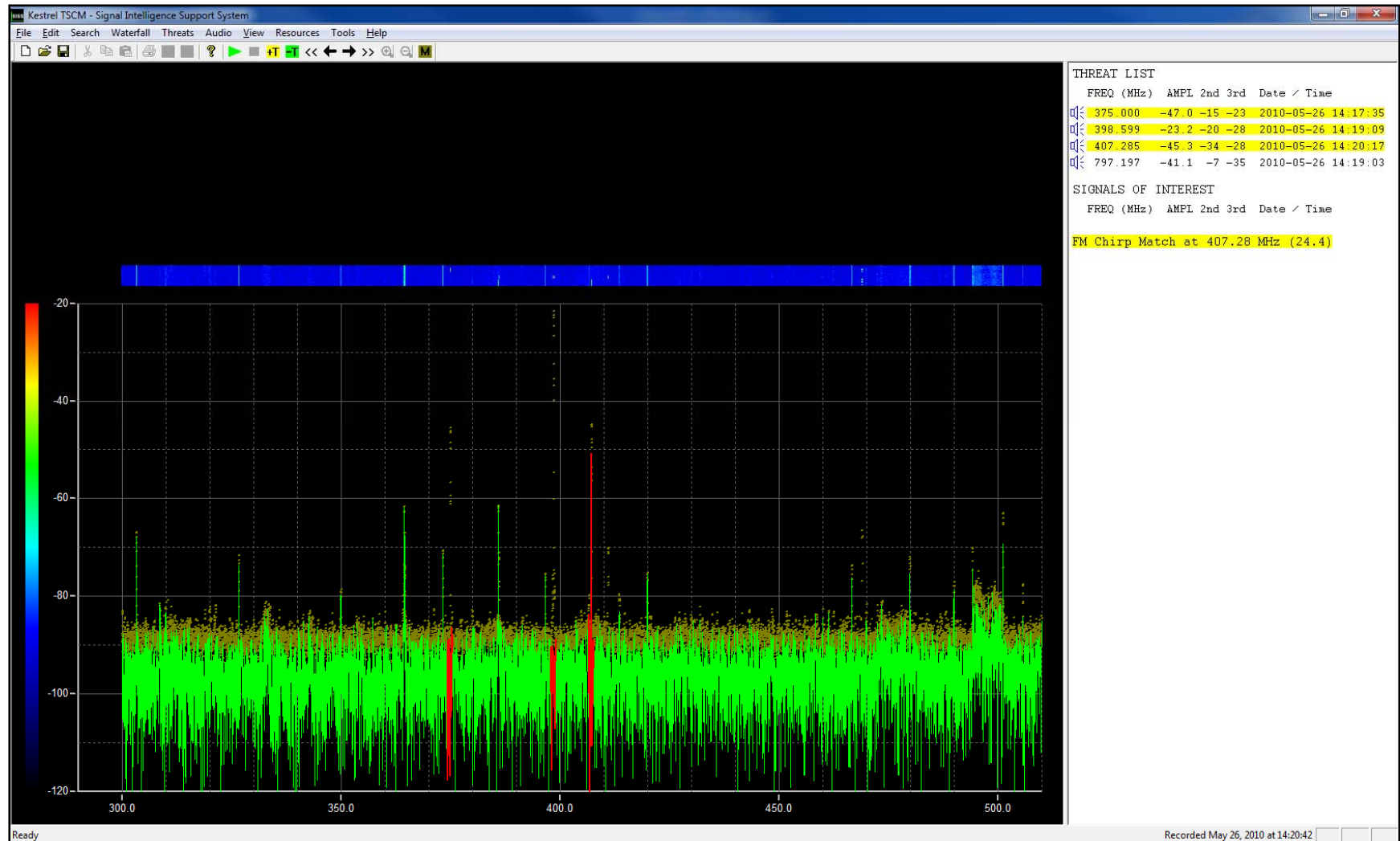
375.000 MHz



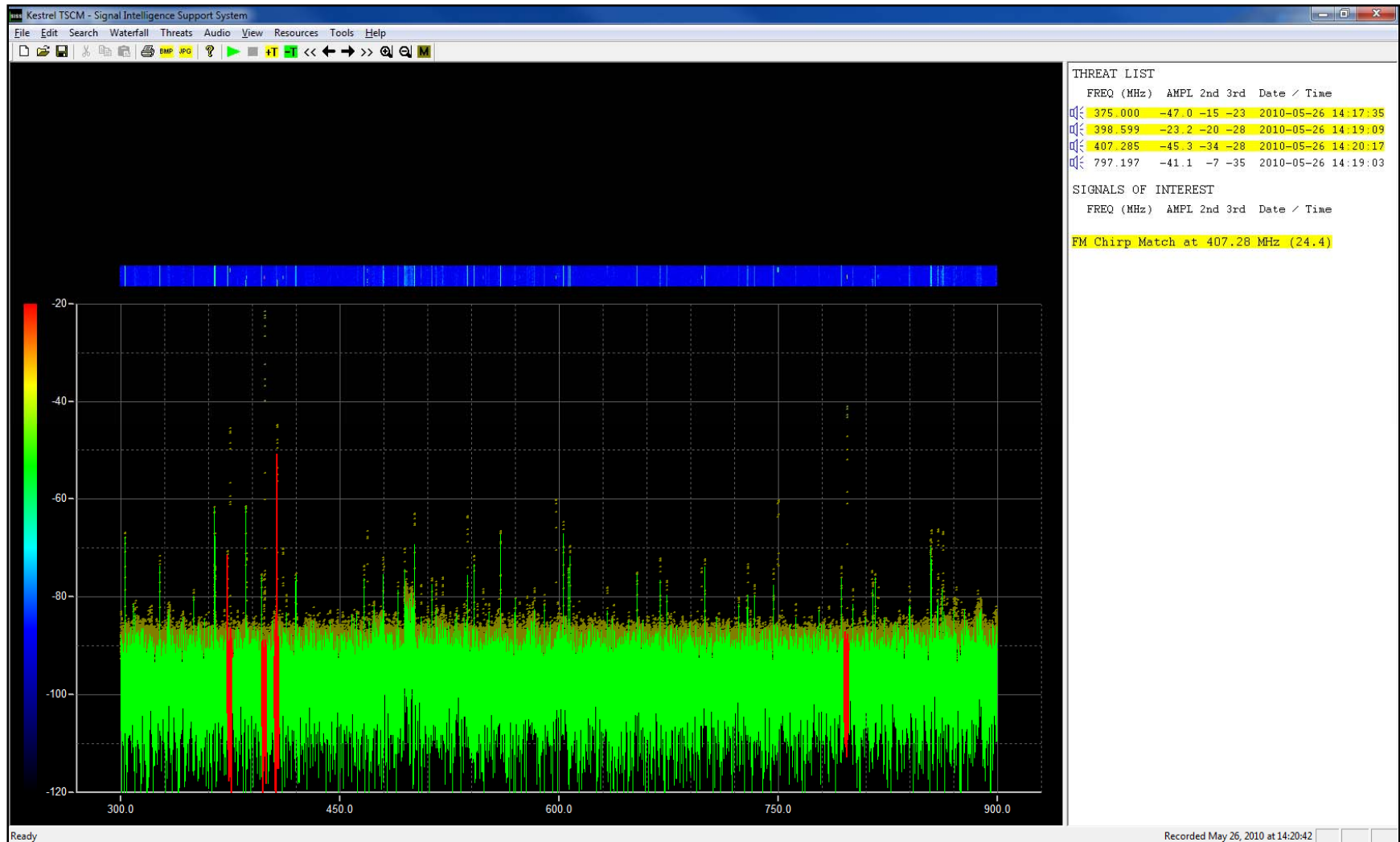
398.6000 MHz (797.197 2nd Harmonic)



407.2000 MHz

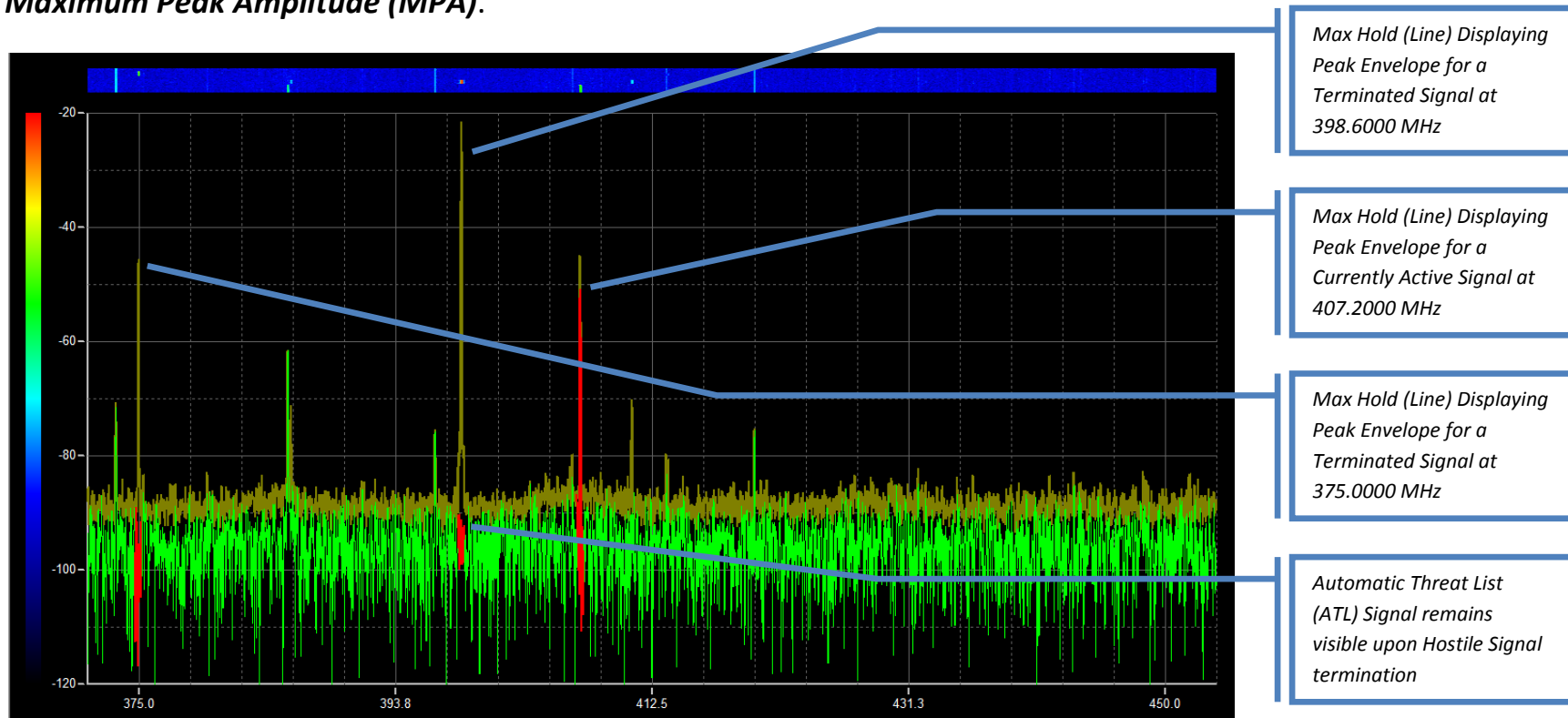


375.000 MHz, 398.6000 MHz (2nd Harmonic 797.197 MHz), and 407.2000 MHz.



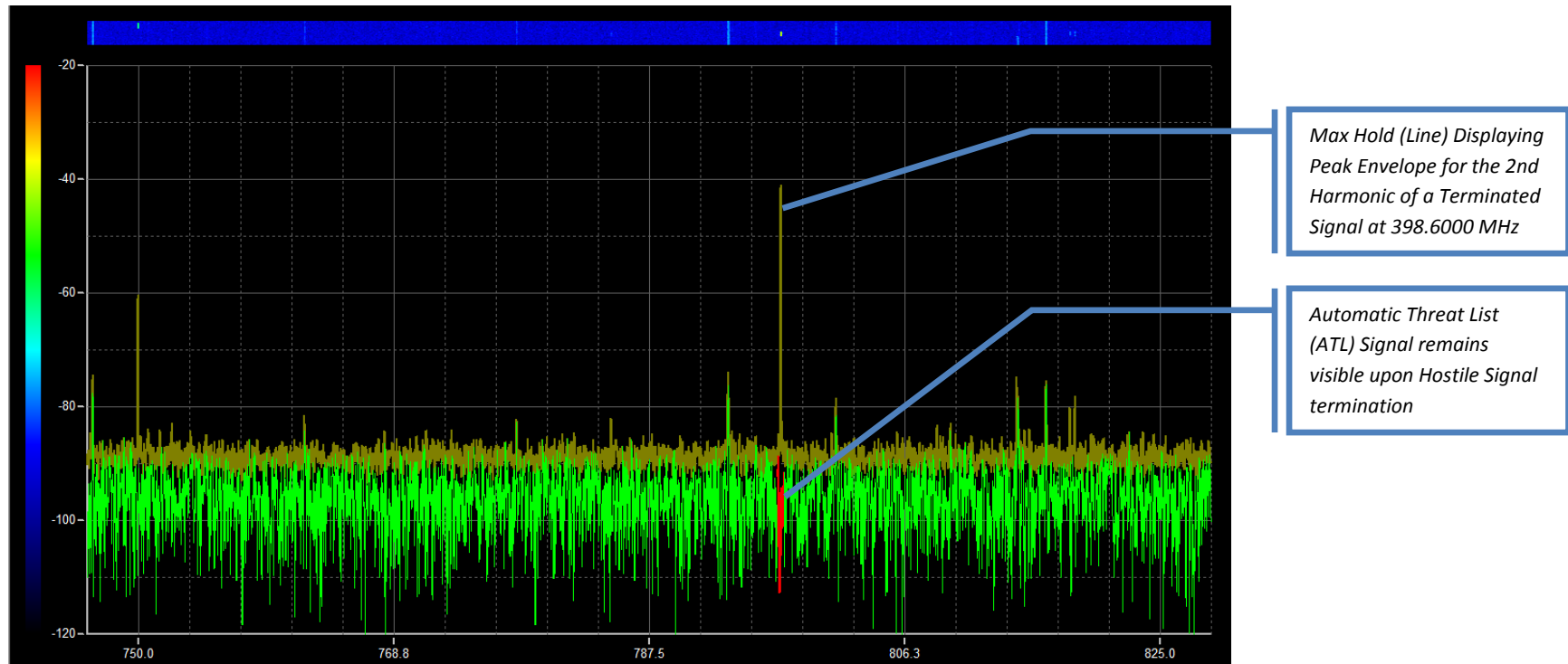
Max Hold (Line)

Switching the **Max Hold (Dots)** to **Max Hold (Line)** allows the operator to gain better insight as to the **Maximum Peak Envelope (MPE)** for each of the signals not currently active and / or those with amplitudes below the **Maximum Peak Amplitude (MPA)**.



Potentially hostile signals that have met the **Threat Level Criteria (TLC)** will main visible in the **Ambient Noise Floor (ANF)** and flagged in **Red**. This flag remains active even if the signal terminates after successful detection of any signal added to the Automatic Threat List (ATL).

The **2nd Harmonic** of the **398.6000 MHz** fundamental frequency was also identified and flagged as having met the **Threat Level Criteria (TLC)**.





Mailing Address:

Professional Development TSCM Group Inc.

Technical Security Branch (TSB)

319 - 4305 Fairview Street Burlington Ontario Canada L7L 6E8

Telephone: 647-293-7384

Email: support@pdtg.ca

Internet: www.pdtg.ca

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