
One Box: Driver and Vehicle Data Management System System Requirements

Publication No: 01/14
June 2014

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In 2012 the Home Office published the Driver and Vehicle Data Management Criteria, which detailed the suggested performance standards for vehicle telematics units and their associated data management systems. The criteria were written with the aim of ensuring a common approach to the design of police telematics, together with providing a management tool to underpin safe and efficient driving for organisations and staff. This approach was taken to deliver cost efficiencies across the police service as well improving driver behaviour and reducing collisions, so protecting lives and property.

One of the provisions of the criteria was that the document would be regularly updated and, since its publication, the Home Office has continued to liaise closely with the vehicle telematics industry. To this end, CAST has published two documents (numbers 01/14 and 02/14) to clarify certain points in the criteria, revamp the accreditation mechanism, and outline the testing protocols systems should undergo to show compliance.

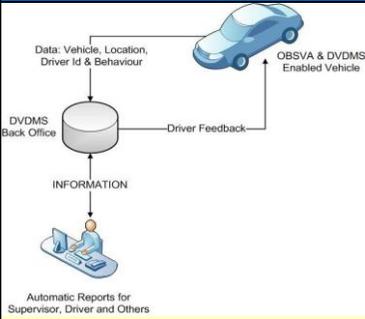
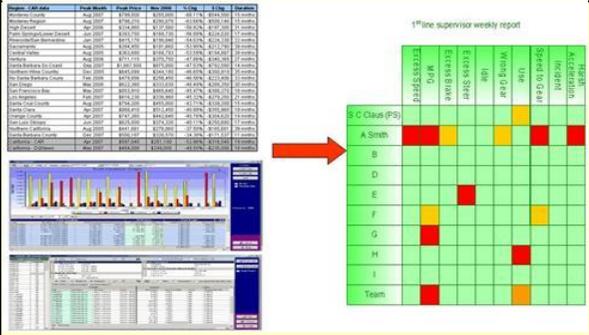
This document is a spreadsheet containing all the provisions of the main criteria document separated into single, numbered requirements. This is to aid tracking and clarity, and to allow users of the criteria to navigate between requirements with ease. In addition, each requirement has been labelled as mandatory or desirable along with an assigned priority. This is to aid manufacturers in identifying the key requirements and those which are desirable. A verification method for each requirement has also been included along with a reference to the associated test protocol.

This document is produced as a PDF. Users can request a copy of the original Excel file by contacting CAST on CASTenquiries@homeoffice.gsi.gov.uk. Columns containing the original text from the DVDMS Criteria document related to each requirement have been hidden but can be found in the original Excel document if required.

The DVDMS Test Protocols document (number 02/14) defines the intended test protocol to be used to satisfy each system requirement. The test protocols provide high level guidance on a test use case for each system requirement. They are not designed to provide a list of proposed test equipment or define detailed test procedures as both of these will be developed by test houses during the setting up of the accreditation process.

Most importantly, these documents **supersede** section 8 of the original criteria, which outlined the accreditation process for DVDMS compliant systems. In the original version accreditation was granted by the Home Office's Centre for Applied Science and Technology (CAST) following testing by an approved test house. The intention is now that any test house may test for compliance with the DVDMS criteria, provided they have the agreement of CAST (or bodies appointed by CAST for the purpose) and are following the test protocols outlined in the associated documents. Test house certification will be considered sufficient to claim compliance.

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0001	1 DVDMS Introduction	Title1							
DVDMS_R_1276	This document has been prepared by MASS under authorisation from the Home Office Centre for Applied Science Technologies (CAST) and represents an independent review and update of the One Box Driver and Vehicle Data Management System (DVDMS) Criteria document ACPO Publication No.28/12. The purpose of the review and update was to result in a document that was a reflection of the DVDMS system requirements in a more formal requirement structure.	Information	N/A		N/A		N/A		
DVDMS_R_1277	This document has been structured as a Verification Cross Reference Index (VCRI) providing a unique reference ID for each entry and traceability from the derived system requirement to the original DVDMS Criteria statement in ACPO Publication No. 28/12 to verify the correct interpretation has been applied. It also provides traceability from the derived system requirement through to the anticipated verification method and appropriate test protocol.	Information	N/A		N/A		N/A		
DVDMS_R_1278	This document still contains a number of TBD/TBC's, it is anticipated these will be resolved in future releases.	Information	N/A		N/A		N/A		
DVDMS_R_0003	The DVDMS system requirements define the DVDMS concept (in this chapter) and the functional and performance requirements (in subsequent chapters) for an advanced driver and vehicle fleet management system, designed specifically by and for the emergency services.	Information	N/A		N/A		N/A		
DVDMS_R_1124	The DVDMS system requirements when implemented in the real-world as an end-to-end system, builds on the processes, practices and public-private partnerships already formed as part of One Box SVA consortium. This includes existing event data recorder and fleet management stake holders, allied to asset tracking technologies.	Information	N/A		N/A		N/A		
DVDMS_R_1126	The DVDMS system requirements have been derived from the DVDMS Criteria document [ACPO 28/12] and as such are tailored towards the needs of police vehicles in the UK, however they are regarded as equally applicable to the needs of other emergency services, both in the UK and in Europe.	Information	N/A		N/A		N/A		
DVDMS_R_1127	The DVDMS system requirements in this document build on those of the One Box SVA criteria and significantly extend the functionality, security and performance requirements of SVA.	Information	N/A		N/A		N/A		
DVDMS_R_0004	1.1 Concept	Title2							
DVDMS_R_1125	DVDMS priorities are: <ul style="list-style-type: none"> • To identify and, where possible, intervene to prevent drivers of emergency service vehicles from being involved in safety-related incidents or being misused; • To improve driver behaviour; • To improve vehicle usage patterns; and • To reduce the associated running costs involved with managing a vehicle fleet. 	Information	N/A		N/A		N/A		
DVDMS_R_1128	This chapter sets out the Concept for DVDMS, which includes: <ul style="list-style-type: none"> • The capture of real-time data, from both the vehicle and emergency service aftermarket equipment via connection to the One Box SVA esCAN; • The safe storage and processing of data on the vehicle; • This may include, providing information and/or feedback to the driver; • The secure communication of data to an authorised Back Office; • The automatic secure storage and processing of data into information relevant to different categories of authorised user accessing the Back Office; • The automatic communication of information to respective users, in order to: <ul style="list-style-type: none"> o Improve safety by preventing or reducing incidents from occurring; o Provide information to drivers and supervisors to change driver behaviour; o Provide information on fleet usage; o Save money, by influencing the way emergency service vehicles are driven and utilised; • The capability for secure access to data and information held in the: <ul style="list-style-type: none"> o Vehicle; o Back Office; • The provision for further analysis to include: <ul style="list-style-type: none"> o Fleet Management; o Training; and o Incident investigation. 	Information	N/A		N/A		N/A		
DVDMS_R_1129	The DVDMS concept is depicted diagrammatically in Figure 1 below.	Information	N/A		N/A		N/A		

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DVDMS_R_1130	 <p>Figure 1 – Schematic representation of DVDMS concept.</p>	Information	N/A		N/A	N/A			
DVDMS_R_1131	<p>The scope of the DVDMS concept as set out in this document includes:</p> <ul style="list-style-type: none"> • General and specific requirements for an end-to-end DVDMS; • A requirement for DVDMS-compliant systems to be designed, installed and operated to work with and where appropriate and possible, integrate with the original equipment installed by the vehicle manufacturers, via the OBSVA esCAN; • The requirement for bespoke information reports to be automatically generated and communicated by the Back Office for each different level of user with relevant access controls to protect those reports and information so only those authorised can view and access, negating the need for additional analytical capability within the host organisation; and • Reports that will be able to be configured and presented to users so that they are simple and easy to understand and need little or no analytical effort from the end user. 	Information	N/A		N/A	N/A			
DVDMS_R_1132	<p>Example reports generated by the DVDMS as shown in Figure 2 below need to be simple to understand by the end user. It is also required that reports be underpinned by detailed data, which can be drilled down into but only when required.</p>	Information	N/A		N/A	N/A			
DVDMS_R_1133	 <p>Figure 2 – Difference between raw data and useful information.</p>	Information	N/A		N/A	N/A			
DVDMS_R_1134	<p>The DVDMS will generate incident and event notifications and alerts from equipped vehicles, which may indicate an event or misuse that could have the potential for serious consequences for safety and security. All such safety-related alerts and alarms from DVDMS-equipped vehicles will be treated as a high priority by the on-board device and Back Office for evaluation and onward communication to the nominated person(s) in that organisation.</p>	Information	N/A		N/A	N/A			
DVDMS_R_1135	<p>For DVDMS to succeed, it is essential that emergency service control rooms only receives DVDMS notifications to genuine events and compliance with these system requirements will go some way to ensure that the system is well designed and installed so as to minimise such false activations.</p>	Information	N/A		N/A	N/A			

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DVDMS_R_0006	1.2 Effective and Fair Supervision	Title2							
DVDMS_R_0007	The DVDMS will provide a wealth of information on how drivers and vehicles are performing, about vehicle usage and a wide range of other parameters. When properly used, DVDMS can provide the information necessary to allow supervisors to better manage their resources. It is important to recognise that the DVDMS is not a substitute for effective supervision but a tool to provide the information to allow effective supervision. Influencing driver behaviour and vehicle usage will require supervisory intervention.	Information	N/A		N/A		N/A		
DVDMS_R_1136	This includes: • Recognising good behaviour; • Challenging driver behaviour or vehicle usage when it falls outside acceptable parameters; and • Providing guidance, encouragement and training to improve driving behaviour or vehicle usage.	Information	N/A		N/A		N/A		
DVDMS_R_1137	This will need new procedures to be developed, helping to ensure that such interventions are fair and balanced, that the information is used consistently and appropriately and that a worker's right to privacy is appropriately protected.	Information	N/A		N/A		N/A		
DVDMS_R_1138	Whilst it is not possible to check how each supervisor uses the information, ensuring systems have appropriate checks and balances designed into them will form part of the independent testing and verification, as outlined below and in the test and evaluation documents.	Information	N/A		N/A		N/A		
DVDMS_R_0008	1.3 System Requirements	Title2							
DVDMS_R_0005	The aim of the DVDMS system requirements is to facilitate the development, installation and operation of an effective, safe and advanced driver and vehicle data management system, designed specifically by and for the emergency services.	Information	N/A		N/A		N/A		
DVDMS_R_0009	The DVDMS system requirements define the functions, connections, outputs and operating systems for all parts of the DVDMS system, both DVDMS in-vehicle and DVDMS back office. The system requirements also define the testing procedure required for compliance before DVDMS systems can be listed.	Information	N/A		N/A		N/A		
DVDMS_R_1139	This document provides the functional and performance requirements of the DVDMS, including installation, commissioning, operation and procedures for an end-to-end system that need to be implemented by companies manufacturing, installing, commissioning and operating both OEM and aftermarket DVDMS.	Information	N/A		N/A		N/A		
DVDMS_R_1140	The requirement in this document may be subject to amendments or extensions, in order to recognise advances in technology, changes to and consolidation of standards, legislation and best practice.	Information	N/A		N/A		N/A		
DVDMS_R_1141	The objective of validation in accordance with these system requirements is to ensure a minimum high level of performance with regard to safety, security, reliability and functionality of the evaluated DVDMS.	Information	N/A		N/A		N/A		
DVDMS_R_1142	The DVDMS system requirements also define the requirements for documentation, quality of installation and operation of the proposed system. It specifies the minimum performance requirements, tests and processes to which the DVDMS shall be subjected, ensuring the safe and effective deployment of the system and protection for vehicle occupants and motor vehicles.	Information	N/A		N/A		N/A		
DVDMS_R_1143	These requirements are applicable both to new vehicle OEM fitment and systems professionally installed after the sale of the vehicle. However, it is recognised in the DVDMS system requirement that, while there must be commonality of functions, connectors and performance, the design and installation for OEM equipment, compared with aftermarket equipment may be different and this document identifies where this applies.	Information	N/A		N/A		N/A		
DVDMS_R_0010	1.4 Document Definitions	Title2							
DVDMS_R_1146	The following sections detail the meaning of the definitions used within this document.	Information	N/A		N/A		N/A		
DVDMS_R_1147	1.4.1 Definition of Terms	Title3							

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DVDMS_R_0011	<p>The use of the terms 'shall', 'should', 'must', 'will' and 'may' within this document are subject to the following rules of interpretation:</p> <ul style="list-style-type: none"> The word shall expresses a mandatory requirement of the specification; The word must is used to express legislative or regulatory requirements (e.g. Health and Safety Regulations); The word should express a recommendation or advice on implementing a requirement of this specification. Such recommendations or advice will be followed if timescales, resources and prioritisation permits; The word may expresses a permissible practice or action. It does not express a requirement of this Specification, and it does not express a recommendation or advice; The word will expresses an intended condition or simple future tense. 	Information	N/A		N/A		N/A		
DVDMS_R_1148	1.4.2 Definition of System and Sub-systems	Title3							
DVDMS_R_0012	<p>The definition of DVDMS systems and sub-systems within this specification are subject to the following rules of interpretation::</p> <ul style="list-style-type: none"> DVDMS - definition used for the complete system; DVDMS In-Vehicle Device - definition used for the in-vehicle sub-system only; DVDMS Back Office - definition used for the back office sub-system only. 	Information	N/A		N/A		N/A		
DVDMS_R_1149	1.4.3 Definition of Users	Title3							
DVDMS_R_0013	<p>The definition of DVDMS users within this specification are subject to the following rules of interpretation::</p> <ul style="list-style-type: none"> Driver; Vehicle crew; Back office operator; Back office designated person(s). 	Information	N/A		N/A		N/A		
DVDMS_R_1150	1.4.4 Definition of Organisations	Title3							
DVDMS_R_0014	<p>The definition of DVDMS contacted organisations within this specification are subject to the following rules of interpretation::</p> <ul style="list-style-type: none"> User organisation - the person or organisation making the purchase of the DVDMS equipment; Supplier - the person or organisation contracted to supply the DVDMS equipment; Installer - the person or organisation contracted to install the DVDMS equipment, may also be the supplier in certain circumstances; Approved test house - the person or organisation contracted to independently evaluate submitted DVDMS; The Authority - the person or organisation responsible for overseeing the DVDMS evaluation. 	Information	N/A		N/A		N/A		
DVDMS_R_1151	1.4.5 Definition of Verification Methods	Title3							
DVDMS_R_1152	<p>The following verification methods definitions apply to this document:</p> <ul style="list-style-type: none"> N/A - test method is not applicable; Analysis - compliance is proved through analysis of design documentation or design statements that specifically address the intended requirements; Inspection - an inspection of a hardware item or documentation to satisfy the intended requirement; Demonstration - physical demonstration of the requirement function or feature; OEM Test - testing to be performed by the OEM or a 3rd party to satisfy compliance prior to submitting the DVDMS for further compliance activities; Bench Test - testing of a DVDMS sub-system, component or software item that can be standalone from the complete DVDMS system; Vehicle Test - testing that requires the DVDMS in-vehicle device to be installed within a vehicle to prove compliance; System Test - testing that requires the complete DVDMS system to prove end-to-end compliance. 	Information	N/A		N/A		N/A		

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DVDMS_R_1153	1.4.6 Definition of Priorities	Title3							
DVDMS_R_1148	The following priority definitions apply to this document: <ul style="list-style-type: none"> • Key - mandatory requirement, non-tradable, defines the core requirements of the DVDMS; • 1 - mandatory requirement, that is not part of the core DVDMS requirements; • 2 - mandatory requirement that may be tradable; • 3 - desirable requirement only. 	Information	N/A		N/A		N/A		
DVDMS_R_1292	1.4.7 Other Definitions	Title3							
DVDMS_R_0614	The DVDMS defines Emergency use of a vehicle as the operation of a vehicle with the emergency warning equipment (Blue or red lights and/or siren) activated.	Information	N/A		N/A		N/A		
DVDMS_R_1154	1.5 Abbreviations and Acronyms	Title2							
DVDMS_R_1154	For the purpose of this document the following abbreviation and acronyms apply.	Information	N/A		N/A		N/A		
DVDMS_R_1156	AES – the Automotive and Equipment Section	Information	N/A		N/A		N/A		
DVDMS_R_1160	Back Office – office-based remote logging and data processing capability for DVDMS	Information	N/A		N/A		N/A		
DVDMS_R_1161	CAN – Controller Area Network	Information	N/A		N/A		N/A		
DVDMS_R_1162	CAST – [Home Office] Centre for Applied Science and Technology	Information	N/A		N/A		N/A		
DVDMS_R_1166	DVDM – (One Box) Driver and Vehicle Data Management System	Information	N/A		N/A		N/A		
DVDMS_R_1167	EMC – Electromagnetic compatibility	Information	N/A		N/A		N/A		
DVDMS_R_1168	esCAN – emergency service Controller Area Network	Information	N/A		N/A		N/A		
DVDMS_R_1170	GNSS – Global Navigation Satellite System	Information	N/A		N/A		N/A		
DVDMS_R_1171	GPRS – General Packet Radio Service	Information	N/A		N/A		N/A		
DVDMS_R_1172	GPS – Global Positioning System	Information	N/A		N/A		N/A		
DVDMS_R_1173	GSM – Global System for Mobile Communications	Information	N/A		N/A		N/A		
DVDMS_R_1174	HMI – Human-machine interface	Information	N/A		N/A		N/A		
DVDMS_R_1175	ISO – International Organisation for Standardisation worldwide	Information	N/A		N/A		N/A		
DVDMS_R_1176	ITS – Intelligent Transport Systems	Information	N/A		N/A		N/A		
DVDMS_R_1180	NAPFM – National Association of Police Fleet Managers	Information	N/A		N/A		N/A		
DVDMS_R_1288	NPA - National Police Association	Information	N/A		N/A		N/A		
DVDMS_R_1183	OEM – Original Equipment Manufacturer (vehicle manufacturer)	Information	N/A		N/A		N/A		
DVDMS_R_1189	SMS – Short Message Service	Information	N/A		N/A		N/A		
DVDMS_R_1281	SDS - Short Data Service (as used on TETRA)	Information	N/A		N/A		N/A		
DVDMS_R_1190	SVA – Single Vehicle Architecture	Information	N/A		N/A		N/A		
DVDMS_R_1191	TETRA – Terrestrial Trunked Radio	Information	N/A		N/A		N/A		
DVDMS_R_1196	1.6 Normative References	Title2							
DVDMS_R_1197	This document incorporates provisions from other publications. These Normative References are cited at appropriate places in the text. For undated references, the latest edition of the publication referred shall apply – including any amendments. For dated references, subsequent amendments or revisions shall apply.	Information	N/A		N/A		N/A		
DVDMS_R_1198	• BS EN 60068-2-1: 1993, Environmental testing, Test methods, Tests A, Cold, December 1990	Information	N/A		N/A		N/A		
DVDMS_R_1199	• BS EN 60068-2-2: 1993, Environmental testing, Test methods, Tests B, Dry heat, August 1993	Information	N/A		N/A		N/A		
DVDMS_R_1200	• BS EN 60068-2-78, Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	Information	N/A		N/A		N/A		
DVDMS_R_1201	• BS EN 60529: 1992, Specification for degrees of protection provided by enclosures (IP code), January 1992	Information	N/A		N/A		N/A		
DVDMS_R_1202	• CIA (CAN in Automation) 447, 'Application profile for special-purpose car add-on devices,' May 2008, as amended	Information	N/A		N/A		N/A		
DVDMS_R_1203	• FCS1362, UK Code of Practice for the installation of mobile radio and related ancillary equipment in land-based vehicles (previously known as MPT 1362), May 2008 ('FCS' is the 'Federation of Communication Services')	Information	N/A		N/A		N/A		
DVDMS_R_1207	• European Statement of Principles on the Design of Human Machine Interaction (HMI), 2008	Information	N/A		N/A		N/A		
DVDMS_R_1208	• Home Office Centre for Applied Science and Technology (CAST), 2007, Digital Imaging Procedure (58/07), London: Home Office	Information	N/A		N/A		N/A		
DVDMS_R_1212	• Automotive Conformance Specification 5, 'A specification relating to the electromagnetic compatibility (EMC) performance of vehicle mounted, electrically powered equipment, designed for use by the Police & Fire Services of England and Wales'	Information	N/A		N/A		N/A		
DVDMS_R_1213	• Automotive Conformance Specification 6, 'A specification relating to the electromagnetic compatibility (EMC) performance of motor vehicles for use by the Police Services of England and Wales'	Information	N/A		N/A		N/A		
DVDMS_R_1214	• Automotive EMC Assessment and Installation Evaluation Specification 13, 'A specification relating to the electromagnetic compatibility (EMC) assessment and installation evaluation of electrical, electronic and radio equipment in Police & Fire Service vehicles'	Information	N/A		N/A		N/A		
DVDMS_R_1215	• Home Office One Box Single Vehicle Architecture criteria	Information	N/A		N/A		N/A		
DVDMS_R_1216	• ISO 9001, ISO 9000, ISO 9004 Quality Management	Information	N/A		N/A		N/A		
DVDMS_R_1234	• ISO 17025 (Competency of Test Houses) Test and Calibration criteria	Information	N/A		N/A		N/A		
DVDMS_R_1242	• TRL Project Report PA3721/01 Design Guidelines for Safety of In-Vehicle Information Systems	Information	N/A		N/A		N/A		

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DVDMS_R_0259	2 DVDMS Functional and Performance Requirements	Title1							
DVDMS_R_0017	The following chapters detail the functional and performance requirements that the DVDMS system is required to meet in order to be listed as compliant.	Information	N/A		N/A		N/A		
DVDMS_R_0037	The DVDMS should be based on open data standards.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0021	2.1 Coverage	Title2							
DVDMS_R_0022	The DVDMS will be capable of effective operation across the UK.	Information	N/A		N/A		N/A		
DVDMS_R_0023	The DVDMS should be capable of effective operation across Europe.	Information	N/A		N/A		N/A		
DVDMS_R_0041	2.2 Procedures for Operation	Title2							
DVDMS_R_0042	The DVDMS should not prevent the use of the procedures and practices defined in the DVDMS Implementation Toolkit Version 2.1.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0043	2.3 Audit	Title2							
DVDMS_R_1293	This section should be read in conjunction with section 3.7 which contains additional audit requirements relating to the DVDMS In-Vehicle Device.	Information	N/A		N/A		N/A		
DVDMS_R_0044	As part of the operation of the DVDMS, it is essential to have full accountability for the use, operation and access to all parts of the system.	Information	N/A		N/A		N/A		
DVDMS_R_0045	The DVDMS shall provide an audit trail, capable of identifying the person undertaking each action, the date, time and location of the action, together with the action or process carried out.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0046	The DVDMS shall provide an audit trail that is required to capture access to any part of the system, use, maintenance, inspection, breaches and sanctions.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0051	The DVDMS shall be capable of storing audit trails for at least 7 years.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0055	The DVDMS shall time stamp and digitally certificate the audit trail to UK evidential standards or best practice.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Verify stored data complies with standards
DVDMS_R_0260	2.4 DVDMS Identification	Title2							

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DVDMS_R_0261	The DVDMS shall link vehicle and driver usage, activity, alerts and data to the location, date, time, device and driver identity.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		Verify stored data of vehicle and driver details are stored against time, date, position of the vehicle and identity of the driver
DVDMS_R_0262	The DVDMS Back Office shall be able to remotely and uniquely identify each DVDMS in-vehicle device that is operated as part of a DVDMS.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		DVDMS in-vehicle device has a unique identification
DVDMS_R_0263	The DVDMS in-vehicle device should authenticate as part of each communication with the DVDMS Back Office as part of the audit trail.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		The DVDMS in-vehicle device has some mechanism to authenticate itself.
DVDMS_R_1294	2.5 Location	Title2							
DVDMS_R_1295	This section should be read in conjunction with sections 3.11 and 4.7 which contain additional location requirements relating to the DVDMS in-Vehicle device and Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0277	The frequency of communication of the location information from the DVDMS in-vehicle device to the DVDMS Back Office shall be remotely variable by an authorised user, from every second up to 8 hour intervals.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0279	2.6 Communications	Title2							
DVDMS_R_0281	The security for the communication between the DVDMS in-vehicle device and the DVDMS Back Office shall be compliant with the standard of commercially available communication security encryption as defined by the User Organisation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0287	The inclusion of any specific communication method between the DVDMS in-vehicle device and the DVDMS Back Office shall be subject to a demonstration and agreement of suitable security standards with the user community.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		user organisation
DVDMS_R_0291	The DVDMS shall be capable of sending data automatically by the route specified by the communication method and priority.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0282	2.6.1 Communication Coverage	Title3							
DVDMS_R_0283	The communication between the DVDMS in-vehicle device and the DVDMS Back Office shall be reliable with a very high coverage across the UK and Europe. Target minimum 98% coverage.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		Perform analysis using the various communication channels available to the DVDMS
DVDMS_R_0284	The communication coverage between the DVDMS in-vehicle device and the DVDMS Back Office shall be stated by the DVDMS Supplier prior to submitting the system for testing.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0285	The communication reliability between the DVDMS in-vehicle device and the DVDMS Back Office shall be stated by the DVDMS Supplier prior to submitting the system for testing.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0292	2.6.2 Communication Performance	Title3							
DVDMS_R_0296	These communication and performance targets shall be achievable whilst the vehicle is travelling at speeds up to 70mph.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		If at vehicle maximum speed need to use TRL track or non-highway track!!! Should this be Operational testing to prove communication links ?
DVDMS_R_1296	2.6.3 Communication Priority Levels	Title3							
DVDMS_R_0288	The DVDMS shall have the ability to define the priority level of communicating the various data types.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0289	The DVDMS communication priority levels shall be defined as High Priority, Low Priority or Administration	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0290	The DVDMS data type communication priority assignments should be defined between the Supplier and user.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		user organisation
DVDMS_R_0303	2.7 Geo-fences	Title2							
DVDMS_R_0304	The DVDMS shall have the ability to create and delete geo-fences.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0306	A geo-fence shall have attributes that can adjust the location, size and form, such that they can follow roads and features that may be available within the mapping system.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0307	A geo-fence shall be capable of being generated for a single vehicle, group of vehicles or all vehicles monitored by the Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0309	The DVDMS shall have the capability to store at least 40 geo-fences per vehicle.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0318	2.8 Vehicle Data	Title2							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0319	<p>The DVDMS shall capture via the esCAN where fitted or from another vehicle OEM approved means all the following data from the vehicle, where this is available or supported by the vehicle manufacturer or other third party.</p> <ul style="list-style-type: none"> • Vehicle identity; • Vehicle fault codes; • Brakes and percentage braking : <ul style="list-style-type: none"> o Foot; o Parking; • Brake pad sensor warning; • Pre load braking activated; • ABS activation and fault; • ABS switched off; • Gear selection – manual or automatic: <ul style="list-style-type: none"> o Forward Gear 1 to X; o Reverse; o Park (Automatic); o Neutral; o Driving mode selected Sport or other mode; • Engine revs, actual and excessive; • Engine rev limiter activated; • Engine efficiency; • Clutch – percentage depressed; • Accelerator percentage depressed and duration; • Fuel usage per trip or driving event (Instantaneous and average); • Steering percentage applied/rotational speed; • Yaw in degrees; • Excessive yaw; • Activation of vehicle horn; <ul style="list-style-type: none"> • Road speed (Road speed pulses road/wheel speed); • Visual road speed displayed; • Door open by door location (e.g. Right hand front door); • Tailgate or boot open; • Bonnet open; • Ignition position where provided on/off; • Auxiliary ignition position where provided; • Engine run times at idle; • Seat belt (By Position); • Seatbelt warning light; • Seatbelt pre-tensioners activated; • Windscreen wipers (By position); • Windscreen washers; • Headlamp washers activated; • Lights activation; • Headlight: <ul style="list-style-type: none"> o Main; o Dipped; o Flash; • Side lights by Position; • Daytime running lights; • Headlight load sensor; • Fog lights – front/rear; • Brake lights; • Turn indicators – by position front rear side. Left right; • Hazard warning lights; • Reversing lights; • Reversing audible warning; • Interior light by position; • GPS location information where provided; • Heading; 	Mandatory Requirement	2		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		

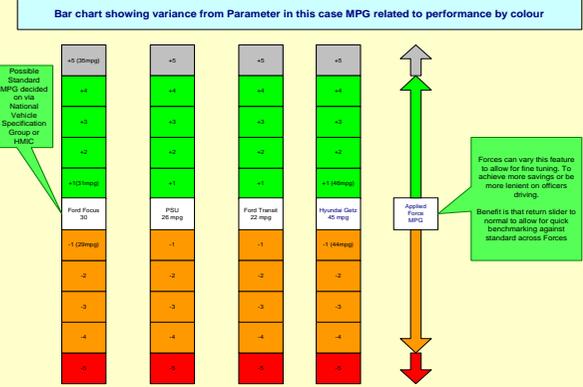
SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
	<ul style="list-style-type: none"> • Air conditioning on/off; • Service warning indicator; • Vehicle warning lights on/off: <ul style="list-style-type: none"> o Coolant overheating; o Engine warning light (engine management); o Oil; o Brakes; o Battery/alternator; o Tyre pressure; o Fuel; o Airbag; o Passenger airbag disabled; o Stability control or other active safety device/Deactivation; o Active braking; o Adaptive cruise control activated; o Lane departure warning; o Collision avoidance activated; o Traction control/Deactivation; o 4x4 activated; o Gearbox warning; • Vehicle mileage (trip); • Change of vehicle settings: <ul style="list-style-type: none"> o Suspension; o Sport mode; o Cruise control on/off set; • Temperature control; • Heated screen front/rear; • Vent air direction; • Steering wheel controls used by function; • Vehicle on board computer used by function; • Mobile phone-blue tooth used by function; • Vehicle radio/iPod used by function; and • Others, to be defined. 								
DVDMS_R_0320	When any of the esCAN or OEM CAN captured data is activated/deactivated then that data shall be date, time and location stamped.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0321	2.8.1 Emergency Service Equipment Data	Title3							
DVDMS_R_0322	The DVDMS shall capture via the esCAN where fitted or from another vehicle OEM approved means all the following data from the vehicle, where this is available or supported by the vehicle manufacturer or other third party.	Mandatory Requirement	2		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0323	<ul style="list-style-type: none"> • Activation of emergency lights: <ul style="list-style-type: none"> o 360 lights; o Rear Protect; o Low Power; o Cancel all lights; o Front blue lights grill/repeaters/dash mount; o Rear red lights vehicle/boot/taillgate; o Alley lights left and right; o Front "take down" lights; o Sign or matrix on/off message displayed; o Others to be defined; o Front blues light bar; o Front whites vehicle; o Rear reds light bar; o Rear blues light bar; o Headlamp flash; o Amber lights where fitted (Airports); • Emergency siren By setting: <ul style="list-style-type: none"> o Yelp; o Wait; o Bull horn; o White noise; o PA; o Others as defined by the user organisation; 	Mandatory Requirement	2		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0324	<ul style="list-style-type: none"> • Emergency siren By setting: <ul style="list-style-type: none"> o Yelp; o Wait; o Bull horn; o White noise; o PA; o Others as defined by the user organisation; 	Mandatory Requirement	2		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0325	<ul style="list-style-type: none"> Airwave radio – where linked all functions; Police MDT where linked all functions; Cameras where linked to esCAN all functions; ANPR, where linked to esCAN; Digital recorder all functions; Run Lock; Gun cabinet open; Dog cage open by door; Prison cell open by door; Laptop docked; PDA or other device docked; Microphone active; and Head up display active. 	Mandatory Requirement	2		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0326	The DVDMS should have the ability to include other activities as part of future releases of the system requirements or by user organisations.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0328	2.8.2 Voice Warnings – Text to Speech	Title3							
DVDMS_R_0329	Where voice warnings or text to speech functionality is provided, this shall be tested by a competent organisation to ensure that it is not distracting.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0339	2.9 Virtual Log Book	Title2							
DVDMS_R_0340	<p>The DVDMS shall provide a virtual log book capability to provide an automated record of the vehicles use, drivers and drive or other events captured on the DVDMS.</p> <p>This will include:</p> <ul style="list-style-type: none"> Driver identity; Driver identity, where this changes; Result of diagnostic checks; Bonnet open; Date, time, location of driver identity; Vehicle start; Miles and route driven; Date, time and location of end of use of the vehicle by that driver: <ul style="list-style-type: none"> Journey; End of use; Fuel added; Faults; Collisions or events; and Servicing. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0341	2.10 Alert Functions	Title2							
DVDMS_R_0342	The DVDMS shall provide a wide range of alerts that can be selected by the user organisation for when a vehicle or driver exceeds a range of thresholds set by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1266	<p>As a minimum these alerts should be communicated by:</p> <ol style="list-style-type: none"> Being sent to the DVDMS Back Office to be associated with a vehicle or driver record; Communicated to the driver of the vehicle; High Priority warnings to be sent, via the DVDMS Back Office, to a user nominated contact point. High Priority example include <ul style="list-style-type: none"> Crash; Over speed etc. 	Desirable Requirement	3		System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0343	Upon cancellation of the alert by the DVDMS Back Office, the DVDMS in-vehicle device shall automatically return to the monitoring set condition.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0344	2.10.1 Resistance to False Alerts	Title3							
DVDMS_R_0345	The components of the DVDMS shall be designed, manufactured, and installed, in such a way as to minimise the possibility of false alerts (1 in every 500 alerts TBC).	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1297	2.11 Incident or Event Detection	Title2							
DVDMS_R_0357	Any incident or event data that includes data as a result of a collision shall be stored securely and/or separately to other driving events, either in the DVDMS in-vehicle device or the DVDMS Back Office, to ensure that it can be preserved and accessed.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0367	2.11.1 Collision or Incident Alert	Title3							
DVDMS_R_0368	<p>The DVDMS shall have a capability to monitor and provide an alert where the vehicle:</p> <ol style="list-style-type: none"> Experiences sudden deceleration (suggestion of an impact); Roll over; Air bag deployment. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_1279	The DVDMS should have the capability to monitor and provide an alert for other vehicle events as defined by the user organisation.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0370	The DVDMS shall provide alert the user organisation designated person(s) within 20 seconds (TBC) of an event or incident that is likely to be a collision, provided communications between the DVDMS Back Office and DVDMS in-vehicle device are functioning. The designated person(s) will normally be the control room supervisor.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0371	This shall be by an automated process and may allow a manual activation, if required by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0373	2.11.2 Process for Accessing Event/Collision Data	Title3							
DVDMS_R_0374	The DVDMS data shall be made available to authorised personnel for use in an investigation in the event of an incident such as, a crime or road traffic incident, involving an equipped vehicle.	Information	N/A		N/A		N/A		
DVDMS_R_0381	The data obtained as a result of an incident or event shall be based on open standards or have an open standards output to enable the data to be investigated without the need for specialist software or equipment. This will allow the data to be obtained and analysed anywhere in the country. (This will require the standard to be defined in the future).	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0382	The data recorded and stored as a result of the incident or event shall be capable of being exported to a nationally and user organisation approved collision or event reconstruction software, to allow the automated re-construction of the event or incident, where this feature is not provided within the DVDMS.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0383	2.11.3 False Incident Alert	Title3							
DVDMS_R_0384	Where the event notification is a false alert, this shall be capable of being rescinded by an authorised user remotely.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0386	2.12 Incident or Event Data Recording Additional Requirements	Title2							
DVDMS_R_0387	Where data relating to an incident or an event is captured, this data shall be capable of being secured, to enable it to be used for evidential or investigation purposes.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0388	The secured data relating to an incident or an event, which can be in the DVDMS in-vehicle device or when downloaded to the DVDMS Back Office, shall not be overwritten until it has been released or extracted by an authorised person.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0392	The DVDMS shall have an auditable process for an authorised user to release and/or change the status of recorded data (data held specifically relating to that incident by a manual or automatic process) following an incident or event to non-secure data, so that it can be managed as per any other DVDMS data. This would normally be used to remove the requirement to keep data e.g. where an incident is false or minor.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1298	2.13 Data Requirements	Title2							
DVDMS_R_1299	This section should be read in conjunction with sections 3.17 and 4.10 which contain additional data requirements relating to the DVDMS In-Vehicle device and Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0399	All data captured, stored, used or accessed by the DVDMS or its users, shall be appropriately stored, managed and utilised to comply with the relevant legislation, policies, procedures or best practice relating to that data or information.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0400	2.13.1 Data Categories	Title3							
DVDMS_R_0401	The DVDMS shall support user organisation configurable data categories.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0403	For and within each DVDMS data category, either the category of data or data within a given category shall be given a priority for action and communication. <ul style="list-style-type: none"> • High priority – immediate action and/or communication • Medium priority – action and/or communication by the most appropriate means, at the most appropriate time • Low priority – action and/or communication at the most appropriate time or by the most cost effective means • Not to be actioned or communicated but stored until overwritten. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0411	2.13.2 Data Capture	Title3							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0412	The DVDMS shall be able to capture, record, store and communicate to the DVDMS Back Office, all data associated with the beginning and end of a drive event. A drive event begins with an engine start and concludes with the engine being switched off for more than 30 seconds, unless fitted with an automated engine start/stop system.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0413	The DVDMS shall automatically communicate the agreed categories of data associated with a driver or vehicles use of a vehicle and or drive event to the DVDMS Back Office, where it will update the relevant vehicle and driver records and profiles.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0414	2.13.3 Benchmarking	Title3							
DVDMS_R_0415	The DVDMS shall be capable of exporting data in a user organisation agreed open standard format to allow comparison and benchmarking with other systems.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0416	2.13.4 DVDMS Data Communication	Title3							
DVDMS_R_0417	The DVDMS shall be able to communicate information to: • The driver; • Supervisor; • Emergency service control room; and • Other person or systems nominated – e.g. fleet staff, other computer based system or DVDMS Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0418	Communication with each shall be according to the priority of the data/information and the route and time for communication agreed with the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0419	The DVDMS data shall be communicated by the most effective and efficient means, to achieve the required outcome, according to: • Priority; • Category; and • Volume.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0422	Where DVDMS data is communicated via one or more different communication bearers, the DVDMS shall confirm receipt of the full data content and integrity. Where this does not occur, the data communication will be repeated until confirmation of receipt of the data is provided.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0427	2.14 Driver Requirements	Title2							
DVDMS_R_0433	2.14.1 Driver Identity	Title3							
DVDMS_R_0434	The DVDMS shall uniquely identify and recognise (authenticate) the driver of the vehicle, before and during that vehicles use and link all activity to that driver and vehicle identity, in both the DVDMS in-vehicle device and DVDMS Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0435	The DVDMS should also identify the passengers and link this to the vehicle.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0436	The driver shall be able to identify themselves to the DVDMS following completion of the training requirements defined in the document.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0438	The DVDMS shall identify the driver or passenger by either, a coded signal; a coded key to the system or another system for vehicles, used by multiple drivers that satisfies the requirements within this document.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0439	The DVDMS shall confirm to the driver the acceptance of their driver identity. This can be visual, audible, or haptic.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0440	2.14.2 Driver Identification	Title3							
DVDMS_R_0441	The DVDMS driver identification token shall be separate from the ignition key.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0442	The DVDMS driver identification token shall be made in such a way as to: • Make it difficult to attach the driver identification token to a key ring holding the vehicle ignition key, or • Enable the automatic setting of the functions of the DVDMS, without the need for additional conscious or deliberate actions by the user.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0443	The DVDMS shall not identify the driver without the acceptance of the specific valid coded signal, key or other approved system for vehicles used by multiple drivers.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0444	The DVDMS shall identify individual drivers only in response to a specific coded signal or identification token.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0445	The DVDMS shall have no universal or generic code to enable driver identification.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0446	The DVDMS shall have no security override or low security un-setting function.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0447	The DVDMS shall not have a permanent visible indication of any driver identity code.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0448	The range of combinations of the driver identity codes shall be evenly or randomly distributed throughout a normal serial production run of the DVDMS.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0449	The DVDMS shall allow additional driver identities or driver identity codes to be added by authorised personnel using a secure programming procedure. Authorised personnel and secure programming procedure are to be agreed with the user organisation. The secure programming procedure may include: • The input of a combinational action, • Personal identification number (PIN) specific to the vehicle controlled by the user; • The manufacturer on a secure database; • Providing secure user details to the manufacturer; • The use of a special master driver identity programming procedure; or • A combination of the above meeting the normal un-setting security requirements.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0450	The DVDMS shall allow the user organisation to manage driver identities without the supplier being involved.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0451	The DVDMS shall not erase programmed driver identity code information in the event of a supply voltage interruption.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0452	The DVDMS shall not allow automatic programming of additional driver identities upon the reinstatement of the supply voltage.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0453	It shall not be possible to damage the DVDMS by shorting together any terminals on a normally accessible socket or lock.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0454	It shall not be possible to damage the driver identification token by shorting together any normally accessible terminals on the token.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0455	The DVDMS shall provide a driver identification token that in no way interferes with the operational use of that vehicle or immobilise the vehicle unless specifically required to do so by the user organisation.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0456	2.14.3 Wireless Driver Identification	Title3							
DVDMS_R_0457	The DVDMS driver identity code protocol shall be secure, unique and resistant to code copying followed by trial of codes, by providing changing codes.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0469	2.14.4 Mechanical Driver Identification	Title3							
DVDMS_R_0470	The use of mechanical driver identification shall not be permitted.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0546	2.15 Driver Performance	Title2							
DVDMS_R_0547	Categorising a driver's performance is another key feature of the DVDMS. Whilst it is relatively easy to define a scale for categorising performance, the conditions that sit behind this category can be complex. The following section will provide, as far as is possible, the grading system, method for assessing performance and guidance on the conditions to grade performance.	Information	N/A		N/A		N/A		
DVDMS_R_0548	The DVDMS shall continually compare driving performance, behaviour and vehicle usage against the performance measures, for both normal and emergency driving thresholds and communicate that information according to the priorities of "Emergency" or "Slow time" and these will automatically update the driver and vehicle profiles, records and reports.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0549	The DVDMS shall be capable of defining values for two threshold types to be used in conjunction with the requirements defined in the 'Performance Grading' and 'Variance from User Defined Figures' sections within this document. The two threshold type will be: a) Normal driving; and b) Emergency driving.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0550	The DVDMS shall allow the authorised users as defined by the user organisation to set different values for each threshold type for all, driving or vehicle parameters (e.g. higher for emergency driving), as agreed between the Supplier and user organisation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0551	For example a user organisation may expect to achieve 40 MPG during normal driving but only 35MPG during emergency driving.	Information	N/A		N/A		N/A		
DVDMS_R_0552	When calculating driver performance for each type of driving, the target figure above would be used as the basis of calculating that driver's performance.	Information	N/A		N/A		N/A		
DVDMS_R_0565	The Supplier should be aware that the One Box consortium and/or CAST may produce additional guidance to define what constitutes an event and how multiple events will be handled. This will be published, once completed.	Information	N/A		N/A		N/A		
DVDMS_R_0588	The DVDMS shall allow authorised users as defined by the user organisation to set maximum thresholds for parameters that are defined as indicative of potential safety issues.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0553	2.15.1 Performance Grading	Title3							
DVDMS_R_0554	The DVDMS shall use the following grades and colour definitions in all applicable reports to define the level of performance: Silver top 10% performance Green 55 – 89% performance Amber 16 – 54% performance Red 0 – 15%	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0555	The DVDMS should allow other colour scalings and/or scale values to be changed as defined by the user organisation.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0556	 Table 1 – Example of Performance grading colour scheme to enable performance to be assessed at a glance	Information	N/A		N/A		N/A		
DVDMS_R_0557	2.15.2 Variance from User Defined Figures	Title3							
DVDMS_R_0558	Performance against each DVDMS data parameter measured shall be defined as variance + or – from a user defined figure.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0559	 Figure 3 – Example graphical of Bands showing fuel consumption performance for specific vehicle types	Information	N/A		N/A		N/A		
DVDMS_R_0560	This method allows the user organisation to define, in this case MPG for each vehicle type for both normal driving and emergency use. The user organisation may, for example accept a lower MPG figure or harsher steering when on an emergency response than would be acceptable in normal driving.	Information	N/A		N/A		N/A		
DVDMS_R_0561	The same would apply parameters such as maximum speed, braking etc. The user defined figure would allow a driver's use of different vehicle types for the same parameter e.g. fuel usage (MPG), to be compared on the basis of variance.	Information	N/A		N/A		N/A		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0562	The DVDMS shall allow an authorised user to change the settings of these parameters for each vehicle type for normal and emergency use, subject to an audit trail.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0566	2.16 Informing or Warning the Driver	Title2							
DVDMS_R_0570	The DVDMS shall allow a priority audio communication to be established from the DVDMS Back Office control room or supervisor to the driver, where there is a safety issue.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0573	The DVDMS shall for less urgent warnings, such as administration and some low priority warnings, communicate in slower time to the driver via the following means: • Reports; • Email; • Text;	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0574	The DVDMS shall have the capability to add further communication feedback mechanisms to deliver less urgent messages as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0575	The DVDMS shall automatically notify the driver and, where previously notified, the DVDMS Back Office control room or supervisor, when their driving has returned to an acceptable level.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0576	The DVDMS shall record this action in the DVDMS Back Office, as part of the audit trail and driver records.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0577	2.16.1 Driver Feedback	Title3							
DVDMS_R_0578	Where a driver is driving below the thresholds defined by the user organisation, the DVDMS shall automatically identify which areas are below the thresholds defined by the user organisation.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0579	Where a driver is driving below the thresholds defined by the user organisation the DVDMS shall provide advice, guidance, tips and hints as to how the driver can improve are to be given.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System	Operational Procedures	
DVDMS_R_0580	The DVDMS shall provide the capability to monitor a drivers progress for a user defined period, for review purposes, when a driver has been driving below the thresholds defined by the user organisation.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0581	The DVDMS shall allow access to this driver feedback information to authorised users as defined by the user organisation so they can provide additional guidance or training input.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0582	The DVDMS shall require drivers to acknowledge the receipt of this feedback which will form part of the audit trail.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0583	2.16.2 Warning of Outside Safety Thresholds	Title3							
DVDMS_R_0584	One of the aims of the DVDMS is to provide the capability for the user organisation to change driver behaviour, manage vehicle usage and create the capability, where possible to intervene before an incident or collision occurs.	Information	N/A		N/A		N/A		
DVDMS_R_0585	Whilst it is recognised that it will not be possible to recognise all characteristics or behaviours that would indicate a higher probability of an incident, there are a number of parameters that indicate a higher or significant risk.	Information	N/A		N/A		N/A		
DVDMS_R_0586	The DVDMS should monitor the following parameters as part of the characterisation or behaviour. These may include: • Exceeding a maximum speed threshold (e.g. 100mph); • Exceeding a maximum speed threshold in a given location (e.g. 50mph in a 30mph limit); • Exceeding a maximum speed threshold without the use of warning instruments (e.g. 90mph no blue light); • Multiple incidents of harsh braking within a single journey or per user defined time; • Multiple incidents of harsh steering within a single journey or per user defined time; • Activations of ABS within a single journey or within a user defined time; • A combination of ABS, traction control and stability system simultaneously; • Outside of user organisation defined area; • Activation of emergency equipment outside user organisation defined area; • Exceeding the speed limit by more than 10% + 2mph (or as specified by the NPA outside of the user organisation defined area); • Others to be defined (This may be subject to an additional report developed by the One Box consortium and CAST).	Desirable Requirement	3		Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0587	The DVDMS shall have the capability to add further parameters to be monitored as part of the characterisation or behaviour as defined by the user organisation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0591	2.17 Driver Categories	Title2							
DVDMS_R_0592	The DVDMS shall place each driver and vehicle into a user defined driving category.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0593	When a driver identifies themselves to the DVDMS in the vehicle, the DVDMS shall automatically compare the driver permit with the vehicle category.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1274	When a driver identifies themselves to the DVDMS in the vehicle, and the result of the comparison performed by the DVDMS between the driver permit with the vehicle category is within a permitted category the DVDMS shall log the comparison result.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0594	2.17.1 Unauthorised Driver	Title3							
DVDMS_R_0595	Where the driver does not have a driving permit to drive that vehicle category: a) The DVDMS shall raise a high priority alert to a user organisation nominated person (normally the emergency control room or drivers supervisor) AND flag it as an alert on the driver's profile. OR b) Where the user organisation has the required functionality activated, the vehicle may be prevented from starting or activating the emergency equipment.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0596	The DVDMS shall monitor the use of the vehicle and its equipment, in accordance with the conditions of the driver's permit.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0597	The DVDMS shall provide restriction with regard to operation of vehicle equipment if the driver is classed as a "Basic" driver.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0598	The restrictions placed on a Basic driver shall be defined the user organisation and agreed with the Supplier.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0599	Where the driver's permit conditions are breached or a threshold exceeded and this is a safety issue, the DVDMS shall raise a High Priority alert to a user organisation nominated person, normally the emergency control room or drivers supervisor.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0600	Where the driver's permit conditions are breached or a threshold exceeded and this is not a safety issue, the DVDMS shall raise an alert to the driver's supervisor.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0601	Where the driver's permit conditions are breached or a threshold exceeded and this is not a safety issue, the DVDMS shall flag this an alert on the driver's profile.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0602	An example is given below of potential driver permit and vehicle categories, which would need to be customised for each Force or user group. This may be different in each user organisation. Group Vehicle type ===== ===== 1 Traffic car 2 Traffic motorcycle 3 Incident car 4 Plain car high performance vehicle 5 High performance motorcycle 6 PSU/Personnel carrier 7 Personnel carrier/small vans non PSU 8 All terrain vehicles 9 Section vehicles (beat or marked cars) 10 Motorcycles (other) 11 Trial motorcycles 12 Cell/Command vehicles 13 Any other vehicle	Information	N/A		N/A		N/A		
DVDMS_R_0605	The DVDMS shall have the capability to add further driver permit and vehicle categories as required by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0603	Another option for the categorisation of vehicles, where the user organisation requires it, is to use the National Association of Police Fleet Managers, vehicle categories.	Information	N/A		N/A		N/A		
DVDMS_R_0606	2.17.2 Removal of a Driver Category	Title3							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0607	The DVDMS shall allow an authorised user as defined by the user organisation to add, remove, delete or suspend a driver or vehicles category.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0609	2.17.3 Driver and Vehicle Profiles	Title3							
DVDMS_R_0611	The driver and vehicle profiles are a set of vehicle or driver related parameters that have been defined by the user organisation for the DVDMS to be updated by each drive or vehicle usage event.	Information	N/A		N/A		N/A		
DVDMS_R_0616	2.17.3.1 Vehicle Profiles	Title4							
DVDMS_R_1280	The DVDMS shall create a unique profile for each individual vehicle.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0617	The DVDMS shall provide a vehicle profile that includes the following information: <ul style="list-style-type: none"> • Vehicle usage; • Vehicle category (driving permit); • Vehicle fuel consumption; • Fuel used by user defined period; • Vehicle mileage; • Performance parameters; • Harsh braking; • Activation of emergency warning equipment; • Time driven when emergency warning equipment activated; • Drivers who have driven a vehicle within a user defined period via activation of driver identification token; • Vehicle faults: <ul style="list-style-type: none"> ◦ Servicing; ◦ Engine management lights; and ◦ Not available for operational use; • Time on high demand driving when not on emergency warning equipment (defined as over 80mph); • Times for normal driving. 	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0618	The DVDMS shall have the capability to add further options to the vehicle profile as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0619	2.17.3.2 Driver Profiles	Title4							
DVDMS_R_0610	The DVDMS shall create a unique profile for each individual driver.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0620	The DVDMS shall provide a driver profile that includes the following information: <ul style="list-style-type: none"> • Unique identity; • Driver training; • Vehicle categories permitted to drive; • Driver history: <ul style="list-style-type: none"> ◦ Sanctions; ◦ Events; and ◦ Driver performance; • Harsh Braking/Steering; • MPG variance – performance; • Incidents/events; • Alerts; • Warning of Outside Safety Thresholds (as defined in this document); • Hours driving; • Vehicle usage by: <ul style="list-style-type: none"> ◦ Vehicle identity and type; ◦ Day date time duration; ◦ Locations; ◦ Mileage; ◦ Emergency usage. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0621	The DVDMS shall have the capability to add further information to the driver profile as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0622	2.18 Fleet Management Requirements	Title2							
DVDMS_R_0623	The Supplier shall engage with the fleet management stake holders to ensure their requirements are agreed and met prior to delivering a DVDMS for evaluation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0624	The DVDMS shall be able to produce the current status of all vehicles when requested by an authorised user as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0625	The DVDMS shall be able to produce a report and/or a map on the current location of the user defined groups of vehicles when requested by an authorised user, as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0626	The group vehicle report and/or map produce by the DVDMS shall show any outstanding or current alerts, as defined by the authorised user.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0627	The DVDMS shall be able to provide a report, when required by an authorised user, showing the current status of all drivers;	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0628	The DVDMS shall be able to provide a report, when required by an authorised user, showing the current status of a user defined group of drivers listed on the DVDMS with as a minimum the list of drivers with: • warnings; • events; and/or • poor performance.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0629	2.18.1 Workshops	Title3							
DVDMS_R_0630	The DVDMS Back Office shall allow an authorised user as defined by the user organisation to download all data or user-identified categories of data.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_1079	The DVDMS in-vehicle device shall allow an authorised user as defined by the user organisation to download via the secure wired connection all data or user-identified categories of data.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0631	The DVDMS shall allow an authorised user to have the capability to generate vehicle or other user defined reports as required from the DVDMS.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0632	2.18.2 Servicing	Title3							
DVDMS_R_0633	The DVDMS shall provide a means of identifying and displaying a vehicles service schedule, by date or mileage and or time from last service and when the next service is due.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0634	The DVDMS should automatically inform the relevant driver/user using a user nominated communication method that a vehicle is due for service. The relevant driver/user is to be defined by the user organisation and the nominated communication method may in	Desirable Requirement	3		System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0636	The DVDMS shall identify when a vehicle is not available for operational use, to include its location, date and time when taken out of availability for operational use (e.g. within a service centre), all subsequent movements and events and the date, time and location of when it was available for operational use.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0637	The DVDMS shall include availability status and times on all relevant reports and the vehicle profile.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0638	The DVDMS shall be able to identify how long a vehicle is in workshops for service or other repairs and be able to report on this, when required.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0639	The DVDMS should warn by the way of an alert and through the Workshop Managers Report, nominated person(s) from the user organisation, when a vehicle has been out of service for user defined and user configurable period.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0081	3 DVDMS In-Vehicle Device Functional and Performance Requirements	Title1							
DVDMS_R_0082	3.1 General	Title2							
DVDMS_R_0083	The DVDMS shall be capable of being fitted into the DVLA category vehicles, A1, A, B, B Auto, D and D1.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0086	The DVDMS in-vehicle device shall comply with the Automotive Conformance Specification 5.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0087	The DVDMS in-vehicle device installation shall comply with the NAPFM Installation Guidelines.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0088	The DVDMS in-vehicle device installation shall comply with the FCS 1362 Installation Guidelines.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0089	The DVDMS in-vehicle device shall comply with all relevant new vehicle legislation for all fitments, both new and aftermarket.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0090	3.2 Controls	Title2							
DVDMS_R_0091	The DVDMS in-vehicle device shall only have adjustable controls and pre-set adjustments accessible by the removal of a normal access panel or existing vehicle trim panel.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		Review of analysis documentation.
DVDMS_R_0092	The DVDMS in-vehicle device should only allow adjustments to be made using a physical connection with a computer or similar device.	Desirable Requirement	3		Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		Review of design documentation
DVDMS_R_0093	3.3 CAN Interface	Title2							
DVDMS_R_0105	The information that the esCAN bus carries includes, but is not limited to, the following: <ul style="list-style-type: none"> • Emergency warning lights –controls; • Sirens –controls; • Power management system –related to the above functions; • Automatic Number Plate Recognition (ANPR) – controls/status; • Evidential or other camera – controls/status; • Speed or other enforcement equipment; • Matrix signs; • GNSS (satellite navigation); • One Box Driver and Vehicle Data Management System (DVDMS); • Defined subset of vehicle CAN data (see One Box SVA); and • Other non-safety-critical functions. 	Information	N/A		N/A		N/A		
DVDMS_R_0094	The DVDMS in-vehicle device shall be capable of connecting and recording data from the esCAN as defined in the Single Vehicle Architecture (SVA) requirements.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Review compliance with both requirement documents
DVDMS_R_0095	The DVDMS in-vehicle device shall be capable of recording all esCAN data for subsequent processing, analysis or investigation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Independent assessment of installation plan require
DVDMS_R_0096	The DVDMS in-vehicle device shall use an open data dictionary to communicate on the esCAN network, such as CiA 447.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0097	The DVDMS in-vehicle device shall be capable of connecting OEM CAN where permitted and supported by the vehicle manufacturer.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0098	The DVDMS in-vehicle device should be capable of recording all OEM CAN data, where permitted and supported by the vehicle manufacturer, for subsequent processing, analysis or investigation.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1247	The DVDMS in-vehicle device should be capable of recording OEM CAN data from various vehicle manufactures.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0107	3.4 Operation	Title2							
DVDMS_R_0109	The Supplier shall inform the customer of any particular vehicles the DVDMS in-vehicle device cannot work with.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0203	3.5 System Health Checks	Title2							
DVDMS_R_0115	The DVDMS in-vehicle device shall have an automated service and function checking capability, operating during the normal lifetime of the DVDMS.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		No mention of required CBIT coverage, need to check it appears later in the document. Check analysis/design documentation for evidence of a continuous built in test (CBIT) function.

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0204	The DVDMS in-vehicle device shall when operational provide system health check data to the Back Office or system host at least every 7 days.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0205	The DVDMS in-vehicle device system health check shall either be provided by the DVDMS in-vehicle device or when requested by the Back Office or system host.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0311	The DVDMS in-vehicle device shall perform a series of health checks on the internals of the DVDMS in-vehicle device when: a) switched on by a new user; or b) within a user defined period from the last check.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Verify PBIT operation
DVDMS_R_0312	If connected, the DVDMS in-vehicle device shall collect data from the OEM vehicle CAN bus as specified by the user organisation, this may include the following: • Electrical power source capacity; • Coolant water level; • Fuel level; • Brake fluid level; • Windscreen washer level; • Tyre pressures; • Emissions (Exhaust); • Other vehicle warning lights: o Engine management/emissions; o Brakes; and o Oil; • Vehicle overweight – if measured; • Incident events – not already notified; and • Faults with Emergency service equipment: o MDT; o Emergency warning lights; and o Emergency Sirens.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0313	The DVDMS in-vehicle device shall inform the DVDMS Back Office, within 20 seconds (TBC) of detecting any faults or incorrect levels.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0314	Any fault registered by the DVDMS in-vehicle device shall be prioritised on a Low or High Priority on the basis of whether the vehicle is safe to drive.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0315	If the DVDMS in-vehicle device generates a High Priority safety indication then this shall be brought to the driver's attention as a High Priority and communicated to the DVDMS Back Office for onward communication to a user organisation designed personnel.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0316	If the DVDMS in-vehicle device generates a Low Priority safety indication then this shall be brought to the driver's attention as a Low Priority and communicated to the DVDMS Back Office for onward communication to a user organisation designed personnel.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0317	The results of this diagnostic check shall be recorded in the DVDMS in-vehicle device and transmitted to the DVDMS Back Office, so that it is able to be viewed by workshops as part of a vehicle report.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0121	3.6 User Cannot Deactivate	Title2							
DVDMS_R_0122	The DVDMS in-vehicle device shall not have a facility to deactivate directly, change or override the functionality or performance of the system by the user during normal operation. Except when the user is specifically authorised to do so by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1300	3.7 Audit	Title2							
DVDMS_R_1301	This section should be read in conjunction with section 2.3 which contains additional audit requirements relating to the DVDMS.	Information	N/A		N/A		N/A		
DVDMS_R_0047	The DVDMS in-vehicle device as part of the audit process shall receive and store control messages from aftermarket equipment that are sent via the esCAN. This will include some data from the vehicle OEM CAN, as part of the emergency service data set	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0048	The DVDMS in-vehicle device should as part of the DVDMS audit be designed to identify all of the occupants in a vehicle.	Desirable Requirement	3		Vehicle Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0049	The DVDMS in-vehicle device shall as part of the DVDMS audit be designed to identify the driver of the vehicle.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0050	The DVDMS in-vehicle device shall as part of the DVDMS audit be capable of assigning events, actions or inputs to individual persons.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0052	The DVDMS in-vehicle device shall as part of the DVDMS audit store all received actions and commands.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0053	The DVDMS in-vehicle device shall store all received actions and commands for at least TBC days before being overwritten.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Verify DVDMS has sufficient storage for at least 7 days worth of actions and commands
DVDMS_R_0054	Actions and commands received by the DVDMS in-vehicle device can selectively be stored in the Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0148	3.8 Environmental Conditions		Title3						
DVDMS_R_0150	The DVDMS in-vehicle device should be tested against its operating condition requirements by an ISO 17025 Accredited Test House.	Desirable Requirement	3		Inspection		MC/SC1101/TSP001 TP1 - Inspection		Inspection of test house accreditation
DVDMS_R_0152	The DVDMS in-vehicle device shall operate correctly in all weather conditions, including lightning strikes when installed externally on the vehicle.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0153	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN 60068-2-2:2007, Test B, Dry heat, maximum temperature of 85°C for 72 hours.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0154	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN60068-2-1:2007, Test A, Cold, -20°C for 72 hours.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0155	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN60068-2-78:2013: steady damp test 30°C 93% humidity 12 hours.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_1248	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN60068-2-14:200-, Test N, change of temperature.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing		
DVDMS_R_0156	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN 60068-2-6:2008 Test Fc, vibration (sinusoidal) 5 Hz to 500 Hz max amplitude 5mm peak to peak up to 3g. Frequency variation of 1 octave per minute using 10 cycles in each of 3 axes.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0157	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN 60068-2-31:2008 Test Ec, rough handling shocks, 1m drop test.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0158	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN60068-2-75:1997 Test Eh, hammer tests crush or damage by striking 80g for 0.1ms.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_1249	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN60068-2-27:2009 Test Ea, impact resistance of sudden acceleration and deceleration, 80g for 0.1ms.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing		
DVDMS_R_0162	The DVDMS in-vehicle device shall operate correctly when subjected to the environmental test BS EN 1363-1:2012, Fire resistance tests general requirements for Low smoke and Fumes.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0167	3.9 Electrical Requirements		Title2						
DVDMS_R_0169	The DVDMS in-vehicle device shall operate from a nominal +12 volt DC supply and satisfy the requirements of the TBC standard.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1286	The DVDMS in-vehicle device shall not draw excessive current such that the vehicle can still start after 28 days.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0176	The DVDMS in-vehicle device shall be able to resume normal operation after repeated low, flat or no power events after 28 days.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0180	The DVDMS in-vehicle device shall be protected against short circuits on its power supply connections.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0194	The DVDMS in-vehicle device shall not feedback internal power, if fitted, to the vehicle electrical system.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0123	3.10 Physical and Other Characteristics		Title2						
DVDMS_R_0124	3.10.1 Dimensions		Title3						
DVDMS_R_0125	The DVDMS in-vehicle device shall be small in size and weight that can be mounted safely into a range of locations within a vehicle to include: the boot/storage/passenger compartment of any vehicle, including commercial vehicles.	Information	N/A		N/A		N/A		
DVDMS_R_0126	The DVDMS in-vehicle device dimensions should not exceed 150 mm by 150 mm by 70 mm for all vehicles other than motorcycles.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Measure sample DVDMS in-vehicle device dimensions
DVDMS_R_0127	The DVDMS in-vehicle device weight should not exceed 1kg for all vehicles other than motorcycles.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Weight sample DVDMS in-vehicle device
DVDMS_R_0128	The DVDMS in-vehicle device dimensions should not exceed 100 mm by 70 mm by 50 mm for motorcycles.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Measure sample DVDMS in-vehicle device dimensions
DVDMS_R_0129	The DVDMS in-vehicle device weight should not exceed 500g for motorcycles.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		Weight sample DVDMS in-vehicle device
DVDMS_R_0131	3.10.2 Part Marking		Title3						
DVDMS_R_0132	The DVDMS in-vehicle device shall be marked with the manufacturer's name or trade mark.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0133	The DVDMS in-vehicle device shall be marked with the manufacturer's model number or name.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review compliance with both requirement documents
DVDMS_R_0134	The DVDMS in-vehicle device shall be marked with the manufacturer's part number.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Independent assessment of installation plan required
DVDMS_R_0135	The DVDMS in-vehicle device shall be marked with the manufacturer's serial number, batch number or date of manufacture.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0137	3.10.3 Security		Title3						

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0140	The DVDMS, components shall be designed, manufactured and installed in such a way as to minimise the risk of a person de-activating or destroying it by: <ul style="list-style-type: none"> • Intentional damage; • Accidental damage; • Damage as a result of a collision; • Loss or corruption of data by electromagnetic means; • Cyber attack (for example, an attempt by an unauthorised user to gain access to the in-vehicle device or Back Office by connecting to the device and attempting to access or corrupt data or information, or seeking to prevent its capture); and/or • Unauthorised access/download. 	Information	N/A		N/A		N/A		
DVDMS_R_0144	The DVDMS in-vehicle device should provide a method of detecting unauthorised access.	Desirable Requirement	3		Bench test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1302	3.10.4 IP Rating	Title3							
DVDMS_R_0160	The DVDMS in-vehicle device shall at least have an ingress protection rating of IP66 as defined by EN 60529.	Mandatory Requirement			OEM Test		MC/SC1101/TSP001 TP7 - EMC and Environmental Testing	Manufacturer/Supplier	
DVDMS_R_0264	3.11 Location	Title2							
DVDMS_R_1303	This section should be read in conjunction with sections 2.5 and 4.7 which contain additional location requirements relating to the DVDMS as a system and the Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0265	The DVDMS in-vehicle device shall have a GPS input to provide location of emergency service vehicles.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		
DVDMS_R_0268	3.11.1 Location Accuracy	Title3							
DVDMS_R_1287	The DVDMS GPS system shall have a Hot/Cold start-up that is capable of providing a location in less than 60 seconds.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0269	The supplier shall provide the User Organisation with details on the location accuracy and UK coverage/availability of this accuracy for the DVDMS In-Vehicle Device.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0273	The DVDMS in-vehicle device should record GNSS signal strength where this is available.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0274	3.11.2 Location Update Rate	Title3							
DVDMS_R_0275	The location update rate in the DVDMS in-vehicle device shall be variable from 1 Hz to 1 update per 8 hours as defined by the User Organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0276	The location update rate in the DVDMS in-vehicle device shall be configurable by an authorised user and remotely variable by communication from the DVDMS Back Office.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0278	The location rate of the DVDMS in-vehicle device shall automatically update to a minimum of 1 Hz (TBC), when the emergency warning lights of the vehicle are activated. The update rate will automatically return to the previous setting, when the emergency warning lights of the vehicle are deactivated.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0330	3.12 Cameras and Audio	Title2							
DVDMS_R_0334	The DVDMS shall digitally date, time stamp audio and video data obtained from the DVDMS in-vehicle device.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_1283	The DVDMS in-vehicle device identification will be placed on all images as defined in the following standards: CAST publications: - Digital Imaging Procedure – HOSDB publication 09/05; - Digital Data Standards for Handling – HOSDB publication 58/07; - Retrieval of Evidence and production for evidence – HOSDB publication 66/08; and NPJA publications: - Advice on Police Use of Digital Images 2007(TBC).	Information	N/A		N/A		N/A		
DVDMS_R_0297	3.13 Communication Update – Emergency Light Activation	Title2							
DVDMS_R_1304	This section should be read in conjunction with section 4.8 which contains additional emergency light activation requirements relating to the DVDMS Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0298	The DVDMS in-vehicle device shall automatically update the communication update rate to the DVDMS Back Office to the defined minimum when the emergency warning lights are activated.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0299	The minimum communications update rate when the emergency warning lights are activated shall be either: a) Normal driving; or b) Emergency driving. Both of these update rate shall be user definable by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1305	3.14 Alert Functions	Title2							
DVDMS_R_1306	This section should be read in conjunction with section 4.9 which contains additional alert function requirements relating to the DVDMS Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0346	3.14.1 Unauthorised Driver	Title3							
DVDMS_R_0347	The DVDMS In-Vehicle device shall recognise when an unauthorised driver is attempting to start and/or driving a vehicle. This will be recorded as an event and a high priority communication will be sent, via the DVDMS Back Office to a nominated user for investigation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0348	3.14.2 Speed Alert	Title3							
DVDMS_R_0349	The DVDMS In-Vehicle device shall be able to determine the speed of the vehicle and where required, shall provide an alert to the DVDMS Back Office when a preset speed threshold has been reached.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0350	The DVDMS in-vehicle device shall provide speed alerts that include: a) Exceeding a defined threshold speed, no emergency warning equipment activated; and b) Exceeding a defined threshold speed, emergency warning equipment activated.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0351	The DVDMS in-vehicle device should provide speed alerts that include: a) Exceeding a posted speed limited by a user defined amount no emergency warning equipment activated; and b) Exceeding a posted speed limited by a user defined amount emergency warning equipment activated.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0353	The speed alerts shall be communicated to the driver's profile held at the DVDMS Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_1307	3.14.3 Warning of Outside Safety Thresholds	Title3							
DVDMS_R_0589	Where driver behaviour parameters exceed the maximum thresholds defined by the user organisation, the DVDMS in-vehicle device shall prioritise these warnings as High Priority and communicate them as a High Priority message to the DVDMS Back Office for immediate communication to a user defined person. (Normally the Emergency Service Control Room but this may also include the driver's nominated supervisor).	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0355	3.15 Incident or Event Detection	Title2							
DVDMS_R_0358	The DVDMS in-vehicle device shall log the exact time, date and location where an incident or event began and concluded and this shall be stored with the data.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0359	The DVDMS in-vehicle device shall not allow the logging of incidents or events to be deactivated by the driver or passenger.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0360	The DVDMS in-vehicle device shall generate an incident flag for data logged as the result of an incident or event, such that when presented to a DVDMS Back Office designated user(s) indicates a High Priority incident or event.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0361	The DVDMS in-vehicle device shall not allow data logged as the result of an incident or event to be deactivated, unfrozen or altered by an unauthorised user. deactivated by the driver or passenger.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0362	Where the driver or passenger is an authorised user to alter or unfreeze data, the DVDMS in-vehicle device shall ensure there is a clear separation of access rights to the data. Audit procedures will be put in place to prevent misuse of this capability.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0365	At the conclusion of the event, when the event or incident data has been downloaded, either from the DVDMS in-vehicle device or to the DVDMS Back Office, the specific event or incident flag shall be recorded in both the driver's and vehicle profile.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0366	The DVDMS shall provide a method for a driver to identify or bookmark an event.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1308	3.15.1 Process for Accessing Event/Collision Data	Title3							
DVDMS_R_0377	The DVDMS in-vehicle device shall have a secure access point to enable an authorised user to securely download or upload data direct from or to that DVDMS in-vehicle device.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0378	The DVDMS in-vehicle device secure access point shall be made via a standard hardware and software interface.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1309	3.15.2 False Incident Alert	Title3							
DVDMS_R_0385	Where the event notification is a false alert, this shall be capable of being rescinded by an authorised user using the DVDMS in-vehicle device.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1310	3.16 Incident or Event Data Recording Additional Requirements	Title2							
DVDMS_R_0390	The DVDMS in-vehicle device shall enable the user organisation to configure a time defined period of data to be recorded before and after the manual activation of the book marking/flagging or equivalent capability. (Current best practice is to store at least 45 seconds before and 15 seconds after the activation of the device).	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0391	In the event of an incident or collision involving the equipped DVDMS vehicle, the data held on the DVDMS in-vehicle device within that vehicle shall be protected and preserved before, during and after that incident or collision, so that it is available for post event investigation or analysis or until it has been securely downloaded to the Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0393	3.16.1 Data Recording Frequency	Title3							
DVDMS_R_0394	The DVDMS in-vehicle device shall be capable of recording incident and event data from the esCAN at the maximum data rate.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_1267	The DVDMS in-vehicle device minimum data rate shall be defined by the user organisation for normal journey data recording.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0395	3.16.2 Driver Notification	Title3							
DVDMS_R_0396	Where an event or incident is recorded, the DVDMS in-vehicle device shall immediately notify the driver and subsequent drivers that an event or incident has been recorded, until that alert notification is cancelled by an authorised person.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0397	The DVDMS in-vehicle device shall have a way of notifying the current or subsequent driver that an event has occurred with that vehicle and has not been cleared by an authorised person. Notification may be achieved using: • A light; and/or • Audio; • or any other means agreed with the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0567	The DVDMS shall warn the driver when their performance is at or below the thresholds defined by the user organisation.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0568	The DVDMS shall warn the driver through the DVDMS in-vehicle device within 5 seconds of being detected (TBC), subject to compliance with HMI requirements specified within this document.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0569	For non-safety critical warnings, the DVDMS in-vehicle device shall provide the ability to switch off the warnings by an authorised user if required.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0571	The DVDMS in-vehicle device shall not be able to be switched off by the driver or any unauthorised person so that it cannot communicate with the DVDMS Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0572	The DVDMS in-vehicle device shall not be able to be so configured by the driver or any unauthorised person so that it cannot communicate with the Back Office.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0612	3.16.3 Normal and Emergency Driving	Title3							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0613	The definition of normal and emergency driving will always be subjective. There will always be examples of where a member of staff is required to lawfully make use of exemptions to Road Traffic law in order to carry out an emergency service purpose, where emergency service warning equipment (Blue or Red Lights and/or Siren) are not activated.	Information	N/A		N/A		N/A		
DVDMS_R_0615	The DVDMS in-vehicle device shall recognise when the vehicle is being used in emergency mode, by the emergency warning instruments being activated, and automatically record this as an event in both the driver and vehicle profile.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0397	3.17 Data Requirements	Title2							
DVDMS_R_1311	This section should be read in conjunction with sections 2.13 and 4.10 which contain additional data requirements relating to the DVDMS as a system and the Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_1312	3.17.1 Data Categories	Title3							
DVDMS_R_0402	The DVDMS in-vehicle device shall be able to automatically recognise different data categories when they are received, captured and store them according to that data category in the device.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0404	The DVDMS in-vehicle device shall be able to automatically communicate defined categories of data to the DVDMS Back Office, as required by the user, given the relevant priority and type of data in each category.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0405	3.17.2 Data Storage and Retention	Title3							
DVDMS_R_0398	The DVDMS in-vehicle device shall store all of the data it is capable of receiving on the device for a period of 14 days of continuous use at all times. This period may be reduced only where the data has been sent to the authorised Back Office and the Back Office has confirmed to the device that the data has been received correctly.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0406	Data categories that are not required to be downloaded by the DVDMS back office and are not subject to being a secured event or incident data as defined within this document may be overwritten in the DVDMS in-vehicle device after minimum of 14 days.	Allowable Condition			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0407	The data collected and stored by the DVDMS in-vehicle device shall be captured, stored and communicated to evidential standards.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0408	The DVDMS in-vehicle device data storage should conform to ACID rules (Atomicity, Consistency, Isolation and Durability). That means that each transaction must be: <ul style="list-style-type: none"> • Atomic – it is one unit of work and does not depend on previous and following transactions; • Consistent – data are either committed or rolled back with no possibility of an "in-between" case where something has been updated and something has not; • Isolated – no transaction sees the intermediate results of the current transaction; and • Durable – values persist if the data had been committed even if the system crashes right after. 	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0409	3.17.3 In-Vehicle Data Security	Title3							
DVDMS_R_0528	The DVDMS in-vehicle device level of protection and security shall be defined in agreement with the user organisation, governing legislation and best practice.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1313	3.17.4 DVDMS Data Communication	Title3							
DVDMS_R_0423	Where local infrastructure or geological surroundings cause loss of communications, DVDMS in-vehicle data shall be stored and transmitted to the DVDMS Back Office when communications are re-established.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0425	3.17.5 Communication In-Vehicle	Title3							
DVDMS_R_0426	Where DVDMS data is communicated to persons in a vehicle, it shall be capable of being communicated via one or more of the following: <ul style="list-style-type: none"> • A dedicated DVDMS device or screen; • An OEM or aftermarket device or screen (e.g. MDT); • By audible or visible alert; and/or • Haptic alert – e.g. vibration. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0428	3.18 Driver Interaction	Title2							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0429	Where the driver is required to interact with the DVDMS in a moving vehicle, all such interactions should ideally be hands free, comply with best practice in Human Machine Interface. Driver interaction with the DVDMS may include: • Text; • Voice; • Audio; • Visual; and • Screen display.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0430	Where the driver fails to act on the information provided, the DVDMS shall repeat the information, at a rate defined by the user organisation, until the reason for communicating the data/ information has concluded. This will be logged as part of the audit trail.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1314	3.19 Disaster Recovery	Title2							
DVDMS_R_1316	This section should be read in conjunction with section 4.5 which contains additional disaster recovery requirements relating to the DVDMS Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0505	The DVDMS in-vehicle device shall not prevent the police vehicle from starting due to issues with the Back Office.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0474	4 DVDMS Back Office Functional and Performance Requirements	Title1							
DVDMS_R_0475	4.1 General	Title2							
DVDMS_R_0476	The main role for the DVDMS Back Office is to securely and accurately receive data from all of the equipped vehicles, relating to that vehicle and its use and/or data relating to the driver of that vehicle, associated with their unique driver identification. This data will then be automatically processed into information, to enable the user organisation to better manage the use of its vehicles and to manage and improve driver behaviour, through: <ul style="list-style-type: none"> A series of automatically generated reports, a number of which are listed in these criteria; The capability to run generic or bespoke searches against the data held, a number of which are listed in these criteria; The capability to develop new reports or searches, as required by the user organisation; and The capability to produce detailed reports relating to incidents or events, to include the ability to drill down to very low levels of data where required. 	Information	N/A		N/A		N/A		
DVDMS_R_0477	Back Office reports shall be generated automatically at the time and frequency agreed by the user organisation.	Mandatory Requirement				System Test	MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0478	All automatically generated Back Office reports shall be forwarded, automatically to the correct driver, supervisor or other relevant person at the time and frequency agreed by the user organisation.	Mandatory Requirement				System Test	MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0479	Back Office automatically generated reports shall contain relevant information and data held on the system to allow a supervisors and other authorised personnel to allow them to make better informed decisions or to assist discussions with a driver as to: a) A drivers suitability to drive or continue to drive a particular type of vehicle; b) Their driving behaviour; c) To support an investigation of an incident or an event; d) A requirement for additional or remedial training; and e) Their suitability for more advanced driver training.	Mandatory Requirement				System Test	MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0480	To achieve this, the DVDMS Back Office system will be required to automatically process and analyse all driving, vehicle and driver and other relevant data held in that DVDMS Back Office related to: <ul style="list-style-type: none"> A driving event; Trends; Vehicle usage; and Driver behaviour. 	Information	N/A			N/A	N/A		
DVDMS_R_0491	The DVDMS Back Office will when introduced be appropriately sized, to include: a) Processing capability; b) Data storage; c) User access; and d) Number of vehicle or driver profiles held.	Information	N/A			N/A	N/A		
DVDMS_R_0492	The DVDMS Back Office should be designed to provide at least 25% spare processing power capacity when all assets are deployed and all users are accessing the system for information.	Information	N/A			N/A	N/A		
DVDMS_R_0493	The DVDMS Back Office data storage should have at least 25% spare capacity above that envisaged for the number of vehicle and users and the amount of data items to be stored against them.	Information	N/A			N/A	N/A		
DVDMS_R_0496	The DVDMS Back Office shall have the ability to allow processing and/or data storage to be easily expandable to allow the DVDMS to meet the expected life of the system.	Information	N/A			N/A	N/A		
DVDMS_R_0481	4.2 Links to Other Databases	Title2							
DVDMS_R_0482	The DVDMS Back Office shall be able to link to other user organisation systems using an open data format, e.g. personnel, command and control, GIS, crime etc, where required by that user organisation and where it is feasible to do so.	Mandatory Requirement				System Test	MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0483	The DVDMS Back Office should be able to link to external live or historic information sources, where required by the user organisation, e.g. weather, traffic conditions etc.	Desirable Requirement	3			System Test	MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0484	The DVDMS Back Office shall be capable of being linked to and operated on the Police National Network (PNN) or its replacement, which includes the requirement to comply with all the security requirements and operating procedures to do so.	Mandatory Requirement				System Test	MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0485	Any replacements regarding the Police National Network is expected to have a similar interface to allow the DVDMS to connect into.	Information	N/A			N/A	N/A		
DVDMS_R_0486	4.3 Updates and Housekeeping	Title2							
DVDMS_R_0487	The DVDMS Back Office software shall have the ability to be easily and cost effectively modified to take account of new driving legislation, procedures or best practice or other changes relevant to the operation of the DVDMS.	Mandatory Requirement				Analysis	MC/SC1101/TSP001 TP2 - Analysis		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0489	All maintenance and housekeeping functions for the DVDMS Back Office shall be consistent with the user organisations procedures for other systems.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0490	4.4 Back Office Sizing	Title2							
DVDMS_R_0494	The DVDMS Back Office should not limit the number of users other than by the system resources over the expected life of the system.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0495	The DVDMS Back Office should not limit the number of drivers and vehicles other than by the system resources over the expected life of the system.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1273	This is so as to ensure all reasonable future use is met over the expected life of the system.	Information	N/A		N/A		N/A		
DVDMS_R_0498	4.5 Disaster Recovery	Title2							
DVDMS_R_1317	This section should be read in conjunction with section 3.19 which contains additional disaster recovery requirements relating to the DVDMS In-Vehicle Device.	Information	N/A		N/A		N/A		
DVDMS_R_0499	This facility is required to provide system operation at all times.	Information	N/A		N/A		N/A		
DVDMS_R_0500	The DVDMS Back Office shall have a full set of disaster recovery procedures.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration	Operational Procedures	
DVDMS_R_0501	The DVDMS Back Office shall be provided with duplicated independent power supplies.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_0502	Following an incident the DVDMS Back Office shall be able to continue at full operation or be taken over by another competent body within 15 minutes.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0503	The DVDMS Back Office handover should be tested according to the requirements of the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System	Operational Procedures	
DVDMS_R_0504	Where a DVDMS is combined with a vehicle immobilisation capability which requires the correct driver identification token to start the vehicle, this shall be achieved in a way that is not impacted by any disaster recovery procedures.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		
DVDMS_R_0506	4.6 Back Office Database	Title2							
DVDMS_R_0510	The DVDMS Back Office shall provide an HMI that supports a process where an authorised user can automatically add, update, amend or delete any record (driver or vehicle) held on the live system - subject to audit, legal and storage requirements.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0511	The DVDMS shall allow authorised users as defined by the user organisation to have the authority to remove or restrict access to other users to all or part of the DVDMS.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0512	The DVDMS Back Office shall provide an HMI that allows for the deleting of driver and vehicle related data, when it is no longer required to be retained by the user organisation - subject to the legal and audit requirements.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0513	The DVDMS Back Office should provide an automated process for the deleting of driver and vehicle related data, when it is no longer required to be retained by the user organisation, with a manual process to enable deletion and correction of errors from a vehicle or driver profile.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0514	The DVDMS Back Office shall provide a full audit trail of any deleted data and it shall be retained in a file linked to the driver or vehicle profile.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0515	The file containing the deleted records generated by the DVDMS Back Office shall be capable of being accessed by an authorised user if required, until the legal or audit retention periods defined in this document are met.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_1318	4.7 Location	Title2							
DVDMS_R_1319	This section should be read in conjunction with sections 2.5 and 3.11 which contain additional location requirements relating to the DVDMS as a system and the Back Office.	Information	N/A		N/A		N/A		
DVDMS_R_0266	The DVDMS Back Office shall be able to display on a user defined map or other display device the location of individual or groups of vehicles when requested by an authorised user.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0267	The DVDMS Back Office should display the vehicle positions in real-time or within a time period defined by the authorised user.	Desirable Requirement	3		System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_1320	4.8 Communication Update – Emergency Light Activation	Title2							
DVDMS_R_1321	This section should be read in conjunction with section 3.13 which contains additional emergency light activation requirements relating to the DVDMS In-Vehicle Device.	Information	N/A		N/A		N/A		
DVDMS_R_0300	The selection of the minimum communications update rate shall be set remotely by the DVDMS Back Office communication to the DVDMS in-vehicle device.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1322	4.9 Alert Functions	Title2							
DVDMS_R_1323	This section should be read in conjunction with section 3.14 which contains additional alert function requirements relating to the DVDMS In-Vehicle Device.	Information	N/A		N/A		N/A		
DVDMS_R_1324	4.9.1 Speed Alert	Title3							
DVDMS_R_0354	The speed and alert thresholds shall be capable of being changed remotely by an authorised user via the DVDMS Back Office either on a single, group or all vehicles.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_1325	4.10 Data Requirements	Title2							
DVDMS_R_1326	This section should be read in conjunction with sections 2.13 and 3.17 which contain additional data requirements relating to the DVDMS as a system and the Back Office.	Information	N/A		N/A		N/A		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_1327	4.10.1 DVDMS Data Communication	Title3							
DVDMS_R_0174	The DVDMS in-vehicle device shall be capable of responding to DVDMS Back Office request within 20 seconds, when communications between the DVDMS in-vehicle and the DVDMS Back Office are functioning.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP4 - In-Vehicle Device in Isolation		
DVDMS_R_0424	Where local infrastructure or geological surroundings cause loss of communications, DVDMS Back Office data shall be stored and transmitted to the DVDMS in-vehicle device when communications are re-established.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP6 - DVDMS System in Isolation		
DVDMS_R_0518	4.10.2 Data Access	Title3							
DVDMS_R_0520	The DVDMS Back Office shall uniquely identify and authenticate each authorised person.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0521	The DVDMS Back Office shall be a secure system and have a range of secure access levels, which controls access to data and search functionality to ensure access to any data, information and reports, are appropriately protected and secured in accordance with the relevant legislation and practices and policies of the user organisation.	Information	N/A		N/A		N/A		
DVDMS_R_0524	4.10.3 Data Security	Title3							
DVDMS_R_0526	The DVDMS Back Office level of protection and security shall be defined in agreement with the user organisation, governing legislation and best practice.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0529	The DVDMS Back Office access levels should also define the access rights of the user with regard to the following actions: a) Access; b) Printing; c) Downloading; d) Copying; and e) Version control.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0531	4.10.3 Back Office Audit Data	Title3							
DVDMS_R_0509	The DVDMS Back Office shall provide an HMI that supports a process where an authorised user can manually add, update, amend or delete any record (driver or vehicle) held on the live system - subject to audit, legal and storage requirements.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0532	The DVDMS Back Office shall capture and securely store the following audit information: • All log transactions with time date and identities to include Back Office operator; • All data transmitted to or from Back Office; • All alerts; • All actions or commands; • All faults; • All alarms; and • All service requests.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0533	The DVDMS Back Office shall store the audit information for a minimum of 7 years	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0534	The DVDMS Back Office shall be required to produce this information and data to evidential standards, when lawfully required by the emergency services.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration	Operational Procedures	
DVDMS_R_0516	4.11 Freedom of Information Act Requests	Title2							
DVDMS_R_0517	The DVDMS Back Office shall have a search and report capability to support the administration of freedom of information requests, which may require specific searches of data held on the system.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0535	4.12 Back Office Drive Events	Title2							
DVDMS_R_0536	The DVDMS Back Office shall be able to capture all drive and/or journey event data communicated to it by the DVDMS in-vehicle device, from start to finish of that drive event.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0537	The drive journey event captured by the DVDMS Back Office shall include when the vehicle's engine has stopped and started with a resolution of no more than 30 seconds.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0538	The DVDMS Back Office shall store the relevant parts of that data in: a) A unique record for that specific and identified vehicle; and b) A unique record for that specific and identified driver.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0539	The DVDMS Back Office shall store the following journey details with regard to the specific vehicle: <ul style="list-style-type: none"> • Vehicle identity; • Time and date; • Driver identity; • Diagnostics checks for that vehicle, where available; • All alerts notified/identified with location, data and time information; • All events notified/identified with location, data and time information; • Speed information, at user defined periods or at user defined change thresholds; • Average fuel consumption for that journey; • Fuel used; • Mileage; • Harsh Braking; • Harsh Acceleration; • Activation of Active safety systems; • Excessive G force – indicating collision or yaw; • Harsh steering; • Excess Revs; 	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0540	The DVDMS Back Office shall have the capability to add further journey details with regard to specific vehicle as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0541	The DVDMS Back Office shall store the following journey details with regard to the specific driver: <ul style="list-style-type: none"> • Vehicle identity; • Start and end location; • Time and date; • Driver identity; • Journey details with location updated at the user defined frequency; • All alerts notified/identified with location, data and time information; • All events notified/identified with location, data and time information; • Speed information, at user defined periods or at user defined change thresholds; • Average fuel consumption for that journey; • Fuel used; • Mileage; • Harsh Braking; • Harsh Acceleration; • Activation of Active safety systems; • Excessive G force – indicating collision or yaw; • Harsh steering; • Excess Revs; • Idling time: <ul style="list-style-type: none"> o Per event; and o Total for journey; 	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0542	The DVDMS Back Office shall have the capability to add further journey details with regard to specific driver as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0543	The DVDMS Back Office shall link driver and vehicle records to allow analysis, comparison and reporting by: <ul style="list-style-type: none"> • User defined groups of vehicles; and • User defined groups of drivers. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0544	The DVDMS Back Office shall link the driver and vehicle journey event associations by: <ul style="list-style-type: none"> • Specific driving parameter (e.g. grade of driver); • Individual driver; • Driver hours; • Team or group of drivers from section – force; • Geographic location (station, division, etc.); • Individual vehicle (make and model); • Vehicle type (e.g. Traffic or Response vehicle); • Vehicles by team or location; • Vehicles by organisation; • Vehicles compared across several organisations; • Specific vehicle related parameters: <ul style="list-style-type: none"> o Fuel usage; o Mileage; o Vehicle usage; o Fault code(s); o Location; o Speed – (max/min/average); o Collisions; o Utilisation; o Servicing; o Emergency v normal patrol driving; o Activation rates for emergency warning equipment. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0545	The DVDMS Back Office shall have the capability to add further associations between vehicle and driver as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP10 - Operational Testing of System		
DVDMS_R_0641	4.13 Fleet Management Requirements	Title2							
DVDMS_R_0642	The DVDMS Back Office shall, where possible, be capable of being linked to other authorised DVDMS Back Offices.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0643	Where DVDMS Back Office's are linked together then, if authorised by the user organisation, it should be capable of allowing comparison, exchange, or benchmarking of data.	Desirable Requirement	3		System Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0644	Where DVDMS Back Office links are not available the DVDMS shall produce data/information/reports in a format that allows direct comparison, analysis and benchmarking with other DVDMS users to include, both paper and data outputs.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0645	The DVDMS Back Office shall be appropriately registered under the Data Protection Act.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0646	4.14 Back Office Reports	Title2							
DVDMS_R_0648	The DVDMS standardised generic reports within this document have been developed by the NPA ITS team, following extensive research and discussion with a wide range of stake holders. The standardised generic reports have been subject to extensive feedback from the users and reports from Suppliers that are compliant with DVDMS are expected to be closely similar across the country, to ensure and facilitate benchmarking and fair and equal treatment.	Information	N/A		N/A		N/A		
DVDMS_R_0649	The contents of the Reports produce by the DVDMS Back Office shall be to the standards developed by the NPA ITS team and agreed with the user organisation to ensure it is applicable to local practice.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1269	The DVDMS Back Office shall produce as a minimum the following types of report: <ul style="list-style-type: none"> • Driver Report; • Level 1 Supervisor Report; • Level 2 Supervisor Report; • Level 3 Supervisor Report; • Level 4 Supervisor Report; • Command/Force level Report; • High Priority: Safety Issue Report; • Fleet Managers Overview; • Workshop Managers Report; and • Technicians Report. 	Mandatory Requirement					MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_1270	Reports produced by the DVDMS Back Office shall be customisable by the user organisation through a set of defined parameters agreeable between the Supplier and the user organisation. Parameters to include are: <ul style="list-style-type: none"> • Vehicle(s); • User groups: Driver, Drivers, Teams, Stations, Districts; • Time Period: Days, Weeks, Months, Years; • Vehicle Parameters: e.g. Speed, MPG, Revs, Brake, Vehicle warning indicator, Servicing, Mileage, Fuel, Emissions/CO2; • Incident and Event Parameters: e.g. Blue Light, GPS, Journey route; • Economic Parameters: e.g. Cost, 3rd Party costs, Damage; • Manual text entry. 	Mandatory Requirement					MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0650	Whilst it is acknowledged that the reports will change over time, this section of the document sets out the broad style, content and user interface for these standardised reports that is expected from all DVDMS.	Information	N/A		N/A		N/A		
DVDMS_R_0651	Minor derivations from the DVDMS Back Office reports defined in this document are permitted but shall be subject to an compliance assessment by the Approved Test Houses.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0652	For all derivations from the DVDMS Back Office reports defined in this document the Supplier shall provide evidence to show added value.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0653	Where a Supplier can evidence significant added value in report derivation a change to the reports defined within this document may occur requiring all future reports produced by the DVDMS Back Office to be compliant. This process is essential, to ensure that there is consistency of approach across the country and that the system requirements do not become redundant through mission creep.	Information	N/A		N/A		N/A		
DVDMS_R_0655	All Suppliers submitting DVDMS for testing that are producing new reports or derivations to standardised reports, before they are accepted for use on the DVDMS, shall agree to the use of their reports style, content and user interface by CAST/NPA ITS team to develop future standardised generic DVDMS reports as part of a revised system requirements document.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0657	The DVDMS Back Office shall support automatic report generation to a recipient at a date/time/frequency and communication method as specified by an authorised user, as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0658	The DVDMS Back Office shall support manual report generation by an authorised user, as defined by the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		

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DVDMS_R_0659	Reports produced by the DVDMS Back Office shall be capable of being distributed to the authorised user(s) as defined by the user organisation using one or more of the following communication methods: • Text message; • Email; • Print out; • Direct access to the Back Office; • Web access to the Back Office.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0660	The DVDMS should be able support additional methods of report distribution as required by the user organisation.	Desirable Requirement	3		Bench Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0661	The DVDMS Back Office shall support automatic report generation to a recipient at a date/time/frequency and communication method according to the priority of the information, as defined by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0662	The DVDMS reports shall be sufficiently detailed as agreed by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP9 - Integration with Existing Back Office Systems		
DVDMS_R_0663	This will allow the driver or supervisor to easily and quickly identify driving or certain aspects of driving are above or below the expected standard and will also provide advice and guidance as to how compliance with the expected standard can be achieved.	Information	N/A		N/A		N/A		
DVDMS_R_0675	Reports produced by the DVDMS Back Office shall only be accessed by the authorised users defined by the user organisation.	Mandatory Requirement			System Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation		
DVDMS_R_0679	Reports produced by the DVDMS shall support multiple levels of information, allowing high level summary information through to detailed parameter information to be reported.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0680	Reports produced by the DVDMS should allow navigation between levels of information through the use of a single action e.g. mouse click.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0688	For reports that have levels specifically targeted at drivers it is proffered any guidance given is described in non monetary value.	Information	N/A		N/A		N/A		
DVDMS_R_1271	Reports produced by the DVDMS should allow navigation between levels of information through the use of a single action e.g. mouse click.	Desirable Requirement	3		Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0667	4.14.1 Driver Reports	Title3							
DVDMS_R_0668	The aim of the driver report is to provide the driver with a clear and easy to understand report that describes their driving performance over time. An example of a driver report is produced below.	Information	N/A		N/A		N/A		
DVDMS_R_0669	The report contains the driving parameters on the vertical axis and time on the horizontal axis. The report shown below is in months, the actual time periods will be user organisation configurable to include: • Days; • Weeks; • Months; and • Years.	Information	N/A		N/A		N/A		
DVDMS_R_0671	Driver Reports produced by the DVDMS Back Office shall have a minimum of 5 time periods shown.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0674	The Driver's Report produced by the DVDMS Back Office would normally be distributed by email.	Information	N/A		N/A		N/A		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments																																																																																										
DVDMS_R_0677	<p>Driver Profile – PC Adrian Smith 101111</p> <table border="1"> <thead> <tr> <th></th> <th>October 2010</th> <th>November 2010</th> <th>December 2010</th> <th>January 2011</th> <th>February 2011</th> </tr> </thead> <tbody> <tr> <td>Excess Speed</td> <td>3</td> <td>4</td> <td>20</td> <td>25</td> <td>10</td> </tr> <tr> <td>MPG</td> <td>0</td> <td>0.5</td> <td>5</td> <td>8</td> <td>1.5</td> </tr> <tr> <td>Excess Brake</td> <td>0</td> <td>0</td> <td>6</td> <td>4</td> <td>2</td> </tr> <tr> <td>Excess steer</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Idle</td> <td>0</td> <td>0</td> <td>3</td> <td>0</td> <td>1</td> </tr> <tr> <td>Wrong Gear</td> <td>4</td> <td>0</td> <td>7</td> <td>8</td> <td>2</td> </tr> <tr> <td>Use</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Speed to gear</td> <td>3</td> <td>1</td> <td>7</td> <td>7</td> <td>0</td> </tr> <tr> <td>Incident</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Harsh accel</td> <td>4</td> <td>2</td> <td>20</td> <td>25</td> <td>6</td> </tr> <tr> <td>Over rev</td> <td>4</td> <td>1</td> <td>20</td> <td>20</td> <td>6</td> </tr> <tr> <td>Warning light</td> <td>0</td> <td>0</td> <td>3</td> <td>3</td> <td>0</td> </tr> <tr> <td>Mileage</td> <td>0</td> <td>-10</td> <td>-3</td> <td>-6</td> <td>-8</td> </tr> <tr> <td>Blue Light</td> <td>0</td> <td>0</td> <td>10</td> <td>15</td> <td>2</td> </tr> </tbody> </table> <p>Figure 4 – Example of a Driver's Report.</p>		October 2010	November 2010	December 2010	January 2011	February 2011	Excess Speed	3	4	20	25	10	MPG	0	0.5	5	8	1.5	Excess Brake	0	0	6	4	2	Excess steer	0	0	0	0	0	Idle	0	0	3	0	1	Wrong Gear	4	0	7	8	2	Use	0	0	0	0	0	Speed to gear	3	1	7	7	0	Incident	0	0	0	0	0	Harsh accel	4	2	20	25	6	Over rev	4	1	20	20	6	Warning light	0	0	3	3	0	Mileage	0	-10	-3	-6	-8	Blue Light	0	0	10	15	2	Information	N/A		N/A		N/A		
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Blue Light	0	0	10	15	2																																																																																														
DVDMS_R_0678	The DVDMS shall produce a Driver's Report that at the highest level of detail identifies how the driver is performing and how that trend is changing over time.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis																																																																																												
DVDMS_R_0681	The reports below are examples as to how these reports should be prepared. They include additional detail of the vehicles driven, identify where driving falls below the acceptable standard. This will allow further drilling down to an individual vehicle for a particularly time period and identified parameters to enable the driver or supervisor to identify where the driving behaviour is good or needs improving (see Figure 5).	Information	N/A		N/A		N/A																																																																																												
DVDMS_R_0684	<p>Figure 5 – Example of various different types of Driver Report that can be made available.</p>	Information	N/A		N/A		N/A																																																																																												
DVDMS_R_0686	The Driver's report produced by the DVDMS shall define the target improvement required as agreed by the user organisation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis																																																																																												
DVDMS_R_0687	The Driver's report produced by the DVDMS should provide guidance as to the economic or other impact of the behaviour as agreed by the user organisation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis																																																																																												

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0689	The Driver's Report produced by the DVDMS shall be capable of providing a map detailing a specific drive or event, showing the time, date, location and route of the driving event and where the driving exceptions, incidents or events occurred.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0690	Figure 6 is a Driver's Report example of the driver's performance over time against the specific parameters that require improvement. These reports are intended to support drivers and supervisors to monitor improvements.	Information	N/A		N/A		N/A		
DVDMS_R_0691	 <p>Figure 6 – Example of driver report, highlighting areas for improvement.</p>	Information	N/A		N/A		N/A		
DVDMS_R_0693	4.14.2 Level 1 Supervisor Report	Title3							
DVDMS_R_0695	This report is intended to provide first line supervisors an overview of the driving performance of the team or staff they are responsible for. The team or staff group is shown on the vertical axis.	Information	N/A		N/A		N/A		
DVDMS_R_0696	The driving parameters are shown on the horizontal axis and the fields are automatically completed with the driving performance for that parameter for that individual for that time period.	Information	N/A		N/A		N/A		
DVDMS_R_0700	The Level 1 Supervisor's Report produced by the DVDMS Back Office would normally be distributed by email.	Information	N/A		N/A		N/A		
DVDMS_R_0704	 <p>Figure 7 – Example of individual driver profile report.</p>	Information	N/A		N/A		N/A		
DVDMS_R_0702	On the right hand side of this report, the drivers are rated by user organisation configurable categories. In the report below this is shown by team, increasing in size to force level. The driver will be colour coded and placed by number in teams, thereafter colour coded only, to show there performance compared to that category, for example station or force.	Information	N/A		N/A		N/A		
DVDMS_R_0703	The final column will be provided to show supervisor action. This will indicate where a supervisor fails to address a driver's behaviour. This will be based on driving behaviour over time. The user organisation will define time periods where, if a driver's behaviour is below a certain level of performance and remains so for a number of time periods, then the supervisor action will be deemed to be a higher priority and this figure will change from green to red.	Information	N/A		N/A		N/A		
DVDMS_R_0705	Where the supervisor requires more detail regarding a particular driver, they will be able to access this via the driver report. Ideally this would be available by simply clicking on the relevant section of the report.	Information	N/A		N/A		N/A		
DVDMS_R_0706	4.14.3 Level 2 Supervisor Report	Title3							

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments																																																																																																																									
DVDMS_R_0708	This report follows all of the principles of the first line supervisors report, but aggregates the data into the teams the level 2 supervisor is responsible for. This provides a simple report for the supervisor to assess team performance over time. The report has less detail than earlier reports as at this level overall performance is being assessed. The final column again has the supervisor action field, so that the performance of the level 1 supervisors in improving the driver behaviour of their teams can be assessed.	Information	N/A		N/A		N/A																																																																																																																											
DVDMS_R_0709	<table border="1"> <thead> <tr> <th></th> <th>MFG</th> <th>Incident</th> <th>Warning Light</th> <th>Excess speed</th> <th>Blue Light</th> <th>Mileage</th> <th>Team average</th> <th>Division Average</th> <th>Force average</th> <th>1st Line Supervisor</th> </tr> </thead> <tbody> <tr> <td>Team 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> <td>12</td> <td>24</td> <td></td> </tr> <tr> <td>Team 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5</td> <td>14</td> <td>25</td> <td></td> </tr> <tr> <td>Team 3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> <td>3</td> <td></td> </tr> <tr> <td>Team 4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>20</td> <td>35</td> <td></td> </tr> <tr> <td>Team 5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>7</td> <td>16</td> <td></td> </tr> <tr> <td>Team 6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> <td>8</td> <td>20</td> <td></td> </tr> <tr> <td>Team 7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> <td>15</td> <td>28</td> <td></td> </tr> <tr> <td>Team 8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td> <td>18</td> <td>48</td> <td></td> </tr> <tr> <td>Team 9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>16</td> <td>29</td> <td></td> </tr> <tr> <td>Team 10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> <td>17</td> <td>46</td> <td></td> </tr> </tbody> </table> <p>Figure 8 – Example of driving behaviour profile by team.</p>		MFG	Incident	Warning Light	Excess speed	Blue Light	Mileage	Team average	Division Average	Force average	1 st Line Supervisor	Team 1							4	12	24		Team 2							5	14	25		Team 3							1	1	3		Team 4							10	20	35		Team 5							2	7	16		Team 6							3	8	20		Team 7							6	15	28		Team 8							9	18	48		Team 9							7	16	29		Team 10							8	17	46		Information	N/A		N/A		N/A		
	MFG	Incident	Warning Light	Excess speed	Blue Light	Mileage	Team average	Division Average	Force average	1 st Line Supervisor																																																																																																																								
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Team 5							2	7	16																																																																																																																									
Team 6							3	8	20																																																																																																																									
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Team 10							8	17	46																																																																																																																									
DVDMS_R_0710	4.14.4 Level 3 Supervisor Report	Title3																																																																																																																																
DVDMS_R_0712	This report follows all of the principles of the level 2 line supervisors report but aggregates the data at a higher level into geographic areas. In this example stations that the level 3 supervisor is responsible for. This provides a simple report for the supervisor to assess station performance over time. The report has less detail than earlier reports, as at this level overall performance is being assessed. The final column again has the supervisor action field, so that the performance of the level 1 supervisors in improving the driver behaviour of their teams can be assessed.	Information	N/A		N/A		N/A																																																																																																																											
DVDMS_R_0713	As per previous reports, the level 3 supervisor is able to drill down into more detail, if required.	Information	N/A		N/A		N/A																																																																																																																											

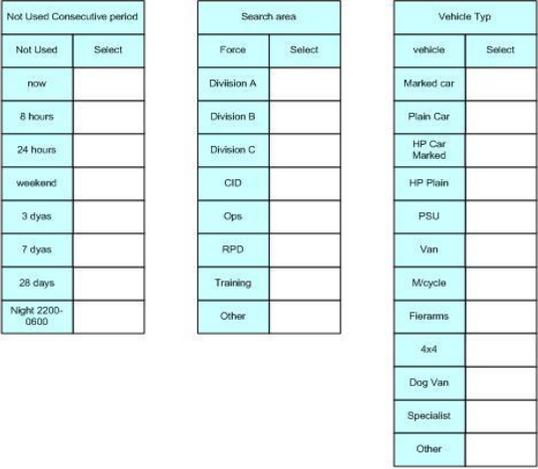
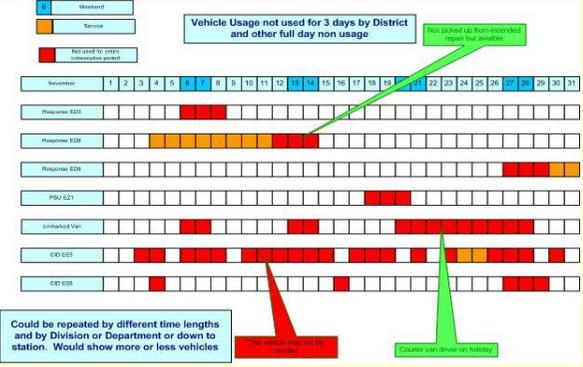
SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments																																																																																																																									
DVDMS_R_0714	<table border="1"> <thead> <tr> <th></th> <th>MPG</th> <th>Incident</th> <th>Warning Light</th> <th>Excess speed</th> <th>Blue Light</th> <th>Mileage</th> <th>Team average</th> <th>Division Average</th> <th>Force average</th> <th>Supervisor actions</th> </tr> </thead> <tbody> <tr> <td>Station A team 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> <td>12</td> <td>24</td> <td></td> </tr> <tr> <td>Station A team 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5</td> <td>14</td> <td>25</td> <td></td> </tr> <tr> <td>Station A Team 3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> <td>3</td> <td></td> </tr> <tr> <td>Station A Team 4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>20</td> <td>50</td> <td></td> </tr> <tr> <td>Station B Team 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>7</td> <td>16</td> <td></td> </tr> <tr> <td>Station B team 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> <td>8</td> <td>20</td> <td></td> </tr> <tr> <td>Station B Team 3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> <td>15</td> <td>28</td> <td></td> </tr> <tr> <td>Station B Team 4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td> <td>18</td> <td>48</td> <td></td> </tr> <tr> <td>Station A PCSO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>16</td> <td>29</td> <td></td> </tr> <tr> <td>Station B PCSO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> <td>17</td> <td>46</td> <td></td> </tr> </tbody> </table>		MPG	Incident	Warning Light	Excess speed	Blue Light	Mileage	Team average	Division Average	Force average	Supervisor actions	Station A team 1							4	12	24		Station A team 2							5	14	25		Station A Team 3							1	1	3		Station A Team 4							10	20	50		Station B Team 1							2	7	16		Station B team 2							3	8	20		Station B Team 3							6	15	28		Station B Team 4							9	18	48		Station A PCSO							7	16	29		Station B PCSO							8	17	46		Information	N/A		N/A	N/A			
	MPG	Incident	Warning Light	Excess speed	Blue Light	Mileage	Team average	Division Average	Force average	Supervisor actions																																																																																																																								
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Station B PCSO							8	17	46																																																																																																																									
Figure 9 – Example driving behaviour profile by Police Station.																																																																																																																																		
DVDMS_R_0715	4.14.5 Level 4 Supervisor Report	Title3																																																																																																																																
DVDMS_R_0717	This report follows all of the principles of the level 3 line supervisors report, but aggregates the data at a higher level into geographic areas, in this example the report is for a Divisional or Borough Commander. The reports show the districts and other teams or units that the level 4 supervisor is responsible for. This provides a simple report for the supervisor to assess divisional performance over time. The report has less detail than earlier reports as at this level overall performance is being assessed. The final column no longer contains supervisor action. This would be expected to be resolved at a lower level. At this level, an additional field has been added which details the additional cost or potential cost saving for the driver behaviour or improving driver behaviour.	Information	N/A		N/A	N/A																																																																																																																												
DVDMS_R_0718	As per previous reports the level 4 supervisor is able to drill down into more detail if required.	Information	N/A		N/A	N/A																																																																																																																												
DVDMS_R_0719	<table border="1"> <thead> <tr> <th></th> <th>MPG</th> <th>Incident</th> <th>Warning Light</th> <th>Excess speed</th> <th>Blue Light</th> <th>Mileage</th> <th>District/Borough Average</th> <th>Division Average</th> <th>Force average</th> <th>Cost Savings £ 000</th> </tr> </thead> <tbody> <tr> <td>District A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> <td>12</td> <td>24</td> <td>1</td> </tr> <tr> <td>District B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5</td> <td>14</td> <td>25</td> <td>-2</td> </tr> <tr> <td>District C</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> <td>3</td> <td>5</td> </tr> <tr> <td>District D</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>20</td> <td>55</td> <td>-10</td> </tr> <tr> <td>District E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>7</td> <td>16</td> <td>2</td> </tr> <tr> <td>District F</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> <td>8</td> <td>20</td> <td>1</td> </tr> <tr> <td>CID</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> <td>15</td> <td>28</td> <td>-3</td> </tr> <tr> <td>Intelligence</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td> <td>18</td> <td>48</td> <td>-3</td> </tr> <tr> <td>Operations</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>16</td> <td>29</td> <td>-4</td> </tr> <tr> <td>Admin</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> <td>17</td> <td>46</td> <td>-3</td> </tr> </tbody> </table>		MPG	Incident	Warning Light	Excess speed	Blue Light	Mileage	District/Borough Average	Division Average	Force average	Cost Savings £ 000	District A							4	12	24	1	District B							5	14	25	-2	District C							1	1	3	5	District D							10	20	55	-10	District E							2	7	16	2	District F							3	8	20	1	CID							6	15	28	-3	Intelligence							9	18	48	-3	Operations							7	16	29	-4	Admin							8	17	46	-3	Information	N/A		N/A	N/A			
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Figure 10 – Example of driving behaviour profile by District.																																																																																																																																		

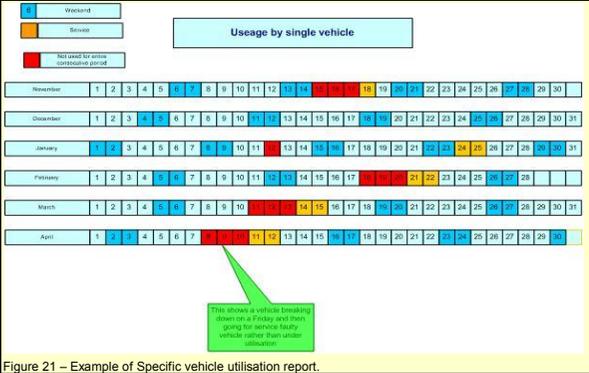
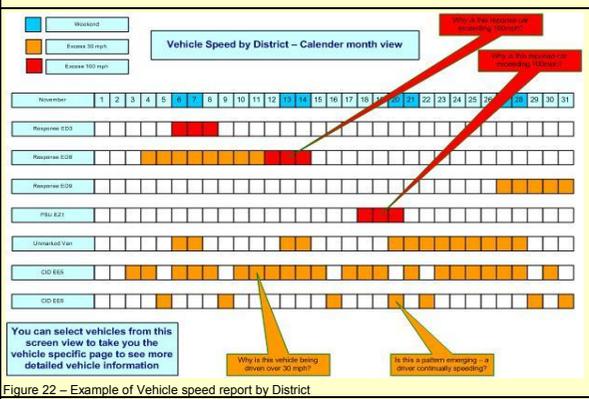
SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments																																																																																																															
DVDMS_R_0720	4.14.6 Command/Force Level Report	Title3																																																																																																																						
DVDMS_R_0722	This report follows all of the principles of the level 4 line supervisors report, but aggregates the data at a higher level geographic area. In this example, the report is for the force area. The report shows the Divisions (Boroughs), Departments, that the Force level supervisor is responsible for. This provides a simple report for the supervisor to assess force performance over time. The report has less detail than earlier reports as at this level overall performance is being assessed. The final column details the additional cost or potential cost saving for the driver behaviour or improving driver behaviour.	Information	N/A		N/A		N/A																																																																																																																	
DVDMS_R_0723	As per previous reports the force level supervisor is able to drill down into more detail if required.	Information	N/A		N/A		N/A																																																																																																																	
DVDMS_R_0724	<table border="1"> <thead> <tr> <th></th> <th>MFCG</th> <th>Incident</th> <th>Availability</th> <th>Excess speed</th> <th>Usage</th> <th>Mileage</th> <th>Department</th> <th>Division/ Borough</th> <th>Force average</th> <th>Cost savings</th> </tr> </thead> <tbody> <tr> <td>Division A</td> <td>Orange</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>2</td> <td>3</td> <td>8</td> </tr> <tr> <td>Division B</td> <td>Orange</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>3</td> <td>5</td> <td>7</td> </tr> <tr> <td>Division C</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>1</td> <td>1</td> <td>15</td> </tr> <tr> <td>Division D</td> <td>Red</td> <td>Red</td> <td>Red</td> <td>Red</td> <td>Red</td> <td>Red</td> <td>4</td> <td>10</td> <td>12</td> </tr> <tr> <td>Uniform Operations</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>2</td> <td>4</td> <td>9</td> </tr> <tr> <td>Road Policing</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>1</td> <td>2</td> <td>10</td> </tr> <tr> <td>Facilities</td> <td>Green</td> <td>Orange</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>3</td> <td>6</td> <td>2</td> </tr> <tr> <td>Investigation</td> <td>Red</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>8</td> <td>8</td> <td>10</td> </tr> <tr> <td>Training</td> <td>Green</td> <td>Red</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>4</td> <td>7</td> <td>-1</td> </tr> <tr> <td>Other</td> <td>Orange</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>5</td> <td>8</td> <td>-3</td> </tr> </tbody> </table> <p>Figure 11 – Example of driving behaviour profile by Division.</p>		MFCG	Incident	Availability	Excess speed	Usage	Mileage	Department	Division/ Borough	Force average	Cost savings	Division A	Orange	Green	Green	Green	Green	Green	2	3	8	Division B	Orange	Green	Green	Green	Green	Green	3	5	7	Division C	Green	Green	Green	Green	Green	Green	1	1	15	Division D	Red	Red	Red	Red	Red	Red	4	10	12	Uniform Operations	Green	Green	Green	Green	Green	Green	2	4	9	Road Policing	Green	Green	Green	Green	Green	Green	1	2	10	Facilities	Green	Orange	Green	Green	Green	Green	3	6	2	Investigation	Red	Green	Green	Green	Green	Green	8	8	10	Training	Green	Red	Green	Green	Green	Green	4	7	-1	Other	Orange	Green	Green	Green	Green	Green	5	8	-3	Information	N/A		N/A		N/A		
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Division C	Green	Green	Green	Green	Green	Green	1	1	15																																																																																																															
Division D	Red	Red	Red	Red	Red	Red	4	10	12																																																																																																															
Uniform Operations	Green	Green	Green	Green	Green	Green	2	4	9																																																																																																															
Road Policing	Green	Green	Green	Green	Green	Green	1	2	10																																																																																																															
Facilities	Green	Orange	Green	Green	Green	Green	3	6	2																																																																																																															
Investigation	Red	Green	Green	Green	Green	Green	8	8	10																																																																																																															
Training	Green	Red	Green	Green	Green	Green	4	7	-1																																																																																																															
Other	Orange	Green	Green	Green	Green	Green	5	8	-3																																																																																																															
DVDMS_R_0725	4.14.7 High Priority: Safety Issue Report - Control Room	Title3																																																																																																																						
DVDMS_R_0727	This report is an example of a safety issue report that would be sent as a high priority message to a control room or supervisor. Given that it may/will require urgent action, this report needs to be clear, concise and suggest the action that needs to be taken.	Information	N/A		N/A		N/A																																																																																																																	
DVDMS_R_0728	The report should show the driver or vehicle, the contact details, where applicable. The precise nature of the alert or alerts, in the example below, they are shown in a graph and suggestions as to the expected action.	Information	N/A		N/A		N/A																																																																																																																	
DVDMS_R_0729	The Safety Issue Report produced by the DVDMS should show the driver or vehicle details together with the driver contact details, where applicable.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis																																																																																																																	
DVDMS_R_0730	<table border="1"> <thead> <tr> <th></th> <th>Incident</th> <th>Speed</th> <th>Warning Light</th> <th>Out of Force</th> <th>Team</th> <th>Disturb</th> <th>Disson</th> <th>Force</th> <th>Stop Action</th> </tr> </thead> <tbody> <tr> <td>Driver a</td> <td>Red</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Brake deceleration - wing deployment potential clear</td> </tr> <tr> <td>Driver b</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Unauthorized movement within outside Force Area High 10k vehicle</td> </tr> <tr> <td>Driver c</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>ABS, and ESC control activated beyond threshold</td> </tr> <tr> <td>Driver d</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Speed threshold breached through 30mph area</td> </tr> <tr> <td>Driver e</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Green</td> <td>Unauthorized movement outside force area low 10k vehicle</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Event</th> <th>Suggested Action</th> </tr> </thead> <tbody> <tr> <td>Brake deceleration - wing deployment potential clear</td> <td>Confirm - send assistance contact local supervisor</td> </tr> <tr> <td>Unauthorized movement within outside Force Area High 10k vehicle</td> <td>Escalate - circumstances - contact driver</td> </tr> <tr> <td>ABS, and ESC control activated beyond threshold</td> <td>Check vehicle speed, consider contact driver, flag for supervisor</td> </tr> <tr> <td>Speed threshold breached through 30mph area</td> <td>Contact driver - justify consider flag for supervisor</td> </tr> <tr> <td>Unauthorized movement outside force area low 10k vehicle</td> <td>Contact driver</td> </tr> </tbody> </table> <p>Figure 12 – Example of prioritised driving behaviour profile report with details and suggested action.</p>		Incident	Speed	Warning Light	Out of Force	Team	Disturb	Disson	Force	Stop Action	Driver a	Red	Green	Green	Green	Green	Green	Green	Green	Brake deceleration - wing deployment potential clear	Driver b	Green	Green	Green	Green	Green	Green	Green	Green	Unauthorized movement within outside Force Area High 10k vehicle	Driver c	Green	Green	Green	Green	Green	Green	Green	Green	ABS, and ESC control activated beyond threshold	Driver d	Green	Green	Green	Green	Green	Green	Green	Green	Speed threshold breached through 30mph area	Driver e	Green	Green	Green	Green	Green	Green	Green	Green	Unauthorized movement outside force area low 10k vehicle	Event	Suggested Action	Brake deceleration - wing deployment potential clear	Confirm - send assistance contact local supervisor	Unauthorized movement within outside Force Area High 10k vehicle	Escalate - circumstances - contact driver	ABS, and ESC control activated beyond threshold	Check vehicle speed, consider contact driver, flag for supervisor	Speed threshold breached through 30mph area	Contact driver - justify consider flag for supervisor	Unauthorized movement outside force area low 10k vehicle	Contact driver	Information	N/A		N/A		N/A																																									
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DVDMS_R_0731	4.14.8 Fleet Managers Overview	Title3																																																																																																																						
DVDMS_R_0733	This is the first in a range of reports to allow a Fleet Manager or a person responsible for fleet in a given area of the organisation to gain a quick overview of the vehicles that they are responsible for and where there may be problems or issues. The report will identify the main vehicle groups or areas and identify by colour any problems identified through a number of user defined parameters.	Information	N/A		N/A		N/A																																																																																																																	
DVDMS_R_0734	The Fleet Manager report shall identify the main vehicle groups or areas and identify by colour any problems identified through a number of user defined parameters.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation																																																																																																																	

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DVDMS_R_0735	The report is an example of the style that is expected. User organisations will require different variants depending on the area and fleet operated.	Information	N/A		N/A		N/A																																																																																										
DVDMS_R_0736	<p>The image shows a dashboard with the following data:</p> <table border="1"> <thead> <tr> <th>Metric</th> <th>Area 1</th> <th>Area 2</th> <th>Area 3</th> <th>Area 4</th> <th>Area 5</th> <th>Area 6</th> <th>Area 7</th> <th>Area 8</th> <th>Area 9</th> <th>Area 10</th> </tr> </thead> <tbody> <tr> <td>Excessive MPG</td> <td>10</td> <td>11</td> <td>90</td> <td>9</td> <td>52</td> <td>54</td> <td>10</td> <td>30</td> <td>0</td> <td>10</td> </tr> <tr> <td>Excess 100 MPH</td> <td>4</td> <td>10</td> <td>25</td> <td>5</td> <td>20</td> <td>25</td> <td>5</td> <td>10</td> <td>0</td> <td>5</td> </tr> <tr> <td>Vehicles not used for 7 days</td> <td>5</td> <td>13</td> <td>25</td> <td>7</td> <td>24</td> <td>22</td> <td>3</td> <td>28</td> <td>0</td> <td>3</td> </tr> <tr> <td>Excessive Mileage/mo</td> <td>2</td> <td>1</td> <td>5</td> <td>4</td> <td>30</td> <td>5</td> <td>8</td> <td>2</td> <td>2</td> <td>8</td> </tr> <tr> <td>Excessive idling time</td> <td>2</td> <td>1</td> <td>5</td> <td>4</td> <td>30</td> <td>5</td> <td>8</td> <td>2</td> <td>4</td> <td>8</td> </tr> <tr> <td>Incident recorded</td> <td>0</td> <td>8</td> <td>15</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>In Workshop for more than 7 days</td> <td>0</td> <td>5</td> <td>10</td> <td>2</td> <td>0</td> <td>1</td> <td>0</td> <td>2</td> <td>0</td> <td>2</td> </tr> </tbody> </table> <p>Notes/Advice:</p> <ul style="list-style-type: none"> For further information check Station, fleet and/or area records. If available it may be necessary to identify or group. Why do they vehicles with top 10 excess of 100mph, are the vehicles were in operation when the company were off-duty? Why are there still cars not being used? Are vehicles not being shared or are vehicles not being used? Check vehicle age for the vehicles, possibly consider to replace them in fleet if necessary. Check open claims when they were about vehicles engaged in work of package delivery. Incident has been recorded for vehicles that are not in safety check to ensure the vehicle is maintaining its safety level. Why has it taken 10 vehicles more than 7 days to be repaired? Changeable information on a different report. <p>Annotations:</p> <ul style="list-style-type: none"> Red box: "This area is second on the list for Area 1 Change 1" Red box: "This area is third on the list for Area 2 Change 2" 	Metric	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9	Area 10	Excessive MPG	10	11	90	9	52	54	10	30	0	10	Excess 100 MPH	4	10	25	5	20	25	5	10	0	5	Vehicles not used for 7 days	5	13	25	7	24	22	3	28	0	3	Excessive Mileage/mo	2	1	5	4	30	5	8	2	2	8	Excessive idling time	2	1	5	4	30	5	8	2	4	8	Incident recorded	0	8	15	0	0	1	0	0	0	0	In Workshop for more than 7 days	0	5	10	2	0	1	0	2	0	2	Information	N/A		N/A		N/A		
Metric	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9	Area 10																																																																																							
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In Workshop for more than 7 days	0	5	10	2	0	1	0	2	0	2																																																																																							
DVDMS_R_0737	This report may also be used in combination with an overall fleet summary or dashboard, providing a highlight of the information. This style of report would lend itself to indicators similar to a vehicle dashboard using dials and charts to provide a simple to read format. This dashboard style of report is not prescribed in this document.	Information	N/A		N/A		N/A																																																																																										
DVDMS_R_0738	4.14.9 Workshop Managers Report The Workshop Managers Report produced by the DVDMS Back Office shall at the highest information level contain the following details regarding vehicles in a given geographical area:	Title3																																																																																															
DVDMS_R_0739	<ul style="list-style-type: none"> - Vehicles in that area; - Identifies which vehicles may have been driven outside defined parameters/thresholds; - Identifies vehicles that are overdue for a service; - Identifies vehicles that have identified a fault. 	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation																																																																																										
DVDMS_R_0740	<p>The image shows a dashboard with the following data:</p> <table border="1"> <thead> <tr> <th>Metric</th> <th>Area 1</th> <th>Area 2</th> <th>Area 3</th> <th>Area 4</th> <th>Area 5</th> <th>Area 6</th> </tr> </thead> <tbody> <tr> <td>In workshop for more than 7 days</td> <td>0</td> <td>4</td> <td>10</td> <td>4</td> <td>11</td> <td>5</td> </tr> <tr> <td>Vehicles with warning lights showing</td> <td>0</td> <td>6</td> <td>10</td> <td>5</td> <td>12</td> <td>3</td> </tr> <tr> <td>Excessive Acceleration records</td> <td>5</td> <td>8</td> <td>9</td> <td>7</td> <td>11</td> <td>4</td> </tr> <tr> <td>Excessive Braking records</td> <td>2</td> <td>1</td> <td>10</td> <td>4</td> <td>10</td> <td>4</td> </tr> <tr> <td>Incident recorded</td> <td>0</td> <td>1</td> <td>5</td> <td>0</td> <td>5</td> <td>1</td> </tr> <tr> <td>Service Warning Threshold Approaching 100,000 miles</td> <td>0</td> <td>1</td> <td>5</td> <td>2</td> <td>5</td> <td>1</td> </tr> </tbody> </table> <p>Notes/Advice:</p> <ul style="list-style-type: none"> Is this vehicle up to the purpose, is there a workshop issue - not enough staff covered on vehicle open? Warning lights showing that should be called in depending on age. These vehicles need to be brought forward for servicing due to their usage. If an incident has been recorded the vehicle must be subjected to a safety check in respect of the connectivity to ensure that vehicle servicing. Do these vehicles need to be brought forward for an early service? <p>Annotations:</p> <ul style="list-style-type: none"> Red box: "These vehicles need to be brought forward for servicing due to their usage." Red box: "These vehicles need to be monitored and given feedback as to how they can improve from a fleet and fuel usage aspect." 	Metric	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	In workshop for more than 7 days	0	4	10	4	11	5	Vehicles with warning lights showing	0	6	10	5	12	3	Excessive Acceleration records	5	8	9	7	11	4	Excessive Braking records	2	1	10	4	10	4	Incident recorded	0	1	5	0	5	1	Service Warning Threshold Approaching 100,000 miles	0	1	5	2	5	1	Information	N/A		N/A		N/A																																									
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Service Warning Threshold Approaching 100,000 miles	0	1	5	2	5	1																																																																																											
DVDMS_R_0742	The Workshop Managers second and third level reports will provide a more detailed response as to how teams operate vehicles at different levels: station or area. This, not only identifies where a team may be responsible for a defect or excess servicing but may assist in understanding where vehicles may need to be used differently or where a different type of vehicle is required.	Information	N/A		N/A		N/A																																																																																										

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DVDMS_R_0743	<p>Figure 15 – Example of Police Station detail for Workshop Manager</p>	Information	N/A		N/A		N/A		
DVDMS_R_0744	<p>Figure 16 – Example of Vehicle report for Workshop Manager</p>	Information	N/A		N/A		N/A		
DVDMS_R_0745	<p>4.14.10 Vehicle Profile Report</p> <p>The Vehicle Profile report is analogous to the Driver Profile report and details how the vehicle has been driven, within a given period and the activation of any warning equipment. This again may be used to identify specific servicing or maintenance needs or where a vehicle is being used excessively and needs rotating to prolong its operational life.</p>	Title3							
DVDMS_R_0747		Information	N/A		N/A		N/A		

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DVDMS_R_0748	<p>Vehicle Profile – AB03CDY – 100875</p> <table border="1"> <thead> <tr> <th></th> <th>October 2010</th> <th>November 2010</th> <th>December 2010</th> <th>January 2011</th> <th>February 2011</th> </tr> </thead> <tbody> <tr> <td>Excess Speed</td> <td>10</td> <td>10</td> <td>20</td> <td>20</td> <td>10</td> </tr> <tr> <td>MPG</td> <td>0</td> <td>0.5</td> <td>8</td> <td>8</td> <td>1.5</td> </tr> <tr> <td>Brake pad wear light</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Engine Management Light</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Airbag Warning Light</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Traction Control Warning Light</td> <td>4</td> <td>0</td> <td>9</td> <td>8</td> <td>0</td> </tr> <tr> <td>Oil Warning Light</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>ABS Warning Light</td> <td>5</td> <td>1</td> <td>20</td> <td>20</td> <td>2</td> </tr> <tr> <td>Incident</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Harsh accel</td> <td>4</td> <td>2</td> <td>20</td> <td>20</td> <td>6</td> </tr> <tr> <td>Over rev</td> <td>4</td> <td>1</td> <td>20</td> <td>20</td> <td>6</td> </tr> <tr> <td>Active Stability Control Warning Light</td> <td>0</td> <td>0</td> <td>3</td> <td>3</td> <td>0</td> </tr> <tr> <td>Mileage</td> <td>0</td> <td>-10</td> <td>-3</td> <td>-6</td> <td>-8</td> </tr> <tr> <td>Blue Light Usage</td> <td>4</td> <td>3</td> <td>10</td> <td>10</td> <td>6</td> </tr> </tbody> </table> <p>Figure 17 – Vehicle maintenance profile</p>		October 2010	November 2010	December 2010	January 2011	February 2011	Excess Speed	10	10	20	20	10	MPG	0	0.5	8	8	1.5	Brake pad wear light	0	0	0	0	0	Engine Management Light	0	0	0	0	0	Airbag Warning Light	0	0	0	0	0	Traction Control Warning Light	4	0	9	8	0	Oil Warning Light	0	0	0	0	0	ABS Warning Light	5	1	20	20	2	Incident	0	0	0	0	0	Harsh accel	4	2	20	20	6	Over rev	4	1	20	20	6	Active Stability Control Warning Light	0	0	3	3	0	Mileage	0	-10	-3	-6	-8	Blue Light Usage	4	3	10	10	6	Information	N/A		N/A		N/A		
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DVDMS_R_0749	In a similar way to driver's reports, users of this report shall be able to drill down; ideally by clicking on the parameter to provide additional detail. E.g. current mileage or the event, time, date and location of where a warning light was activated and the subsequent vehicle usage or even which driver was using the vehicle at the time. This may also be produced on a map.	Information	N/A		N/A		N/A																																																																																												
DVDMS_R_0750	4.14.11 Technicians Report	Title3																																																																																																	
DVDMS_R_0752	This report is a summary of the vehicle report providing the technician an overview of how the vehicle has been used since the last service or inspection. This may assist a technician when inspecting the vehicle or for fault finding.	Information	N/A		N/A		N/A																																																																																												
DVDMS_R_0753	<p>Figure 18 – Example of Vehicle technician's report.</p>	Information	N/A		N/A		N/A																																																																																												
DVDMS_R_0754	4.15 Searches	Title2																																																																																																	
DVDMS_R_0755	The DVDMS Back Office shall allow authorised users to produce customised reports or searches for a range of commonly used search parameters, to be agreed with the user organisation.	Mandatory Requirement			Bench Test		MC/SC1101/TSP001 TP5 - Back Office in Isolation																																																																																												

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0756	Reports produced by the DVDMS Back Office as the result of a search should be customisable in a similar format to those reports defined in this document or as agreed with the user organisation.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0757	The DVDMS Back Office shall provide search forms that use a series of drop down boxes or a template that can be checked or completed.	Mandatory Requirement			Demonstration		MC/SC1101/TSP001 TP3 - Demonstration		
DVDMS_R_0758	4.15.1 Vehicle Usage	Title3							
DVDMS_R_0760	The following reports details an example of how a vehicle usage report should be created, together with a number of examples of the outcomes of different searches. This report is expected to be frequently run by a range of users to understand how vehicles are used or by whom. This report will require a range of variations to suit the different users requirements, the parameters below should not be regarded as exhaustive.	Information	N/A		N/A		N/A		
DVDMS_R_0761	 <p>Figure 19 – Example of Vehicle usage search criteria.</p>	Information	N/A		N/A		N/A		
DVDMS_R_0763	This report identifies vehicles that have not been used for at least 3 days. This may indicate under utilisation or a vehicle with a problem that has not been rectified.	Information	N/A		N/A		N/A		
DVDMS_R_0764	 <p>Figure 20 – Example of Vehicle utilisation report by Division, Department or Station</p>	Information	N/A		N/A		N/A		
DVDMS_R_0765	The second report details similar information but for a specific vehicle.	Information	N/A		N/A		N/A		

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0766	 <p>Figure 21 – Example of Specific vehicle utilisation report.</p>	Information	N/A		N/A	N/A	N/A		
DVDMS_R_0767	<p>4.15.2 Vehicle Speed Search</p>	Title3							
DVDMS_R_0769	<p>The vehicle speed search is another commonly used search to identify where vehicles are used at excess speed and by whom. This search may be customised for emergency and non emergency driving.</p>	Information	N/A		N/A	N/A	N/A		
DVDMS_R_0770	 <p>Figure 22 – Example of Vehicle speed report by District</p>	Information	N/A		N/A	N/A	N/A		
DVDMS_R_0771	 <p>Figure 23 – Example of Speed report for a single vehicle.</p>	Information	N/A		N/A	N/A	N/A		
DVDMS_R_0772	<p>Other searches will be defined in future versions of these criteria as more systems become operational. All such searches will follow the principles outlined above.</p>	Information	N/A		N/A	N/A	N/A		

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DVDMS_R_0015	5 DVDMS Non-Functional Requirements	Title1							
DVDMS_R_0038	5.1 Quality Assurance	Title2							
DVDMS_R_0039	The DVDMS shall be designed and manufactured in accordance with BS EN ISO 9001: 2000.	Mandatory Requirement		Analysis documentation details sufficient evidence to satisfy requirement	Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0111	5.2 Safety	Title2							
DVDMS_R_0119	The DVDMS in-vehicle device shall, in the event of a system or component failure, not affect the performance or the safe operation of the vehicle or its components, especially with regard to brakes or steering. This is critical where the esCAN connects to	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		Manufacturer will need to provide a safety case.
DVDMS_R_0120	Additional or auxiliary equipment interfacing with the DVDMS in-vehicle device shall not adversely affect the normal operation of OEM systems.	Mandatory Requirement			Vehicle Test		MC/SC1101/TSP001 TP8 - Integration with Existing Vehicle Systems		
DVDMS_R_0071	5.3 Security	Title2							
DVDMS_R_0072	The DVDMS shall also be designed to prevent cyber attack, unauthorised access or download or disruption, corruption, loss or damage to data.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0250	All components of the DVDMS, including DVDMS in-vehicle devices should be held securely, in accordance with Data Protection, throughout their life, with a full audit trail maintained of their use to include end of life disposal.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0059	5.4 Legislation	Title2							
DVDMS_R_0060	The DVDMS shall comply with all applicable current legislative requirements.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis	Supplier	Review analysis documentation
DVDMS_R_1244	The DVDMS shall comply with the Vehicle Security Directive 95/56/EC	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0061	The DVDMS equipment shall be CE marked.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Inspection and review of supporting documentation
DVDMS_R_1282	The DVDMS In-Vehicle device shall be E marked.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Inspection and review of supporting documentation

SYS REQ ID	Derived System Requirement	Type	Priority	Pass/Fail Criteria	Verification Method	Verification Status	Test Protocol	Responsibility	Verification Comments
DVDMS_R_0062	The DVDMS shall be supplied with a certificate of conformity and associated Technical File	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Inspection of certificate
DVDMS_R_0063	The DVDMS equipment shall conform to the requirements of the applicable UK Health and Safety Legislation.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0066	5.5 Availability and Reliability	Title2							
DVDMS_R_0030	The DVDMS shall have an operating life of at least 8 years.	Mandatory Requirement		Analysis documentation details sufficient evidence to satisfy requirement	Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0065	Compliance with these system requirements does not confer immunity from legal obligations. If a conflict exists between these system requirements and those of legislation, the requirements of the legislation shall take precedence.	Information	N/A		N/A		N/A		
DVDMS_R_1289	The DVDMS supplier shall provide a robust warranty / support agreement to the satisfaction of the user organisation to cater for any potential failure in the field.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0029	5.6 Future Changes and Upgrades	Title2							
DVDMS_R_0031	It should be recognised over this life span that there will be changes and upgrades to the system and or its components.	Information	N/A		N/A		N/A		
DVDMS_R_0032	The DVDMS should be designed to be upgradeable, to enable future functionality, with redundant or expandable communication, data storage and power capability.	Desirable Requirement	3	Analysis documentation details sufficient evidence to satisfy requirement	Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0034	The Supplier of the DVDMS shall be required to keep a auditable record of all changes and upgrades to the system for a minimum of 8 years or the lifetime of the system.	Mandatory Requirement		Analysis documentation details sufficient evidence to satisfy requirement	Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0035	The user organisation of the DVDMS shall be required to keep a auditable record of all changes and upgrades to the system for a minimum of TBC years.	Mandatory Requirement		Analysis documentation details sufficient evidence to satisfy requirement	Analysis		MC/SC1101/TSP001 TP2 - Analysis		Review analysis documentation
DVDMS_R_0056	5.7 Human Machine Interface	Title2							
DVDMS_R_0057	The scope of the HMI requirements in this document is limited to the location, installation and operation of the hardware and software provided as part of emergency service electronic equipment fitted to the DVDMS in that vehicle. Specifically, this includes: • Use of DVDMS alerts or data sent to a mobile data or other screen in a vehicle, with particular emphasis on a moving vehicle; and • DVDMS alerts, be they visual, audible or haptic.	Information	N/A		N/A		N/A		
DVDMS_R_0058	The DVDMS HMI should comply with the spirit of the guidelines specified in the European Statement of Principles on HMI (2008), (2008/653/EC) or later versions as this document is amended.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis	Manufacturer	Perform assessment against standard
DVDMS_R_0224	5.8 Installation	Title2							
DVDMS_R_0209	The DVDMS In-Vehicle device shall be provided with installation instructions.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review installation instructions
DVDMS_R_0210	The DVDMS In-Vehicle device installation instructions should as a minimum detail: • A list of the vehicles for which the DVDMS is applicable. The list may be specific or generic; for example, 'all cars with petrol engines and 12V negative earth electrical systems;' • System components; • Wiring diagrams; • A schedule of routing for all wiring for that model of vehicle, as agreed with the vehicle manufacturer and in accordance with NAPFM and FCS 1362 guidelines; • Power supply, voltage range and system current consumption; • The electrical characteristics of inputs and outputs; • Installation directions, illustrated by photographs or clear drawings; • Component installation directions – locations and orientations; • Wiring installation directions; • Recommended methods of wiring interconnection; • Specific fixing instructions for components and wiring; • Correct and incorrect vehicle circuits or systems to interface; • Earthing and fusing directions; • Specific detail of any adjustments and recommended adjustment procedure;	Desirable Requirement	3		Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review installation instructions
DVDMS_R_0235	The DVDMS shall not be finally commissioned following installation, upgrade or repair until all or the relevant part of the functionality has been tested, as part of an end-to-end system check	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Inspection of test results

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DVDMS_R_0240	Where practical, all components and wiring of the DVDMS in-vehicle device shall be concealed from view when installed, excepting visible indicators.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		
DVDMS_R_1328	5.9 Maintenance	Title2							
DVDMS_R_0211	The DVDMS In-Vehicle device shall be provided with a maintenance schedule.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review maintenance schedule
DVDMS_R_0212	The DVDMS In-Vehicle device maintenance schedule should as a minimum detail: <ul style="list-style-type: none"> Any special tools required; Connection to the esCAN; Testing of the DVDMS; Fault finding; Maintenance directions. 	Desirable Requirement	3		Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review maintenance schedule
DVDMS_R_0251	5.10 Training	Title2							
DVDMS_R_0084	The DVDMS shall be capable of being operated by the user following completion of the training requirements defined in this document.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		Output from completion of user training
DVDMS_R_0252	The DVDMS shall be supplied with appropriate training manuals and packages suitable for: <ul style="list-style-type: none"> Installers; Maintenance; Workshop staff; Fleet Staff; Drivers; Supervisors of all grades; Analysts; Investigators. 	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection	Supplier	Inspection of training materials
DVDMS_R_0253	The DVDMS training materials should comply with training best practice, standards or policies for the customer organisation.	Desirable Requirement	3		Analysis		MC/SC1101/TSP001 TP2 - Analysis	Supplier	
DVDMS_R_1272	The Supplier shall provide and agree suitable training with the user organisation on the use of the DVDMS to applicable users.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_0206	5.11 User Documentation	Title2							
DVDMS_R_1329	5.11.1 DVDMS In-Vehicle Device User Documentation	Title3							
DVDMS_R_0207	The DVDMS In-Vehicle device shall be provided with user instructions.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review user instructions
DVDMS_R_0208	The DVDMS In-Vehicle device user instructions should as a minimum detail: <ul style="list-style-type: none"> System components; Operation of the DVDMS functions; Action to be taken in the event of a malfunction or failure; Prevention of false alerts conditions; Action to be taken in the event of driver identification device loss including secure driver identification replacement; and Inspection and maintenance. 	Desirable Requirement	3		Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review user instructions
DVDMS_R_1291	The DVDMS Back Office user instructions should as a appropriate detail: <ul style="list-style-type: none"> System components; Operation of the DVDMS functions; Action to be taken in the event of a malfunction or failure; Prevention of false alerts conditions; Action to be taken in the event of driver identification device loss including secure driver identification replacement; and Inspection and maintenance. 	Desirable Requirement	3		Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review user instructions
DVDMS_R_1330	5.11.2 DVDMS Back Office User Documentation	Title3							
DVDMS_R_1290	The DVDMS Back Office shall be provided with user instructions.	Mandatory Requirement			Inspection		MC/SC1101/TSP001 TP1 - Inspection		Review user instructions
DVDMS_R_0773	5.12 Supplier Compliance and Evaluation	Title2							
DVDMS_R_1284	The DVDMS shall have a Test Authority.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		
DVDMS_R_1285	The DVDMS shall go through an Evaluation Phase.	Mandatory Requirement			Analysis		MC/SC1101/TSP001 TP2 - Analysis		

The Home Office would like to thank MASS Consultants Ltd and ACPO ITS for their essential work in the creation of this document.