

- Dual-Mode & Dual-Frequency In-Home Leakage Detector that Accurately Monitors Leakage in an All-Digital System or Mixed Digital and Analog Systems
- Provides a Cost-Effective Solution for In-Home Leakage Detection by using Existing CT-4 Channel Taggers Installed in the Headend or by using the Seeker D Lite Source Transmitter
- When Used with the Seeker D Lite Source Transmitter at the Ground Block, the Seeker D Lite Provides an Industry Leading Sensitivity of 0.1 $\mu\text{V}/\text{m}$ for Finding the Smallest of Leaks and Accentuating Ingress Points in the Customer Premise
- Detects Leaks at a Low Enough Level to Validate that Transmissions from Cellular Devices in the Home do not Enter the Cable Plant and Cause Potentially Harmful Interference



Easily find & fix the smallest, hardest-to-find sources of ingress into your plant

Overview

Mitigation of signal leakage within the subscriber premise is essential for the successful operation of services both inside and outside of the coaxial cable network. This combined with a new requirement to simultaneously monitor for signal leakage in both the aeronautical and LTE bands, makes it even more important to thoroughly evaluate the potential for interference within the subscriber premises.

Trilithic has developed a new system for leakage find and fix which will comprehensively test the Aeronautical and LTE bands in fully digital, analog, and mixed cable systems. The new Seeker D Lite™ system provides installers and repair techs with two different types of tools for finding and fixing leakage in both the Aeronautical and LTE bands.

In-Home Leakage Detector

The new Seeker D Lite™ is a tough, convenient, and flexible leakage test tool. The Seeker D Lite works by measuring tagged RF signals in and around a subscriber's premises.

This leakage detector assists in installation and troubleshooting by verifying that the leakage within the subscriber premises is not great enough to contribute to the cable system's cumulative leakage index (CLI). Leaks can also be important indicators of ingress that can hinder communication on the return band.

The Seeker D Lite works in conjunction with either the CT-4™ Channel Tagger in the headend or the Seeker D Lite Source Transmitter at the ground block. Both devices provide an uncompromising tagging solution for active analog or digital

systems and can be used to identify and locate all RF leaks in both the Aeronautical and LTE bands.

Advanced, Compact Design

The Seeker D Lite is equipped with built-in, dual-frequency antennas that provide technicians the ability to find even the smallest of VHF or UHF leaks, while easily moving throughout a home. Additionally, an easy-to-read backlit display provides a simultaneous dual-view of both bands, making it even easier to locate leaks when walking through the home.

All of these features combined with a compact design and rugged carrying case make the Seeker D Lite the go-to leakage detector for every technician.

innovative technology to keep you a *step ahead*

AVAILABLE MODELS:

- Seeker D Lite Leakage Detector
P/N 2011726000
- Seeker D Lite Source Transmitter
P/N 2011752000

SEEKER D LITE INCLUDES THE FOLLOWING:

- Seeker D Lite Leakage Detector
- Seeker D Lite Protective Carrying Case with Belt Clip
- AC to DC Power Adapter & Battery Charger
- USB Charge & Data Cable (Mini-B Male to Standard-A Male)

SEEKER D LITE SOURCE TRANSMITTER INCLUDES THE FOLLOWING:

- Seeker D Lite Source Transmitter
- AC to DC Power Adapter & Battery Charger
- USB Charge & Data Cable (Mini-B Male to Standard-A Male)

Advanced In-Home Shielding Integrity Testing

Until recently, finding and fixing leakage in the aeronautical band was considered “good enough” for almost all cable operators. But, with increased deployment of off air services by cellular providers and increased bandwidth demands of both the MSOs and cellular providers, keeping the cable plant tight has never been more important. Additionally, the increase in service demands for cellular bandwidth has pushed services into the 700-800 MHz (LTE) band and maybe even lower into the 600 MHz band in the near future.

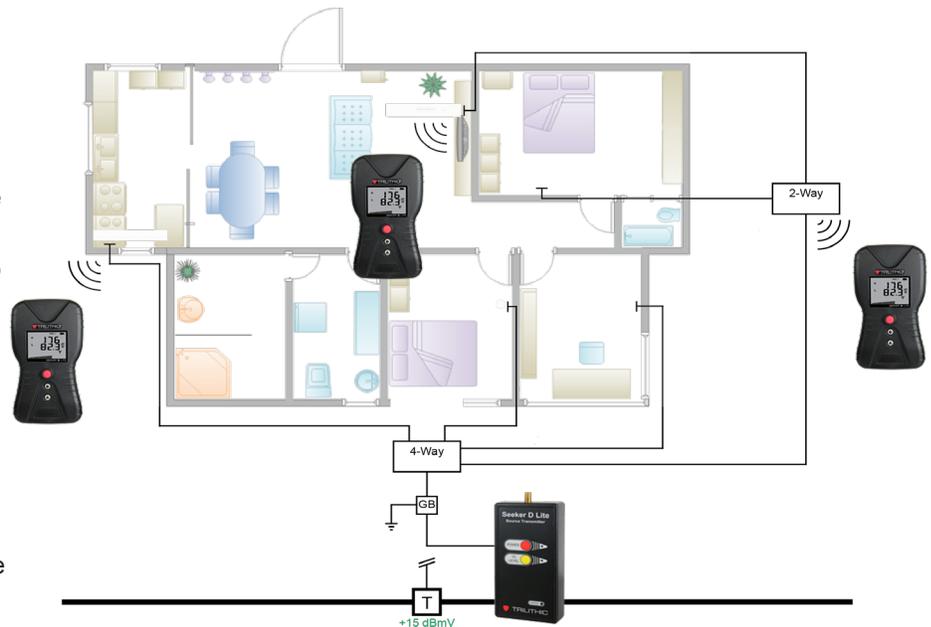
Until now, leakage detection has focused on the outside plant, but as cellular devices become more prevalent, we need to somehow verify if these devices are causing harmful interference when they are in close proximity to leakage or ingress sources within a home. Since the relative distance between a cell tower and cellular devices determines the transmit level of cellular devices, this can result in cellular devices transmitting their data with a signal strength as high as 3 V/m. Due to this possibility of high transmit level of cellular devices, even the smallest sources of leakage or ingress points within the home can lead to cellular signals causing issues with downstream QAM channels. With this problem in mind, Trilithic has developed the Seeker D Lite Shielding Integrity Testing Kit as a solution for finding the smallest of leaks in the home and to help identify any shielding defects that will allow cellular signals to enter into the cable system.



During an installation or service call, the Seeker D Lite Shielding Integrity Test Kit provides technicians with a way to comprehensively evaluate the customer premises for leakage in both the Aeronautical and LTE bands within fully digital, analog and mixed cable systems, and is the only system available to quickly, easily, and accurately verify that the shielding integrity of in-home wiring meets the needs of today’s high-tech world.

This innovative, patent-pending method of in-home leakage detection involves using the Seeker D Lite Source Transmitter to replace the cable service at the subscriber's ground block. The higher levels of the Seeker D Lite Source Transmitter will increase the field strength of the signals radiating out of the customer's home network, providing a higher level of sensitivity to find even the smallest of leaks.

The transmitter injects two carriers into the subscriber network, one between 135–139 MHz and another between 611–615 MHz, supporting testing in both the Aeronautical and LTE bands. The source transmitter signal level is at considerably higher level than typical active plant levels in order to “over-pressurize” the cable system in the home. This approach is similar to pressurizing a water pipe and looking for any sources of water that may point to the location of a defect in the pipe. Using the Seeker D Lite with its source transmitter allows the technician to detect leakage levels at an otherwise unheard of sensitivity down to 0.1 uV/m. The user may adjust the output level for home certification, but also has the option to reduce the level should the subscriber network prove to be too porous for pinpointing the location of a leak at the higher transmit level.



The Seeker D Lite provides both a visual readout of the measured levels in uV/m and a tone proportional to signal strength. To prevent false triggering, the Seeker D Lite utilizes Trilithic's unique channel tagging technique. When checking the integrity of in-home shielding and to provide consistency with leakage levels typically found within the subscriber premise, the levels displayed by the Seeker D Lite have been normalized to represent the value of a leak at typical system levels. This correlation between measured and displayed levels will assist the technician in evaluating the severity and recording of a leak based upon established industry practices.

SEEKER D LITE SPECIFICATIONS

Operation Specifications

Frequency Range	Low Band: 135–139 MHz High Band: 610.5–615 MHz Adjustable in 12.5 kHz Steps via Seeker Setup Software
Frequency Settings	10 user-adjustable operating frequencies, selectable on front panel Set using the configuration methods listed below
Receiver Sensitivity	-115 dBmV
Calibrated Level Range	20 to 2000 μ V/m scaled to match an analog carrier or QAM carrier when used with CT-4 channel tagger in the headend 0.1 to 20 μ V/m scaled to match an analog carrier or QAM carrier when used with Seeker D Lite Source Transmitter in the home
Level Accuracy	\pm 2.0 dB
Automatic Noise and Overbuild Discrimination	Internal circuitry discriminates between leaks and noise Overbuild discrimination provided by the CT-4 channel tagger installed in hub or headend or the Seeker D Lite Source Transmitter in the home

Physical Specifications

Construction	Plastic housing, with form fit case produced with ballistic nylon for protection
Control	Front panel rubber keypad
Display	Dual numerical readout of detected low and high band leakage within sensitivity range
Speaker	Tone is present if leakage amplitude exceeds squelch setting and digital tag is detected Pitch is proportional to strength of leak
Dimensions (H x W x D)	7.50 x 3.25 x 1.50 in (191 x 83 x 38 mm)
Weight	1.0 lbs (454 grams)

Available Interface Types

Antenna	Internal dual band
USB	Mini-B Port for charging & configuration using Seeker Setup Software

Battery & Power Specifications

Operating Time	8 hours plus, dependent on use
Charge Time	10 hours
Battery	Single 2600 mAh @ 3.7V Li-Ion internal battery, factory replaceable
Power Adapter	Input: 100 to 240 VAC ~ 50 to 60 Hz, 0.3A Max Output: 5 VDC, 1.0A

Environmental Specifications

Storage & Operating Temperature	Storage: -40° to +70° C (-40° to 158° F) Operating: -20° to +50° C (-4° to 122° F)
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SEEKER D LITE SOURCE TRANSMITTER SPECIFICATIONS

Operation Specifications

Source Frequencies	Low Band: 135–139 MHz High Band: 611–615 MHz
Modes of Operation	High Output Low Output
Low Output Mode Launch Amplitude	Low Band: -3.25 dBmV High Band: -4.25 dBmV
High Output Mode Launch Amplitude	Low Band: 16.75 dBmV High Band: 15.75 dBmV
Level Stability	±1.5 dB over entire temperature range

Physical Specifications

Construction	Plastic housing
Control	Front panel keypad constructed from water resistant membrane
Indicators	Front panel ON/OFF, Output Level & Charge LEDs
Dimensions (H x W x D)	7.50 x 3.25 x 1.50 in (191 x 83 x 38 mm)
Weight	0.85 lbs (380 grams)

Available Interface Types

RF Output Port	Replaceable F-Type connector
USB	Mini-B Port for charging

Battery & Power Specifications

Operating Time	8 hours plus, dependent on use
Charge Time	10 hours
Battery	Single 2600 mAh @ 3.7V Li-Ion internal batteries, factory replaceable
Power Adapter	Input: 100 to 240 VAC ~ 50 to 60 Hz, 0.3A Max Output: 5 VDC, 1.0A

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COMPATIBLE CHANNEL TAGGERS:

CT-4 Headend Channel Tagger
P/N 2011632000

Seeker D Lite Source Transmitter
P/N 2011752000

AVAILABLE SOFTWARE:

Seeker Setup Configuration Software
P/N 0930109002

OPTIONAL ACCESSORIES:

CL-9 Vehicle Power Adapter with USB cable
P/N 0610169007

CL-9 Vehicle Power Adapter without USB cable
P/N 0610169004

Mini-USB Power/Data Cable (I/O-20)
P/N 2071585004

Euro Power Adapter
P/N 0610169012

UK Power Adapter
P/N 0610169013

Australian Power Adapter
P/N 0610169014