



The Science Inside

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Police Electromagnetic Compatibility (EMC) and Radio Frequencies (RF) Testing on Evidential Breath Alcohol Testing Instruments

The Lion Intoxilyzer 6000UK, Intoximeter EC/IR and Camic Datamaster are Evidential Breath Alcohol Testing Instruments (EBTIs) which are type approved for the purpose of performing evidential breath tests in accordance with 'A Guide to Type Approval Procedures for Evidential Breath Alcohol Testing Instruments used for Road Traffic Law Enforcement in Great Britain', 1994, [1] as required in the Road Traffic Act 1988 [2].

In 2004 they were further type approved to perform evidential breath tests under the Railway and Transport Safety Act 2003 [3].

Following the introduction of Police Terrestrial Trunked Radio (TETRA) the performance of all type approved EBTIs were evaluated [4] [5] in 2003 to assess the effect of TETRA on evidential breath readings.

This assessment is based on the information contained in references 5 to 8 listed below. The EMC and RF evaluation of the EBTIs was conducted to earlier versions of the current standards which were designed to test against threats (interference sources) that were available at time of testing.

- Lion Intoxilyzer 6000UK – there is no impact observed from TETRA based systems,
- Intoximeter EC/IR – there is no impact observed from TETRA based systems,
- Camic Datamaster – It has been observed that under certain conditions TETRA based systems may cause the unit to abort a measurement reading. Hence in a safe evidential condition.

Yours sincerely,

Breath Alcohol Type Approval Manager

References

- [1] Home Office and Forensic Science Service, "Evidential Breath Alcohol Testing Instruments. A Guide to Type Approval procedures for evidential breath alcohol testing instruments used for road traffic law enforcement in Great Britain," HMSO, 1994.
- [2] www.legislation.gov.uk, "Road Traffic Act 1988," [Online]. Available: <https://www.legislation.gov.uk/ukpga/1988/52/section/7>.
- [3] www.legislation.gov.uk, "Railways and Transport Safety Act 2003," [Online]. Available: <https://www.legislation.gov.uk/ukpga/2003/20/contents>.
- [4] Forensic Science Service, "EMC Immunity Test Procedures for Breath Alcohol Measuring Devices, FSS-BAU-3/02 Issue 1," 2002.
- [5] Qinetiq, "EMC Testing of Traffic Law Enforcement Devices Final report, Volume 4: Roadside screeners and evidential Breath testing, Qinetiq/S&E/SPS/CR021349/1.0 – Volume 4, Issue 1," 2003.
- [6] "EMC Testing of a Intoximeter EC/IR, ref. OO602319," 1997.
- [7] "EMC Testing of a Camic Datamaster Breath Analyser, ref. 10036," 1993.
- [8] "EMC Testing of a Evidential Breath Alcohol Analyser – Lion Intoxilyzer 6000, ref. 100333A," 1993.