



The ESA Business Incubation Centre in Harwell, UK, started its operations in 2011 and is managed by the Science and Technology Facilities Council (STFC). It is located at Harwell Campus, a world leading science, technology and business campus based in South Oxfordshire with more than 4,500 researchers, engineers and innovators from over 150 high-tech organisations, and a focal point and cluster for the UK's rapidly growing high-tech space community.

## SubTera NDT

**B1080 operates in subteraHz band a first for non-destructive testing & non-destructive examination**



Website

**Founded in 2012 by**

- **Joe Dunne**

## Incubation period

01-11-2012 to 01-02-2014



space solutions

Alumni

## About SubTera NDT

ESA awarded a grant to develop a handheld sub millimetre system based on StarTiger Intellectual Property. The project was based at The Science & Technology Facilities Council (STFC). SubTeraNDT subcontracted Dr. Chris Mann of Water Window to develop the system & conduct some preliminary testing. ESA were satisfied with the outcome and in conjunction with STFC granted SubTeraNDT a licence. SubTeraNDT were awarded a US Patent No. US 9,518,918 B2.

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## **The challenge**

Currently there is no single product that is able to achieve the inspection of CUI, CUP and CUF.

Our B-1080 imager is the only passive sub-terahertz non-destructive examination (NDE) system available on the market. The B-1080 passive mode can provide the materials thermal state, it's surface emissivity and reflectivity and the transmission properties of materials and underlying surfaces, all simultaneously by direct observation.

Being non-directional it can be used in a handheld mode and with its sophisticated detection electronics has sufficient sensitivity to provide real time video imagery. It can observe the underlying metal surfaces integrity through the paint, insulation, or fireproofing cover. An unskilled operator can directly observe corrosion or breakdown of the protective material. This passive capability is new and disruptive. The system is highly portable and rugged.

## **The solution**

Our B-1080 is a submillimetre wave inspection system

Passive imaging with room temperature receivers is one of the hardest modalities to realise in the terahertz gap but is necessarily a key requirement for many future industrial and medical applications.

SubTeraNDT build and sell the B-1080 Non-Destructive Examination (NDE) imaging system that exploit the new terahertz receiver technology. We are developing systems that includes the ability to incorporate multi-band and multi-modal enhancements, i.e. multi-frequency, combined passive/active terahertz.

