
Evolv Health & Safety

Evolv is dedicated to safety, quality and consistency in the delivery of our products, as well as providing accommodations for use by people of all abilities. Products undergo testing and certification to meet various usage requirements defined by national and international governments and agencies.

Evolv Express®

Evolv Express® is the world's first and only touchless security screening solution that meets all of the post-pandemic security screening requirements. Express is proven to operate up to ten times faster than traditional metal detectors with its dual-lane, free-flow entrances and fusion of new sensor technology and artificial intelligence. The system is built to spot weapons while ignoring most harmless personal items while visitors walk through at a natural pace. Families and groups of people can now walk in together without long lines. It's a welcoming experience and allows them to make their way to the concessions or seats quicker.

How It Works

The extremely low frequency radio waves (ELF) used by the Evolv Express induce magnetization and/or currents in metal objects passing through, both of which can be characterized via magnetic polarizability tensors. Using our physical models, the Express recovers the data from the magnetic polarizability tensors and extracts features from them, which in turn correlate with physical properties of the object including volume, shape, conductivity, and permeability. Using large databases of threats, including firearms, metallic IEDs, and other threats as well as databases of typical benign objects, including keys, cellphones, belts, shoes, coins, tablets, and laptops, the classifier is trained to distinguish between the two classes via machine learning techniques.



Comparable Use of Extremely Low Frequency Radio Waves

Evolv Express uses extremely low frequency radio waves (ELF) in the range used by Electronic Anti-Theft Systems (EAS), widely deployed in retail settings for loss prevention. Implantable electronic medical devices may be affected by electromagnetic radiation emitted from devices that operate in this range.¹

Is the Evolv Express System Safe?

Evolv is dedicated to safety, quality, and consistency of our products. The Evolv Express system has been safety tested and meets the following certifications:

- FCC CFR Part 15, CE Mark (CE Directives and Standards) Global CB Scheme per CBTL Safety Standard
- NRTL-certified in accordance with UL 61010-1, CSA 61010-1, and EN 61010-1
- US Americas with Disabilities Act Compliance Compliant Access
- RoHS – Restriction of the use of certain Hazardous Substances (e.g., Lead) in Electrical/ Electronics Equipment.

Is the Evolv Express system safe for people with an implanted or wearable medical device?

In keeping with FDA guidance on EAS and walk-through metal detectors, it is recommended that visitors and system operators with implantable or wearable medical devices consult their device manufacturer or physician for information relating to their own specific device. An alternative screening approach is recommended for anyone who has safety concerns.

Is the Evolv Express system safe for pregnant people?

The Evolv Express uses extremely low frequency radio waves (ELF) - a non-ionizing sensing modality - in compliance with IEEE's 2019 guidance for safe operation with the general public, which they define as including pregnant people and their unborn children. An alternative screening approach is recommended for anyone who has safety concerns.

Are these systems safe for long term exposure? i.e. for security staff manning the system.

The Evolv Express uses extremely low frequency radio waves (ELF) - a non-ionizing sensing modality - in compliance with IEEE's 2019 guidance for safe operation with the general public, which applies to regular/occupational as well as infrequent exposure.

Implanted Electronic Medical Devices

The US Food and Drug Administration (FDA) has determined the likelihood of EAS systems interfering with implanted medical devices is extremely low, and any effects on the implant and the wearer were typically transient and unlikely to cause clinically significant symptoms in most wearers.

The FDA recognized the likelihood of ELF systems interfering with implantable electronic medical devices is low, however they believe implant wearers should be notified wherever and whenever extremely low frequency radio wave systems (ELF) are in use.²

Evolv Technology protects everyone's fundamental right to be safe in all the places people gather. The company is a leader in preventing threats from weapons and bombs before they occur by consistently scanning everyone without the need to stop or empty pockets. With Evolv, a positive visitor experience is balanced with a proactive approach to enable security anywhere, without disruption to traffic flow – including at schools, sports stadiums, entertainment venues, hotels and conference centers, airports, special events, houses of worship and government agencies.

1. American Heart Association Journal, Circulation; Effects of External Electrical and Magnetic Fields on Pacemakers and Defibrillators: From Engineering Principles to Clinical Practice; Beinart, Roy M.D. and Nazarian, Saman M.D., December 2013

2. U.S. Department of Health and Human Services, Food and Drug Administration, Center for Devices and Radiological Health, Electronic Product Devices Branch, Division of Enforcement III, Office of Compliance; Guidance for Industry, Labeling for Electronic Anti-Theft Systems; August 2000