**Paul D Turner, TSS TSI**

**Threat Alert!**   **NEW**

**Can your client's Wi-Fi access points be perpetually powering a Technical Surveillance Device (TSD) via RF energy harvesting?**

The answer to this question, is decidedly, yes!

Even 50 to 100 mW of radiated power, as well as the combined energy across multiple wireless transmitting devices, such as Wi-Fi routers can be harvested to convert RF to DC power and provide enough energy to operate low power smart surveillance devices.

The same RF energy harvesting capability can be demonstrated from higher power transmitters at greater distances, including broadcast radio and television transmitters. Radio waves are received by an antenna connected to an RF to DC conversion process before subject to the usual power conditioning and then onward to an output load or battery charging arrangement.

Only a very small amount of energy can be harvested in practical terms, over a relatively small distance. However, power of the transmitter and distance to the transmitter are the defining elements in the process. Picture for a moment a surveillance device that is being powered by harvesting the energy from a nearby commercial broadcast station. The station lowers its transmit power at night and the TSD stops emitting (this would be the time many sweeps take place). In the morning (normal business hours for the target facility), the broadcast station increases the transmit power levels and the device begins to transmit again compromising the boardroom or executive office perhaps. There is much to consider for the threat actor and the technical security specialist when faced with these advanced threat technology concepts.

Possible countermeasures include the application of Remote Spectrum Surveillance and Monitoring (RSSM) ™ as defined by the TSB 2000 (Technical) Standard ™.

This would allow the characterization of the emitter over time as a detection resource and is considered an industry best practice.

*Remember, in a Moving Target Threat Model the Technical Operator is the Spectrum Analyzer...*

The Technical Research and Standards Group (TRSG) ™ at Professional Development TSCM Group continue to address tomorrows threat technology today. The technique of RF energy harvesting and has been demonstrated at distances of approximately 2.4 Km (1.5 miles).

Harvested energy can be stored in a capacitor for short periods of time and for longer durations of time when a rechargeable battery is utilized.

RF energy is only the beginning of the threat profile!

Motion, acoustical noise, heat, light, vibration, pressure, kinetic activity, etc., can all provide the necessary energy for harvesting on a mW level that is more than sufficient to provide functional power for modern tracking, audio transmitters, store and forward burst transmitters and miniature digital recorders.

To learn more about this and other modern threat technologies we would recommend that you attend our Certified Technical Operator (CTO) ™ or our advanced Technical Security Specialist (TSS) ™ training program.

**Kestrel ® Advanced Report Generator (ARG) ™**

The Kestrel TSCM ® Professional Software is considered by many technical operators as the industry standard in bringing original, unique and innovative technology to the TSCM role. Our ARG ™ technology is the most powerful report manager in the industry and encompasses all aspects of sweep protocol and processes, eliminating the need to build separate manually defined reports for each assignment.

Not only does our ARG ™ technology provide industry leading RF output rendering, the database concept allow the technical operator to build powerful complete report templates and custom modular section types that can be used to facilitate unusual or unique reporting requirements.

The original Kestrel ® Session Report Generator (SRG) ™ and our more recently released Advanced Report Generator (ARG) ™ are both standard included features within the application. The anticipated 2nd phase development of the Advanced Report Generator (ARG) ™ technology, now includes an additional style (compact) and other working efficiencies. The technical operator can build multiple custom technical and non-technical complete reports, interim client field reports and Spectra only report files for attachment to other report documents.

# Kestrel TSCM ® Professional Software

## Definition: *Kestrel, "An Advanced Standards-Based Software Defined Radio Application for Enhanced National Security"*

**Professional Development TSCM Group Inc.**                    **Technical Security Branch (TSB)**

## Standards Based Technology Solution

The Kestrel TSCM ® Professional Software is a standards-based application that brings a modern threat technology focus with an entirely new methodology and approach to Technical Surveillance Countermeasures (TSCM), at all known and developing operational threat levels.

Many of the features have been introduced to mitigate tomorrows threat technology unlike competitive products that focus on concepts that are generally obsolete.

Many technical operators have commented on our unique ability to develop and release powerful solutions ahead of the threat curve and in response to the real-time needs of the technical operator. This is not by accident. Our small highly focused team is committed to turning technical security problems into real-time solutions that can be immediately deployed to counter a wide range of threat actors within a national security role. The Kestrel TSCM ® Professional Software offers a powerful (updated daily—more or less), software with new technology and on-going updates for existing features allowing technical operators to remain confident in the face of a complex threat environment.

## All Things Kestrel ® | Virtual Classroom Series

The Kestrel TSCM ® Professional Software has become the leading TSCM specific, operator centric SDR resource for private and public sector operators who have finally discovered what they have been missing for two (2) decades. The need for flexibility and scalability within an evolving TSCM | SIGINT threat environment has become absolute.

We are pleased to support technical operators by bring a modern approach to the operator training issue during the on-going and evolving pandemic. Our Virtual Classroom was launched in July 2020 and has gained momentum exponentially since the first session. As we enter the 3rd month of virtual training delivery, we have now exceeded 100 participants. Our training schedule was initially projected to run into January 2021, and plans are now underway to extend our training well into the new year and have now brought our certification onboard. If you are a licensed technical operator, there is no fee for our All Things Kestrel | virtual classroom series training.

## Remote Virtual Classroom (RVC) TM   NEW

We are pleased to announce that effective September 2020 we have launched a new Remote Virtual Classroom (RVC) TM (Black Box) technology to allow our instructors to deliver our Certified Technical Operator (CTO) TM program remotely worldwide. This new training delivery concept allows hosted private sector, corporate, law-enforcement, government, public safety, regulatory, and military operators to attend our highly in demand 5-day CTO TM program without the travel related necessities. Our innovative Black Box technology provides a balanced approach to virtual training delivery within a secure instructor enhanced live training environment at your own facility.

## Innovation is Simply the Beginning!

### Visionary Software Beyond the Technology Limitations...

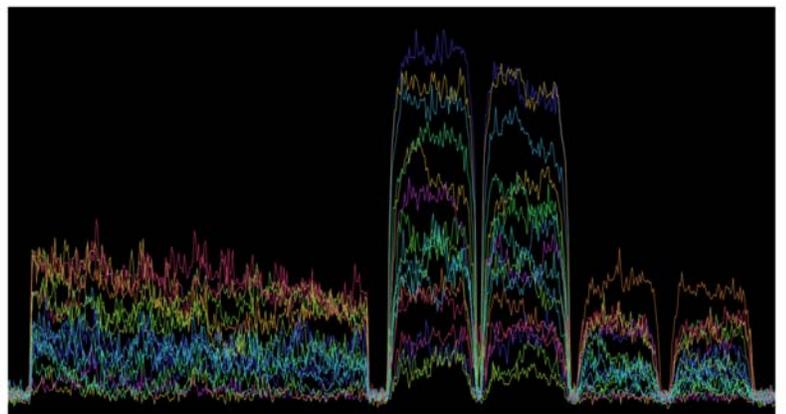| www.pdtg.ca | www.kestreltscm.com | www.ctsc-canada.com |

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*They say that the value of art is in the eye of the beholder! Every day a new never before seen artistic spectrum is developed within the Kestrel TSCM ® Professional Software somewhere in the world. Whether impressionist, contemporary or abstract, the RF spectrum brings a commonly understood meaning for every professional technical operator who views it...*

*Kestrel TSCM ® Professional Software is innovative industry leading, disruptive technology, sold in 48 countries worldwide.*