Driver Monitoring Dossier Guidance

Safe Driving

Technical Bulletin SD 201

Implementation 1st January 2026

PREFACE

DISCLAIMER: Euro NCAP has taken all reasonable care to ensure that the information published in this protocol is accurate and reflects the technical decisions taken by the organisation. In the unlikely event that this protocol contains a typographical error or any other inaccuracy, Euro NCAP reserves the right to make corrections and determine the assessment and subsequent result of the affected requirement(s).

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INTRODUCTION

The assessment of Driver Monitoring systems is detailed in the Euro NCAP Driver Engagement protocol. This assessment is based on information provided to Euro NCAP by the Vehicle Manufacturer, along with spot checks conducted by the Euro NCAP laboratories.

Euro NCAP requires the Vehicle Manufacturer to provide a dossier, that contains sufficient technical detail of all Driver Monitoring assessment areas. This shall be provided to the Euro NCAP Secretariat at least 2 months before any testing begins.

This Technical Bulletin is supplementary to the assessment protocol and provides guidance regarding the structure and content required in the dossier. The dossier must contain a full and comprehensive description of the DSM system detailing all hardware, its capabilities and justification to demonstrate that the system covers a wide variety of the driver population and is robust. Further details of how this can be achieved is detailed in the subsequent sections of this Technical Bulletin.

NOTES:

The information in this document is for guidance only and only complements the assessment protocol. If any information is missing or contradicting the information in the assessment protocol, it is the responsibility of the OEM to ensure that the information required in the assessment protocol is provided.

1 GENERAL INFORMATION

Item	Details
Manufacturer	[Enter]
Vehicle Model	[Enter]
DSM system commercial name	[Enter]
Brief description of DSM system operating principle	[Enter]
Common system with other models	[Enter]
S/W version at the time of the assessment	[Enter]
Report date [dd/mm/yyyy]	[Enter]

Sensor #	Item	Details
Sensor 1	Type (e.g., Camera, radar)	[Enter]
	Commercial name	[Enter]
	Function (e.g., Transient States, Non-transient States, CPD)	[Enter]
	Mounting position (schematics)	[Enter]
Sensor 2	Type (e.g., Camera, radar)	[Enter]
	Commercial name	[Enter]
	Function (e.g., Transient States, Non-transient States, CPD)	[Enter]
	Mounting position (schematics)	[Enter]
Sensor 3	Type (e.g., Camera, radar)	[Enter]
	Commercial name	[Enter]
	Function (e.g., Transient States, Non-transient States, CPD)	[Enter]
	Mounting position (schematics)	[Enter]

2 SYSTEM INFORMATION

Driver State	Type	Brief description of: Operating principle, triggering condition(s) and associated vehicle response
Transient	Long Distraction	[Enter]
	Short Distraction	[Enter]
Non-Transient	Drowsiness	[Enter]
	Non-fatigue impairment	[Enter]
	Sleep	[Enter]
	Microsleep	[Enter]
	Unresponsive Driver	[Enter]

3 PREDICTIONS

Driver State	Distraction Type	Glance Target Type	Movement Type	Predictions			Total points predicted
				Warning	Intervention		
					Forward Support Sensitivity	Lane Support Sensitivity	
Transient	Long Distraction	Non-Driving Task	Owl	☐	☐	☐	[Enter]
			Lizard	☐	☐	☐	
			Body Lean	☐	☐	☐	
		Driving Task	Owl	☐	☐	☐	
			Lizard	☐	☐	☐	
	Short Distraction (VATS)	Non-Driving Task	Owl	☐	☐	☐	[Enter]
			Lizard	☐	☐	☐	
		Driving Task	Owl	☐	☐	☐	
			Lizard	☐	☐	☐	
		Multi-target	Lizard	☐	☐	☐	
	Phone Use	Basic	Owl + Lizard	☐	☐	☐	[Enter]
		Advanced	Lizard	☐	☐	☐	
Non-transient	Impairment		Drowsiness	☐	☐		[Enter]
			Non-fatigue	☐	☐		
	Microsleep			☐	☐		[Enter]
	Sleep			☐	☐		[Enter]
	Unresponsive driver			☐	☐		[Enter]
						Total	[Enter]

4 RESULTS

4.1 Transient Driver states

Enter the False Alerts / Hour and True Positive Rate (%) in the grey cells. Cells are pre-filled with guidance/recommended values.

Notes:

- False Alerts / Hour is measured using the Common - FP Dataset. Extended naturalistic driving recordings with no scripted driver behaviour. Any detections are reviewed to confirm whether they are a false positive or true positive.
- True Positive Rate (%) is measured using the Transient Impairment - TP Dataset. Short recordings of the behaviours which must be detected. Scripted driver behaviour.

Transient Driver State	Scenario	Movement Type	Glance Target	False Alerts / Hour (Average Across Driving Hours)	True Positive Rate (%) (Average Across Subjects and Glance Targets)
Long Distraction	Non-Driving Task	Owl	Driver Side Window	0,05	80
			Passenger Side Window		
			Passenger Footwell		
			Passenger Face		
			IVI Display		
		Lizard	IVI Display		80
			Glovebox		
		Body Lean	Passenger Footwell		80
			Rear Passenger		
	Driving Task	Owl	Rear Mirror		80
			Passenger Side Mirror		
			Driver Side Mirror		

Transient Driver State	Scenario	Movement Type	Glance Target	False Alerts / Hour (Average Across Driving Hours)	True Positive Rate (%) (Average Across Subjects and Glance Targets)
		Lizard	Instrument Cluster		60
			Driver Side Mirror		
			Rear Mirror		
Short Distraction (VATS)	Driving Task	Owl	Rear Mirror	0,05	60
			Passegner Side Mirror		
			Driver Side Mirror		
		Lizard	Instrument Cluster		60
			Driver Side Mirror		
			Rear Mirror		
	Away From Road (Single Target)	Owl	IVI Display		60
			Passenger Side Window		
			Passenger Footwell		
		Lizard	Driver Side Window		60
			IVI Display		
			Passenger Footwell		
	Away From Road (Multiple Targets)	Lizard	Any		60
Phone Use	Basic	Owl	Driver Side Knee	0,05	60
			Passenger Side Knee		
			Driver Lap		
			Driver Side Dashboard		

Transient Driver State	Scenario	Movement Type	Glance Target	False Alerts / Hour (Average Across Driving Hours)	True Positive Rate (%) (Average Across Subjects and Glance Targets)
			OEM Charging dock		
		Lizard	Driver Side Knee		
			Passenger Side Knee		
			Driver Lap		
			Driver Side Dashboard		
			Upper Wheel Rim		
			Center Steering Wheel		
			OEM Charging dock		
	Advanced	Lizard	Held At On Road		60
			Held At Instrument Cluster		
			Mounted At On Road		

4.2 Non-transient driver states

Enter the False Alerts / Hour and True Positive Rate (%) in the grey cells. Cells are pre-filled with guidance/recommended values.

Notes:

- False Alerts / Hour is measured using the Common - FP Dataset. Extended naturalistic driving recordings with no scripted driver behaviour. Any detections are reviewed to confirm whether they are a false positive or true positive. For drowsiness and Non-fatigue Impairment, there may be different systems detecting fatigue and non-fatigue conditions, but since the vehicle response is common, the false alerting rate target is common as well.
- True Positive Rate (%) is measured using the Non-Transient Impairment - TP Datasets.

Non-Transient Driver State	Scenario	False Alerts / Hour (Average Across Driving Hours)	True Positive Rate (%) (Average Across Subjects)
Impairment	Drowsiness	0,5	40
	Non-Fatigue		Not Defined
Microsleep	-	0,01	40
Sleep	-	0,005	40
Unresponsive Driver	-	0,001	60

5 DATASET

5.1 Transient driver states – True Positive dataset

Subject Demographics		Subject Count
Stature (Percentile)	0-5	1
	6-94	8
	95-100	1
Sex	Male	3
	Female	3
Age (Years)	<18	0
	18-30	3
	31-55	3
	55+	2
Complexion (Fitzpatrick Scale)	I/II	2
	III/IV	2
	V/VI	2
Neutral Expression Eyelid Aperture (mm)	6-8	1
	8-10	1
	>10	1

Occlusion		Test Case Count
Ambient Light Intensity	<1 Lux	43
	1-20k	43
	>20k	43
Eyewear	None	43
	Benign (T>70%)	43
	Blocking (T<15%)	43
Facial Hair	None	43
	Short (<20mm)	43
	Long (>150mm)	43
Hand Position	Blocking	43
	Non-blocking	43
Facial Occlusion	None	43
	Face Masks	43
	Hat	43
	Long Hair	43
Eye Makeup	None/Light	43
	Heavy	43

Secondary Behaviours	Test Case Count
Eating	43
Talking	43
Laughing	43
Singing	43
Smoking/Vaping	43
Eye Scratching	43
Sneezing	43

Long Distraction Behaviours			Test Case Count
Non-Driving Task	Owl	Driver Side Window	10
		Passenger Side Window	10
		Passenger Footwell	10
		Passenger Face	10
		IVI Display	10
	Lizard	IVI Display	10
		Glovebox	10
	Body Lean	Passenger Footwell	10
		Rear Passenger	10
Driving Task	Owl	Rear Mirror	10
		Passenger Side Mirror	10
		Driver Side Mirror	10
	Lizard	Instrument Cluster	10
		Driver Side Mirror	10
		Rear Mirror	10

VATS Behaviours			Test Case Count
Driving Task	Owl	Rear Mirror	10
		Passenger Side Mirror	10
		Driver Side Mirror	10
	Lizard	Instrument Cluster	10
		Driver Side Mirror	10
		Rear Mirror	10
Away From Road (Single Target)	Owl	IVI Display	10
		Passenger Side Window	10
		Passenger Footwell	10
	Lizard	Driver Side Window	10
		IVI Display	10
		Passenger Footwell	10
Away From Road (Multiple Targets)	Lizard	Any	10

Phone Use Behaviours (VATS)			Test Case Count
Basic	Owl	Driver Side Knee	10
		Passenger Side Knee	10
		Driver Lap	10
		Driver Side Dashboard	10
		OEM Charging dock	10
	Lizard	Driver Side Knee	10
		Passenger Side Knee	10
		Driver Lap	10
		Driver Side Dashboard	10
		Upper Wheel Rim	10
		Centre Steering Wheel	10
		OEM Charging dock	10
Advanced	Lizard	Held At On Road	10
		Held At Instrument Cluster	10
		Mounted At On Road	10

5.2 Non-transient driver states – True positive dataset

Non-Transient Driver State	Scenario	Subject count
Impairment	Drowsiness	Not Defined
	Non-Fatigue	Not Defined
Microsleep	-	Not Defined
Sleep	-	Not Defined
Unresponsive Driver	-	Not Defined

5.3 Common – False Positive dataset

Subject Demographics		Subject Count
Stature (Percentile)	0-5	1
	6-94	1
	95-100	1
Sex	Male	1
	Female	1
Age (Years)	18-30	1
	31-55	1
	55+	1
Complexion (Fitzpatrick Scale)	I/II	1
	III/IV	1
	V/VI	1
Neutral Expression Eyelid Aperture (mm)	6-8	1
	8-10	1
	>10	1

Noise Factors		Duration (min)
Ambient Light Intensity	<1 Lux	Not Defined
	1-20k	Not Defined
	>20k	Not Defined
Eyewear	None	Not Defined
	Benign (T>70%)	Not Defined
	Blocking (T<15%)	Not Defined
Facial Hair	None	Not Defined
	Short (<20mm)	Not Defined
	Long (>150mm)	Not Defined
Hand Position	Blocking	Not Defined
	Non-blocking	Not Defined
Facial Occlusion	None	Not Defined
	Face Masks	Not Defined
	Hat	Not Defined
	Long Hair	Not Defined
Eye Makeup	None/Light	Not Defined
	Heavy	Not Defined

Test Drives	Duration (min)
Total Driving Time	1800 ~ 6000