項次	規章名稱	修訂內容	新增項目	頁碼	Euro NCAP 版本別
1	2.1成人保護評等規章(2.1.1-2.1.5)	0		P.1-P.7	Version 8.0.3
2	2.4安全輔助(SA)評等規章(2.4.4)	0		P.8-P.17	Version 8.0.4
3	3.1前方偏置撞擊試驗規章			P.18-P.19	Version 7.1.3
4	3.2前方全寬撞擊試驗規章	0		P.20-P.21	Version 1.1
5	3.3側方撞擊試驗規章	0		P.22-P.37	Version 7.1.4
6	3.4側方立柱撞擊試驗規章	©		P.38-P.52	Version 7.0.4
7	3.12車道輔助系統之試驗規章	0		P.53-P.90	Version 2.0.2

ASSESSMENT PROTOCOL – ADULT OCCUPANT PROTECTION 2.1成人保護評等規章

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
2.1.1 Capping	2.1.1 Capping	2.1.1.1.1 底線限制	2.1.1.1.1 底線限制
Capping limits are maintained for criteria	For most tests that are part of the adult	重要身體部位皆有設定相關之底線限	成人保護評等中大部分試驗皆有設定
related to critical body regions. Exceeding a	occupant protection assessment, capping	制。超過底線限制通常代表具有不	重要身體部位相關之底線限制。超
capping limit generally indicates	limits are maintained for criteria related to	可接受之高傷害風險,或鞭甩試驗	過底線限制通常代表具有不可接受
unacceptable high risk at injury or, in the	critical body regions. Exceeding a capping	中,座椅設計參數超過可接受範	之高傷害風險,或鞭甩試驗中,座
case of the whiplash tests, an unacceptably	limit generally indicates unacceptable high	圍。所有情況下超過底線限制皆代	椅設計參數超過可接受範圍。除了
high seat design parameter. In all cases, this	risk at injury or, in the case of the whiplash	表喪失相關試驗之所有分數。取決	<u>前方全寬撞擊試驗外,</u> 所有情況下
leads to loss of all points related to the tests.	tests, an unacceptably high seat design	於各項試驗,底線限制可等於或高	超過底線限制皆代表喪失相關試驗
Capping limits can be equal to or higher	parameter. In all cases except for the Full	於較低性能限制值。	之所有分數。 <u>前方全寬撞擊試驗之</u>
than the lower performance limit, depending	Width test, this leads to loss of all points		底線限制僅適用超過底線限制之特
on the test.	related to the tests. In the Full Width test		<u>定人偶。</u> 取決於各項試驗,底線限
	capping is applied only to the specific		制可等於或高於較低性能限制值。
	dummy where a capping limit was		
	exceeded. Capping limits can be equal to or		
	higher than the lower performance limit,		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
	depending on the test.		
3 OFFSET DEFORMABLE BARRIER	3 OFFSET DEFORMABLE BARRIER	2.1.2 前方偏置撞擊可變形碰撞壁評等	2.1.2前方偏置撞擊可變形碰撞壁評等
FRONTAL IMPACT ASSESSMENT	FRONTAL IMPACT ASSESSMENT		
3.2.1.2 Chest	3.2.1.2 Chest	2.1.2.2.1.2 胸部	2.1.2.2.1.2 胸部
Shoulder belt load (Driver and Front	Shoulder belt load (Driver and Front	肩部安全帶負載(駕駛與第一排乘客)	肩部安全帶負載(駕駛與第一排乘客)
Passenger)	Passenger)	肩部安全帶負載 <u>以 CFC 60 進行濾</u>	<u>測量</u> 肩部安全帶負載時,若超過
Where the shoulder belt load filtered at	Where the shoulder belt load measured,	波,若超過6kN,則應扣2分	6kN,則應扣2分
CFC60 exceeds 6.0kN a two point penalty	exceeds 6kN a two point penalty is applied.		
is applied			
4 FRONTAL FULL WIDTH IMPACT	4 FRONTAL FULL WIDTH IMPACT	2.1.3 前方全寬撞擊評等	2.1.3 前方全寬撞擊評等
ASSESSMENT	ASSESSMENT		
4.2.2 Chest	4.2.2 Chest	2.1.3.2.2 胸部	2.1.3.2.2 胸部
		肩部安全帶負載(駕駛與後座乘客)	肩部安全帶負載(駕駛與後座乘客)
Shoulder belt load (Driver and Rear	Shoulder belt load (Driver and Rear	肩部安全帶負載 <u>以 CFC 60 進行濾</u>	測量肩部安全帶負載時,若超過
Passenger)	Passenger)	<u>波</u> ,若超過 6kN,則應扣 2 分。	6kN,則應扣2分。
Where the shoulder belt load filtered at	Where the shoulder belt load measured,		
CFC60 exceeds 6.0kN a two point penalty	exceeds 6kN a two point penalty is applied.		
is applied.			
4.2.3 Knee, Femur & Pelvis	4.2.3 Knee, Femur & Pelvis	2.1.3.2.3 膝部、股骨與骨盆	2.1.3.2.3 膝部、股骨與骨盆
Submarining (Driver and Rear Passenger)	Submarining (Driver and Rear Passenger)	(1)潛滑(Submarining) (駕駛與後座乘	(1)潛滑(Submarining) (駕駛與後座乘
The score for the Knee, Femur & Pelvis is	The score for the Knee, Femur & Pelvis is	客)	客)
reduced by 4 points when submarining	reduced by 4 points when submarining	發生潛滑現象時,膝部、股骨與骨盆	發生潛滑現象時,膝部、股骨與骨盆

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2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
occurs. The modifier is applied when a drop	occurs. The modifier is applied when a 1kN	之分數應扣 4 分。於 1ms 內測得兩	之分數應扣 4 分。於 1ms 內測得兩
in any of the two iliac forces measured is	drop in any of the two iliac forces measured	個髂骨任一髂骨發生下降,且高速	個髂骨任一髂骨發生 <u>1kN</u> 下降,且
seen within 1 ms and when the submarining	is seen within 1 ms and when the	影像證實有潛滑現象時,則應扣分。	高速影像證實有潛滑現象時,則應
is confirmed on the high speed film.	submarining is confirmed on the high speed		扣分。
	film.		
4.3 Scoring & Visualisation	4.3 Scoring & Visualisation	2.1.3.3 評分與圖示說明	2.1.3.3 評分與圖示說明
The scores for the driver and rear passenger	The scores for the driver and rear passenger	平均計算駕駛與後座乘客人偶之分	平均計算駕駛與後座乘客人偶之分
dummy are averaged. For the Full Width	dummy are averaged. For the Full Width	數。針對前方全寬撞擊試驗,適用	數。針對前方全寬撞擊試驗,適用
frontal impact, capping is applied on the	frontal impact, capping is applied on the	底線限制之重要身體部位為頭部、	底線限制之重要身體部位為頭部、
critical body regions: head, neck (driver	critical body regions: head, neck (driver	頸部(限駕駛)及胸部。	頸部(限駕駛)及胸部。
only) and chest.	only) and chest.		
To ensure similar levels of protection for all	To ensure similar levels of protection for all	為確保提供所有乘員相同程度之保	為確保提供所有乘員相同程度之保
occupants, the total dummy score	occupants, the total dummy score	護,第一排乘客(依照車輛業者所	護,第一排乘客(依照車輛業者所
(excluding modifiers) of the front passenger	(excluding modifiers) of the front passenger	提數據)之人偶總分(不包括扣分)	提數據)之人偶總分(不包括扣分)
(based on manufacturer provided data) may	(based on manufacturer provided data) may	不應低於駕駛總分之 90%。第一排	不應低於駕駛總分之 90%。若未達
not be less than 90% of that of total score of	not be less than 90% of that of total score of	乘客數據必須於執行全寬試驗前提	此要求,則第一排評等應使用駕駛
the driver. The front passenger data needs to	the driver. When this requirement is not	供予 TNCAP 執行機構。若未達此要	與第一排乘客表現最差之身體部位
be provided to the Euro NCAP Secretariat	met, the front row will be assessed using the	求,則第一排評等應使用駕駛與第	進行判定。
before the full width test is performed.	worst performing body region of the driver	一排乘客表現最差之身體部位進行	
When this requirement is not met, the front	and front passenger	判定。	
row will be assessed using the worst			
performing body region of the driver and			
front passenger.			
The protection provided for adults for each	The protection provided for adults for each	針對成人保護,每個身體部位皆於身	針對成人保護,每個身體部位皆於身
body region are presented visually, using	body region are presented visually, using	體輪廓範圍內使用顏色區塊進行圖	體輪廓範圍內使用顏色區塊進行圖

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2019 年版 Euro NCAF	規章	201	7 年版 Eu	ıro NCAP	規章		修訂 TNCAP 條文草案		對應 TNCAP 條文		
coloured segments within body outlines.			coloured segments within body outlines.		示言	说明。使用之	顏色係依照該身體	示言	兌明。使用さ	之顏色係依照該身體	
The colour used is based on the	points	The color	ur used is b	ased on the	points	部介	立得分決定(四捨五入取到小數	部分	立得分決定	(四捨五入取到小數
awarded for that body region (r	ounded to	awarded	for that boo	dy region (r	ounded to	點算	第三位),如下	:	點多	第三位),如	下:
three decimal places), as follow	s:	three dec	imal places	s), as follow	/s:						
Green Good 4.000	points	Green	Good	4.000 poi	nts	綠	「優」	4.000分	綠	「優」	4.000分
Yellow Adequate 2.670-3.9	99 points	Yellow	Adequate	2.670-3.9	99 points	黄	「良好」	2.670-3.999分	黄	「良好」	2.670-3.999分
Orange Marginal 1.330-2.6	69 points	Orange	Marginal	1.330-2.6	69 points	橘	「尚可」	1.330-2.669分	橘	「尚可」	1.330-2.669分
Brown Weak 0.001-1.3	29 points	Brown	Weak	0.001-1.3	29 points	棕	「差」	0.001-1.329分	棕	「差」	0.001-1.329分
Red Poor 0.000	points	Red	Poor	0.000	points	紅	「不良」	0.000分	紅	「不良」	0.000分
For frontal impact, the body reging grouped together, with the scorgrouped body region being that performing region or limb. The regions are: Head (4 points), Nopoints), Chest (4 points) and Knew Pelvis (i.e. left and right femury Results are shown separately for rear passenger	e for the of the worst grouped eck (4 dee, Femur & (4 points).	grouped I performing regions at points), Companies and the companies occupants passenger of the driver and the companies of th	together, we body region or re: Head (4) Chest (4 point (i.e. left and Results are standard levers, the dumber of may not be ver. The from the body region of the standard levers are standard levers.	ith the score in being that it limb. The it points), No ints) and Ki id right fem shown separenger. its of protect in protect in being that in	e for the control of the worst grouped eck (4 mee, Femurur) (4 mately for etion for all of the front 90% of that er data need	一或括部左等	起,其分數將 四肢之分數。 :頭部(4分) (4分)、膝部	使用表現最差部位 身體部位歸類包 、頸部(4分)、胸 、股骨與骨盆(即)。駕駛與乘客之評	一或括部左等 確護於據	思,其其之。 以其之。 以其之。 以其之。 以, 以, 以, 以, 以, 以, 以, 以, 以, 以, 以, 以, 以,	學,身體部位會歸類 學,身體那位會歸類 學,身體那(4分分 學,身體的 學, 學, 學, 學, 學, 學, 學, 學, 學, 學,

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
	Secretariat before the full width test is		則第一排評等應使用駕駛與第一排
	performed. When this requirement is not		乘客表現最差之身體部位進行判
	met, the front row will be assessed using the		<u>定。</u>
	worst performing body region of the driver		
	and front passenger.		
The contribution of the frontal impact test to	The contribution of the frontal impact test to	成人保護分數中,前方全寬撞擊試驗	成人保護分數中,前方全寬撞擊試驗
the Adult Occupant Protection Score is	the Adult Occupant Protection Score is	之分數係加總所有相關身體部位之	之分數係加總所有相關身體部位之
calculated by summing the body scores for	calculated by summing the body scores for	分數,且計算駕駛與後座乘客分數	分數,且計算駕駛與後座乘客分數
the relevant body regions and calculating	the relevant body regions and calculating	(每個人偶共16分)之平均值並除	(每個人偶共16分)之平均值並除
the average of the driver and rear passenger	the average of the driver and rear passenger	以二,前方全寬撞擊試驗總分為 8	以二,前方全寬撞擊試驗總分為 8
scores (total of 16 points each) and	scores (total of 16 points each) and dividing	分。	分。
dividing it by two. The total achievable	it by two. The total achievable score for the		
score for the Full Width test is 8 points	Full Width test is 8 points		
5 SIDE BARRIER AND POLE IMPACT	5 SIDE BARRIER AND POLE IMPACT	2.1.4 側方碰撞壁與立柱撞擊評等	2.1.4 側方碰撞壁與立柱撞擊評等
ASSESSMENT	ASSESSMENT	(Side barrier and pole impact	(Side barrier and pole impact
		assessment)	assessment)
5.2.3 Side Head Protection Device (Pole	5.2.3 Side Head Protection Device (Pole	2.1.4.2.3 側方頭部保護裝置(僅側方	2.1.4.2.3 側方頭部保護裝置(僅側方
Impact Only)	Impact Only)	立柱撞擊試驗)	立柱撞擊試驗)
Vehicles equipped with head protection side	Vehicles equipped with head protection side	配備側方空氣囊、簾式空氣囊、座椅	配備側方空氣囊、簾式空氣囊、座椅
airbags, curtain, seat mounted or any other,	airbags, curtain, seat mounted or any other,	式空氣囊或其他頭部保護裝置之車	式空氣囊或其他頭部保護裝置之車
will have the inflated energy absorbing	will have the inflated energy absorbing	輛,應藉由幾何評等方式以評估充	輛,應藉由幾何評等方式以評估充
areas evaluated by means of a geometric	areas evaluated by means of a geometric	氣之能量吸收區域。空氣囊必須於	氟之能量吸收區域。空氣囊必須於
assessment. The airbags must provide	assessment. The airbags must provide	車輛兩側之前座及後座提供不同體	·
protection for a range of occupant sizes in	protection for a range of occupant sizes in	型乘員之保護。若車輛未提供足夠	型乘員之保護。若車輛未提供足夠

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
both the front and the rear on both sides of	both the front and the rear on both sides of	保護,則側方立柱撞擊總分倒扣 4	保護,則側方立柱撞擊總分倒扣 4
the vehicle. Where a vehicle does not offer	the vehicle. Where a vehicle does not offer	分 <u>,分別為第一排座椅倒扣 2 分、</u>	分。任何車輛未提供涵蓋車輛兩側
sufficient protection, a penalty of -4 points,	sufficient protection, a penalty of -4 shall	後排座椅倒扣 2 分。任何車輛未提	前座及後座乘員頭部保護裝置亦應
-2 for front and -2 for rear seats, shall be	be applied to the overall pole impact score.	供涵蓋車輛兩側前座及後座乘員頭	扣分。
applied to the overall pole impact score.	Any vehicle that does not provide a head	部保護裝置亦應扣分。	
Any vehicle that does not provide a head	protection device covering the front and		
protection device covering the front and	rear seat positions on both sides of the		
rear seat positions on both sides of the	vehicle will also attract this modifier.		
vehicle will also attract this modifier.	Where a vehicle is only equipped with		若車輛兩側僅配備前座及後座乘員個
	separate head protecting devices for front		別之頭部保護裝置,且該車輛被視
	and rear occupants, on both sides of the		為後座空間有限者 (第一排座椅於
	vehicle, and is considered as having		試驗位置時,若後座無法安裝車輛
	limited space in the rear seats†, the penalty		業者推薦之兒童保護裝置 (CRS),
	will be -2 points for each seat row (max -4		則該車輛視為後座空間有限者。在
	points).		此情況下,車輛業者應提供在不改
	† Vehicles will be considered as having		變車輛下無法安裝 CRS 及/或兒童
	limited rear space when the normal CRSs		之佐證資料),則每排座椅倒扣2分
	recommended by the manufacturer cannot		(最高和4分)。
	be installed with the front seats in the test		
	position. Where this is the case, the vehicle		
	manufacturer should provide evidence		
	showing that the CRS and/or child cannot		
	be installed without interference from the		
	vehicle.		

2019 年版 Euro NCAP 規章
5.2.4 Incorrect Airbag Deployment
Any airbag(s) which does not deploy fully in
the designed manner will attract a -1 point
modifier applicable to each of the most
relevant body part(s) for the affected
occupant. For example, where a head
curtain airbag is deemed to have deployed
incorrectly, the penalty will be applied to
the side impact driver's head (-1). Where
the incorrect deployment affects multiple
body parts, the modifier will be applied to
each individual body part. For example,
where a seat or door mounted side airbag
fails to deploy correctly that is intended to
provide protection to the head as well as the
thorax, abdomen and pelvis, the penalty
will be applied to all body regions, the head
(-1), chest (-1), abdomen (-1) and pelvis

(-1). The penalties are applicable to both the

side and pole impacts, which are scaled

down in the final vehicle rating.

2017 年版 Euro NCAP 規章

5.2.4 Incorrect Airbag Deployment |Any airbag(s) which does not deploy fully in |任何未依照原設計方式開展之空氣|任何未依照原設計方式開展之空氣 the designed manner will attract a -1 point modifier applicable to each of the most relevant body part(s) for the affected occupant. For example, where a head curtain airbag is deemed to have deployed incorrectly, the penalty will be applied to the side impact driver's head (-1). Where the incorrect deployment affects multiple body parts, the modifier will be applied to each individual body part. For example, where a seat or door mounted side airbag fails to deploy correctly that is intended to provide protection to the head as well as the thorax, abdomen and pelvis, the penalty will be applied to two body regions, the head (-1) and the chest (-1). The two penalties would also be applicable to both the side and pole impacts, which are scaled down in the final vehicle rating.

修訂 TNCAP 條文草案

2.1.4.2.4 不正確空氣囊開展

囊,應針對受影響乘員最相關之身 體部位扣 1 分。例如若頭部簾式空 氣囊被視為不正確開展,則於側方 碰撞之駕駛頭部扣 1 分。若不正確 之空氣囊開展影響身體多處部位, 則於每個身體部位進行扣分。例如 安裝於座椅或車門之側方空氣囊無 法正確開展以保護頭部、胸部、腹 部及骨盆時,則應分別於頭部、胸 部、腹部及骨盆各扣 1 分。該扣分 適用於側方撞擊與側方立柱撞擊, 並於最終車輛評等時按比例調降。

對應 TNCAP 條文

2.1.4.2.4 不正確空氣囊開展

囊,應針對受影響乘員最相關之身 體部位扣 1 分。例如若頭部簾式空 氣囊被視為不正確開展,則於側方 碰撞之駕駛頭部扣 1 分。若不正確 之空氣囊開展影響身體多處部位, 則於每個身體部位進行扣分。例如 安裝於座椅或車門之側方空氣囊無 法正確開展以保護頭部、胸部、腹 部及骨盆時,則應分別於頭部及胸 部各扣 1 分。該兩項扣分適用於側 方撞擊與側方立柱撞擊,並於最終 車輛評等時按比例調降。

ASSESSMENT PROTOCOL - SAFETY ASSIST 2.4安全輔助(SA)評等規章-2.4.4車道輔助系統評等

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.2 Definitions	6.2 Definitions	2.4.4.1 名詞釋義	2.4.4.1 名詞釋義
Emergency Lane Keeping (ELK) -		2.4.4.1.1 緊急車道維持輔助系統	
default		(Emergency Lane Keeping, ELK):車	
ON heading correction that is applied		輛偵測到即將偏離目前行駛之車道	
automatically by the vehicle in		邊緣或相鄰車道對向來車或車道超	
response to the detection of the vehicle		<u></u> 車的交通情境下,所自動施加之方	
that is about to drift beyond the edge		<u>向性修正。</u>	
of the road or into oncoming or			
overtaking traffic in the adjacent lane.			
Lane Keeping Assist (LKA) – heading			
•	correction that is applied automatically		
	by the vehicle in response to the		
detection of the vehicle that is about to	detection of the vehicle that is about to	時,所自動施加之方向性修正。	時,所自動施加之方向性修正。
drift beyond a delineated edge line of	drift beyond a delineated edge line of		
the current travel lane.	the current travel lane.		
Lane Departure Warning (LDW) – a	_		
	warning that is provided automatically		
by the vehicle in response to the	by the vehicle in response to the	到即將偏離目前行駛之車道邊界標	到即將偏離目前行駛之車道邊界標
vehicle that is about to drift beyond a	vehicle that is about to drift beyond a	線時,所自動出現之警示。	線時,所自動出現之警示。
delineated edge line of the current	delineated edge line of the current		
travel lane.	travel lane.		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
	Vehicle width – the widest point of the		2.4.4.1.3 車輛寬度 (Vehicle width):
	vehicle ignoring the rear-view mirrors,		車輛最大寬度不包括後視鏡、側方標
	side marker lamps, tyre pressure		識燈、胎壓偵測裝置、方向燈、位置
	indicators, direction indicator lamps,		燈、活動式擋泥板及位於地面接觸點
	position lamps, flexible mud-guards		正上方之輪胎胎壁(Side-wall)最突出
	and the deflected part of the tyre		部分。
	side-walls immediately above the		
	point of contact with the ground.		
Time To Collision (TTC) – means the		2.4.4.1.5 碰撞時間 (Time To Collision,	
remaining time before the VUT strikes		TTC):若受驗車輛與目標車皆依其	
the GVT, assuming that the VUT and		速度向前行進,受驗車輛會碰撞目標	
GVT would continue to travel with the		車之預估時間值。	
speed it is travelling.			
Lane Edge – means the inner side of		2.4.4.1.6 車道邊緣(Lane Edge): 係指	
the lane marking or the road edge		車道標線內側或道路邊緣。	
	Time To Line Crossing (TTLC) -		2.4.4.1.5 越線剩餘時間 (Time To Line
	means the remaining time before the		Crossing, TTLC): 假設受驗車輛持續
	VUT crosses the line, assuming that		以相同側向速度偏離向車道標線,受
	the VUT would continue to travel with		驗車輛距越線前所剩餘時間。
	the same lateral velocity towards the		
	lane.		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
Distance To Lane Edge (DTLE) -	Distance To Line Crossing (DTLC) -	2.4.4.1.7 <u>車道邊緣</u> 剩餘距離 (Distance	2.4.4.1.6 <u>越線</u> 剩餘距離 (Distance To
means the remaining lateral distance	means the remaining lateral distance	To <u>Lang Edge</u> , DT <u>LE</u>): 假設受驗車	<u>Line Crossing</u> , DT <u>LC</u>): 假設受驗車
(perpendicular to the Lane Edge)	(perpendicular to the line) between the	輛以相同側向速度偏離向車道邊	輛以相同側向速度偏離車道標線,車
between the Lane Edge and most	inner side of the lane marking and	緣,在受驗車輛越過車道邊緣前,車	道標線內緣與輪胎外緣間距越線前
outer edge of the tyre, before the	most outer edge of the tire, before the	道邊緣與輪胎外緣間所剩餘之橫向	所剩餘距離 (與車道 <u>標線</u> 垂直)。
VUT crosses Lane Edge, assuming	VUT crosses the line, assuming that	距離 (與車道 <u>邊緣</u> 垂直)。	
that the VUT would continue to	the VUT would continue to travel with		
travel with the same lateral velocity	the same lateral velocity towards the		
towards it.	lane marking.		
6.3 Criteria and Scoring	6.3 Criteria and Scoring	2.4.4.2 標準與得分	2.4.4.2 標準與得分
6.3.1 To be eligible for scoring points in	6.3.1 To be eligible for scoring points in	2.4.4.2.1 車道輔助系統項目之得分,	2.4.4.2.1 車道輔助系統項目之得分,
Lane Support Systems, the vehicle	Lane Support Systems, the vehicle	車輛應裝設 <u>符合</u> 車輛安全檢測基準	車輛應裝設 <u>聯合國 UN R13H 或 R140</u>
must be equipped with an ESC system	must be equipped with an ESC system	「八十五、車輛穩定性電子式控制	規範之車輛穩定性電子式控制系
that complies with UNECE Regulation	that complies with UNECE Regulation	系統」。	<u>統,或</u> 車輛安全檢測基準「八十五、
13H.	13H.		車輛穩定性電子式控制系統」。
For any system, the driver must be		無論任何系統,駕駛者應能優先介	
able to override the intervention by the		<u>入該系統。</u>	
system.			
6.3.2 <u>Human Machine Interface (HMI)</u>	6.3.2 <u>Human Machine Interface (HMI)</u>	2.4.4.2.2 人機介面	2.4.4.2.2 人機介面
HMI points can be achieved for the	HMI points can be achieved for the	人機介面之得分規範如下:	人機介面之得分規範如下:
following:	following:		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
•Lane Departure Warning 0.25	•Default ON 0.2 points	(1) 車道偏離輔助警示系統 0.25	(1) 預設啟用 0.2 分
points	All LKA and/or LDW systems are	<u>分</u>	所有車道維持輔助系統及/或車道
Any LDW system that issues an	default ON at the start of every	所有車道偏離輔助警示系統,在車	偏離輔助 警示系統在每一趟旅程
audible and/or haptic warning before	journey.	道邊緣剩餘距離為-0.2m 之前應發	開始時之預設狀態為「開啟」。
a DTLC of		出聽覺及/或觸覺警示,即可獲得分	
-0.2m is awarded.	•Haptic/Supplementary Warning	<u>數。</u>	(2) 觸覺/輔助警示 0.2 分
	0.2 points		若車道偏離輔助警示系統設有進階
Where an LKA system fulfils the		若車道維持輔助系統符合所有單側	之觸覺警示,如震動方向盤,即可
requirements of all the single line	For LDW systems a more	車道標線試驗,則將自動獲得車道	獲得分數。
marking tests, the LDW points are	sophisticated haptic warning like a	偏離輔助警示系統之分數。	
awarded automatically.	vibrating steering wheel is awarded.		<u>若車道維持輔助系統介入作動時或</u>
	For LKA a supplementary warning		無法讓車輛維持在車道內時發出輔
	which is issued simultaneously to the		助警示,即可獲得分數。若車道維
	intervention or when the LKA cannot		持輔助系統能確保車輛於全程試驗
	keep the car in lane is awarded. When		過程中維持在車道內,即可獲得分
	an LKA system ensures that the		<u>數。</u>
	vehicle will not leave the lane in any		
	of the Euro NCAP tests, points are		
	awarded by default.		
•Blind Spot Monitoring 0.25	•Blind Spot Monitoring 0.1 points	(2) 盲點偵測系統 <u>0.25</u> 分	(3) 盲點偵測系統 <u>0.1</u> 分
points	The vehicle is additionally equipped		車輛額外配備之盲點偵測系統,用
The vehicle is additionally equipped	with a Blind Spot Monitoring system		以警示 駕駛已有其他車輛進入至
with a Blind Spot Monitoring system	to warn the driver of other vehicles	駛視線之盲點區。	駕駛視線之盲點區。
to warn the driver of other vehicles	present in the blind spot.		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
present in the blind spot.			
Where the vehicle is fitted with an		若車輛配備符合緊急車道維持輔助	
ELK system fulfilling the		<u>系統之車道超車試驗,則自動獲得</u>	
requirements of the overtaking tests,		盲點偵測系統之分數。	
the BSM points are awarded			
automatically.			
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6.3.3 <u>Lane Keep Assist (LKA)</u>	6.3.3 <u>Lane Keeping Assist (LKA)</u>	2.4.4.2.3 单道維持輔助系統	2.4.4.2.3 車道維持輔助系統/車道偏離
6.3.3.1 For LKA system tests, the	Lane Departure Warning (LDW)	211221 毒送做技鞋贴多效甘油用	輔助警示系統
· ·	tests, the assessment criteria used is		2.4.4.2.3.1 平 组維 行 輔 助 系 然 久 平 垣 偏 離 輔 助 警 示 系 統 , 其 使 用 之 評 等 標
Distance to Lane Edge (DTLE).	the Distance to Line Crossing, DTLC.	之計寺保平約 <u>平道遼蘇</u> 利保距離。	<u>柵離輔助言小系統,</u> 兵使用之計寺保 準為越線剩餘距離。
Distance to Lane Edge (DTLE).	the Distance to Line Crossing, DTLC.		十 何
	The limit value for DTLC for LDW is		車道偏離輔助警示系統之越線剩餘
	set to -0.3m, meaning that the vehicle		距離限制值為-0.3m,意即車輛最多
	is allowed to cross the inner edge of		可越過車道邊界標線內緣 0.3m 前應
	the lane marking by a maximum of		出現警示。
	0.3m before the warning occurs.		
6.3.3.2 The limit value for DTLE for	The limit value for DTLC for LKA is	2.4.4.2.3.2 車道維持輔助系統試驗之	車道維持輔助系統之 <u>越線剩餘距離</u>
LKA tests is set to -0.3m for testing	set to -0.4m, meaning that the LKA	試驗路徑,車道邊緣剩餘距離限值則	限值則為 <u>-0.4</u> m,意即車輛最多可越
against lines, meaning that the LKA	system must not permit the VUT to	為 <u>-0.3</u> m,意即車輛最多可越過車道	過車道邊界標線內緣 <u>0.4</u> m 前應作
system must not permit the VUT to	cross the inner edge of the lane	邊界標線內緣 <u>0.3</u> m 前應作動。	動。
cross the inner edge of the lane	marking by a distance greater than		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
marking by a distance greater than	0.4m.		
0.3m.			
6.3.3.3 The limit value for DTLE for		2.4.4.2.3.3 車道維持輔助系統之道路	
LKA Road Edge tests is set to -0.1m		邊緣試驗之試驗路徑,車道邊緣剩餘	
for testing against the road edge,		距離限值則為-0.1m, 意即車道維持	
meaning that the LKA system only		輔助系統僅允許受驗車輛將前輪的	
allows the VUT to have a part of the		一部分超出道路邊緣之外。	
front wheel outside of the road edge.			
	= =	2.4.4.2.3.4 每項試驗之得分以通過/未	
•	awarded based on a pass/fail basis.		定; LKA/LDW 系統之得分條件如下
	The points available for the different		表所示:
	systems are detailed in the table		
a pass. The points available for the	below:	<u>合</u> 之得分條件如下表所示:	
different LKA scenario and road		(請參考末頁表格)	
marking combinations are detailed in			
the table below:			李進性技験的系统。 李道海韓輔的等示高級
(請參考末頁表格)	LKA LDW Lateral speed Suid line on fully Single dashed line Single colid line (left marked line (left and right side) and right side)		
	0.1 m/s ProstFad		0.1 m
	0.3 m/s Pess/Fail Pess/Fail Pess/Fail 0.4 m/s Pess/Fail 0.5 m/s Pess/Fail Pess/Fail Pess/Fail Pess/Fail Pess/Fail		0.3 m/s 建油/水油场 建油/水油场 建油/水油场 0.4 m/s 建油/水油场
	Total 1.0 1.5		6.5 m 接近 未通路 建造 未通路 建造 未通路
62 4 Emergency Long Vooring (ELV)	6222 Doints for the LVA function are	71171 聚 名 亩 送 价 技 击 山 仓 矿	2.4.4.2.3.2 受驗車輛應通過車道維持
6.3.4 Emergency Lane Keeping (ELK)			<u>4.4.4.2.3.2 交 </u>
6.3.4.1 From 2020 onwards, to be	awarded when the VO1 passes 3 out	2.4.4.2.4.1 半週期 州 於 《 於 志 平 週	珊则尔凯五炽武城下的二块(左右侧

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
eligible for scoring points in ELK, the	of 5 tests (on both left and right side),	維持輔助系統,若於每次啟動車輛	皆須通過),即可獲得之分數;受驗
ELK part of the LSS system needs to	while for the LDW function all tests	時,預設狀態為「開啟」且其設計無	車輛應通過車道偏離輔助警示系統
be default ON at the start of every	need to pass to get the points.	法僅按一鍵即關閉,即可從緊急車道	所有試驗才能獲得分數。
journey and deactivation of the system		維持輔助系統試驗中得分。	
should not be possible with a single	• <u>LKA + LDW (combined)</u>		(1) 車道維持輔助系統+車道偏離
push on a button.	Systems offering both LKA and		輔助警示系統(整合)
	LDW functions, these functions are		若受驗車輛同時提供車道維持
6.3.4.2 For ELK Road Edge tests, the	tested and assessed separately.	2.4.4.2.4.2 緊急車道維持輔助系統之	輔助系 統與車道偏離輔助警
assessment criteria used is the	•LKA only	道路邊緣試驗,使用的評等標準為車	示系統功能,則這些功能應分
Distance to Lane Edge (DTLE).	A systems that only offer the LKA	道邊緣剩餘距離。	別進行試驗及評等。
	function will be tested and assessed in		(2) 僅有車道維持輔助系統
The limit value for DTLE for ELK	both the LKA and LDW scenarios.	緊急車道維持輔助系統之道路邊緣	若受驗車輛僅提供車道維持輔
Road Edge tests is set to -0.1m,		試驗,車道邊緣剩餘距離限值則為	助系統功 能,則其功能應於車
meaning that the vehicle is only		-0.1m, 意即受驗車輛僅允許將前輪	道維持輔助系統與車道偏離輔
allowed to have a part of the front	•LDW only	的一部分超出道路邊緣之外。	助警示系統情境試驗中試驗及
wheel outside of the road edge.	For systems that only offer the LDW		評等。
	function, the function will be tested		(3) 僅有車道偏離輔助警示系統
6.3.4.3 For ELK tests with oncoming	and assessed in the LDW scenarios	2.4.4.2.4.3 針對緊急車道維持輔助系	若受驗車輛只提供車道偏離輔
and overtaking vehicles, the	only.	統之對向來車與車道超車試驗,使用	助警示系統功能,則其功能僅需
assessment criteria used is no impact,		的評等標準為無碰撞,意即受驗車輛	在車道偏離輔助警示系統情境
meaning that the VUT is not allowed		不允許在試驗期間內與車道超車或	試驗中試驗及評等。
to contact the overtaking or oncoming		對向來車之目標車發生碰撞。	
vehicle target at any time during the			
test.			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.3.4.4 The available points per test are		2.4.4.2.4.4 每一項試驗可獲得的分數	
awarded based on a pass/fail basis		以通過/未通過的標準判決,其中所	
where all tests within the scenario and		有試驗情境及車道標線之組合都應	
road marking combination need to be		符合,不同緊急車道維持輔助系統試	
a pass. The points available for the		驗情境與車道標線之組合可獲得分	
different ELK scenario and road		數如下表所示:	
marking combinations are detailed in		(請參考末頁表格)	
the table below:			
(請參考末頁表格)			
6.3.5 <u>Total LSS Score</u>	6.3.4 <u>Total LSS Score</u>	2.4.4.2.5 車道輔助系統總得分為人機	<u>2.4.4.2.4</u> 車道輔助系統總得分
The total score in points is the sum of	The total score in points is the sum of	介面得分、車道維持輔助系統得分及	車道輔助系統總得分為人機介面得
the HMI score, LKA score and ELK	the HMI score, LKA score and LDW	緊急車道維持輔助系統得分之總和。	
score.	score.	(請參考末頁表格)	<u>離輔助警示系統</u> 得分之總和。
(請參考末頁表格)			
6.4 Visualisation		2.4.4.3 視覺呈現	
The LSS scores are presented		車道輔助系統係以不同顏色來呈現	
separately using a colour for the		不同車道輔助系統功能之得分;包括	
different LSS functions; HMI, LKA		人機介面、車道維持輔助系統及緊急	
and ELK. The colours used are based		車道維持輔助系統。使用的顏色分別	
on the function scores respectively,		基於各別功能分數,四捨五入到小數	
rounded to three decimal places.		點後三位。	
(請參考末頁表格)		(請參考末頁表格)	

	2019年Euro NCAP規	章			修訂TNCAP條文草等	案
6.3.3.4			2.4.4.2.3.4			
LKA Scenario	Road marking	Points	車道維持輔助系	統情境	道路標線	<u>分數</u>
Road Edge	Road Edge only	0.25	道路邊緣		僅道路邊緣	0.25
	Road Edge with central	0.25			道路邊緣帶有中心	0.25
	lane marking				車道標線	
Dashed Line	Single lane marking	0.25	虚線		單側車道標線	0.25
	Fully marked lane	0.50			完整車道標線	0.50
Solid line	Single lane marking	0.25	實線		單側車道標線	0.25
	Fully marked lane	0.50			完整車道標線	0.50
TOTAL		2.00	總分			2.00
	2019年Euro NCAP規	章			修訂TNCAP條文草等	· 实
6.3.4.4			2.4.4.2.4.4			
ELK Scenario	Road marking	Points	緊急車道維持	道路標約	<u>k</u>	<u>分數</u>
			輔助系統情境			
Road Edge	Dashed centreline & no line next to	0.25	道路邊緣	中心虚約	泉及道路邊緣無標	<u>0.25</u>
	Road Edge			<u>線</u>		
	Dashed centreline & dashed line	0.25		中心虚約	泉及道路邊緣為虚	<u>0.25</u>
	next to Road Edge			線標線		
	Dashed centreline & solid line next	0.25		中心虚約	泉及道路邊緣為實	<u>0.25</u>
	to Road Edge			線標線		
Oncoming vehicle	Fully marked lanes	0.50	對向來車	完整車道	<u> </u>	<u>0.50</u>
Overtaking	Fully marked lanes	0.25	車道超車	完整車道	<u> </u>	0.25
vehicle						
TOTAL		1.50	總分			1.50

		2019年Euro NCAP規章			修訂TN	CAP條文草案		
6.3.5				<u>2.4.4.2.5</u>				
LSS funct	ion		Points	車道輔助系統功能	_		<u>分數</u>	
HMI		Section 6.3.2	0.50	人機介面	2.4.4.2.2節	-	0.50	
LKA		Section 6.3.3	2.00	車道維持輔助系統	2.4.4.2.3節	-	<u>2.00</u>	
ELK		Section 6.3.4	1.50	緊急車道維持輔助	<u>条</u> 2.4.4.2.4節		<u>1.50</u>	
				統情境				
TOTAL			4.00	總分			4.00	
		2019年Euro NCAP規章			修訂TN	CAP條文草案		
6.4				<u>2.4.4.3</u>				
Colour	Verdict	Applied to Total Score	For sub Scores	颜色	<u>判定</u>	適用於總得分	功能性比	
Green	'Good'	3.001 - 4.000 points	75.0% - 100.0%	綠色	<u>優</u>	3.001-4.000分	<u>75.0%-100.0%</u>	
Yellow Orange	'Adequate' 'Marginal'	2.001 - 3.000 points 1.001 - 2.000 points	50.0% - 75.0% 25.0% - 50.0%	黄色	良好	2.001-3.000分	<u>50.0%-75.0%</u>	
Brown Red	'Weak' 'Poor'	0.001 - 1.000 points 0.000 points	00.0% - 25.0% 00.0%	橘色	尚可	1.001-2.000分	25.0%-50.0%	
Red	roor	0.000 points	00.0%	<u>棕色</u>	<u>差</u>	0.001-1.000分	00.0%-25.0%	
				紅色	<u>不良</u>	<u>0.000分</u>	00.0%	

OFFSET DEFORMABLE BARRIER FRONTAL IMPACT TESTING PROTOCOL 3.1前方偏置撞擊試驗規章

OFFSET DEFORMABLE BARKI	ER FRONTAL IMPACT TESTING PRO	TOCOL 3.1 刖 刀 柵 且狸 筝 武 劔 枕 早	
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
1 VEHICLE PREPARATION	1 VEHICLE PREPARATION	3.1.1 車輛整備	3.1.1 車輛整備
1.2.6 In the child restraints to be used for	1.2.6 In the child restraints to be used for	3.1.1.2.6 於第二排駕駛側座椅與乘客	3.1.1.2.6 於駕駛座及乘客座椅後方之
testing, place masses equivalent to Q6 and	testing, place masses equivalent to Q6 and	<u>側座椅</u> 之試驗用兒童保護裝置,分	試驗用兒童保護裝置,分別放置相
Q10 child dummies on the second-row	Q10 child dummies on the rear driver seat	別放置相當於 Q6 及 Q10 兒童人偶	當於 Q6 及 Q10 兒童人偶之重量
driver's side seat and passenger's side seat	and passenger seats respectively (23kg and	之重量(23kg 及 36kg)。若此時無	(23kg 及 36kg)。若此時無法使用
respectively (23kg and 36kg). If the child	36kg). If the child restraints are not	法使用兒童保護裝置,則於人偶重	兒童保護裝置,則於人偶重量分別
restraints are not available at this time then	available at this time then default masses	量分別加上 7kg 及 2kg 之預設重量	加上 7kg 及 2kg 之預設重量(Default
default masses of 7kg and 2kg should be	of 7kg and 2kg should be added to the	(Default mass) •	mass) °
added to the dummy masses	dummy masses.		
1.4.8 In the child restraints to be used for	1.4.8 In the child restraints to be used for	3.1.1.4.8 於第二排駕駛側座椅與乘客	3.1.1.4.8 於駕駛座及乘客座椅後方之
testing, place masses equivalent to Q6 and	testing, place masses equivalent to Q6 and	<u>側座椅</u> 之試驗用兒童保護裝置,分	試驗用兒童保護裝置,分別放置相
Q10 child dummies on the second-row	Q10 child dummies on the rear driver's	別放置相當於 Q6 及 Q10 兒童人偶	當於 Q6 及 Q10 兒童人偶之重量
driver's side seat and passenger's side seat	seat and passenger seat respectively (23kg	之重量 (23kg 及 36kg)。若此時無	(23kg 及 36kg)。若此時無法使用
respectively (23kg and 36kg). If the child	and 36kg). If the child restraints are not	法使用兒童保護裝置,則於人偶重	兒童保護裝置,則於人偶重量分別
restraints are not available at this time then	available at this time then default masses	量分別加上7kg及2kg之預設重量。	加上 7kg 及 2kg 之預設重量。
default masses of 7kg and 2kg should be	of 7kg and 2kg should be added to the		
added to the dummy masses.	dummy masses.		
1.4.12 For fully electric vehicles, if a total	1.4.12 For fully electric vehicles, if a total	3.1.1.4.12 對於純電動車輛,若車輛總	3.1.1.4.12 對於純電動車輛,若車輛總
vehicle mass within 25kg of the reference	vehicle mass within 25kg of the reference	重量與參考車重之差異無法小於	重量與參考車重之差異無法小於
mass cannot be achieved, it is acceptable	mass cannot be achieved, it is acceptable	25kg,則總重量與參考車重之差異	25kg,則總重量與參考車重之差異
for the total mass to be within 2% of the	for the total mass to be within 2% of the	應在2%以內。經車輛業者同意,可	應在2%以內。

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
reference mass. A heavier test mass may	reference mass.	使用較重之重量進行試驗,惟試驗	
be used with the agreement of the OEM,		重量不得低於宣告容許誤差之最小	
the test mass must not be below the		<u>值。</u>	
minimum value of the specified			
tolerances.			
5.1 Determination of and Setting the Fore/aft,	5.1 Determination of and Setting the Fore/aft,	3.1.5.1 座椅前後位置、傾斜度與腰部	3.1.5.1 座椅前後位置、傾斜度與腰部
Tilt and Lumbar Settings of Seat	Tilt and Lumbar Settings of Seat	支撐設定	支撐設定
5.1.11 If the seat base is adjustable for tilt it	5.1.11 If the seat base is adjustable for tilt it	3.1.5.1.11 若座椅底座傾斜度可調整,	3.1.5.1.11 若座椅底座傾斜度可調整,
may be set to any angle from the flattest up	may be set to any angle from the flattest up	則依車輛業者宣告,調整至最低	則依車輛業者宣告,調整至最低
to its mid position according to the	to its mid position according to the	(Flattest)至中間位置間之任何角度。	(Flattest)至中間位置間之任何角
manufacturer's preference.	manufacturer's preference. The same seat		度。前方與側方撞擊所使用的座椅
	tilt setting must be used for frontal and side		傾斜度必須相同
	impact.		
6.3 Dummy Installation	6.3 Dummy Installation	3.1.6.3 人偶安裝	3.1.6.3 人偶安裝
It is the intention that the dummy should not	It is the intention that the dummy should not	試驗前,人偶不應直接坐在座椅上超	試驗前,人偶不應直接坐在座椅上超
be left to sit directly on the seat for more	be left to sit directly on the seat for more	過2小時。若試驗前1小時內檢查	過 <u>6 小時</u> , <u>亦</u> 不應將試驗人偶整晚
than 2 hours prior to the test. It is acceptable	than 6 hours prior to the test. It is not	人偶定位,則允許人偶放置車內較	留置車內或類似長度的時間。
for the dummy to be left in the vehicle for a	acceptable for the dummy to be left in the	長時間。不應將試驗人偶整晚留置	
longer period, provided that the dummy	vehicle overnight or for a similarly lengthy	車內或類似長度的時間。	
position is checked no more than 1 hour	period.		
prior to test. It is not acceptable for the			
dummy to be left in the vehicle overnight or			
for a similarly lengthy period			

FULL WIDTH FRONTAL IMPACT TESTING PROTOCOL 3.2前方全寬撞擊試驗規章

	2017 左JE Even NCAD 坦立		业 応 TNCAD /5 ナ
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
1.4 Vehicle Preparation	1.4 Vehicle Preparation	3.2.1.4 車輛整備	3.2.1.4 車輛整備
1.4.11 For fully electric vehicles, if a total	1.4.11 For fully electric vehicles, if a total	3.2.1.4.11 對於純電動車輛,若車輛總	3.2.1.4.11 對於純電動車輛,若車輛總
vehicle mass within 25kg of the reference	vehicle mass within 25kg of the reference	重量與參考車重之差異無法小於	重量與參考車重之差異無法小於
mass cannot be achieved, it is acceptable for	mass cannot be achieved, it is acceptable for	25kg,則總重量與參考車重之差異	25kg,則總重量與參考車重之差異
the total mass to be within 2% of the	the total mass to be within 2% of the	應在2%以內。經車輛業者同意,可	應在2%以內。
reference mass. A heavier test mass may be	reference mass.	使用較重之重量進行試驗,惟試驗	
used with the agreement of the OEM, the		重量不得低於宣告容許誤差之最小	
test mass must not be below the minimum		<u>值。</u>	
value of the specified tolerances.			
3 DUMMY PREPARATION AND	3 DUMMY PREPARATION AND	3.2.3.人偶整備及查驗	3.2.3.人偶整備及查驗
CERTIFICATION	CERTIFICATION		
3.1 General	3.1 General	3.2.3.1 通則	3.2.3.1 通則
Hybrid III 05F test dummies should be used	Hybrid III 05F test dummies should be used	Hybrid III 百分之五成年女性試驗人	Hybrid III 百分之五成年女性試驗人
for the front driver seat and the	for the front driver seat and the rear	偶應安裝於第一排駕駛座及駕駛另	偶應安裝於第一排駕駛座及駕駛另
second-row passenger seat, on the	passenger seat, at the opposite to the	一側的 <u>第二排</u> 乘客座位,且除本文	一側的 <u>後排</u> 乘客座位,且除本文件
opposite side to the driver. They should	driver. They should conform to U.S.	件後續所提到的調整及配件外,應	後續所提到的調整及配件外,應符
conform to U.S. Department of	Department of transportation, Code of	符合美國運輸部聯邦法規(Code of	合美國運輸部聯邦法規(Code of
transportation, Code of Federal	Federal Regulations Part 572 Subpart O,	federal regulation, CFR)572 部 O 分	federal regulation, CFR)572 部 O 分
Regulations Part 572 Subpart O, except	except for modifications and additions	部(Part 572 O)之規定。人偶零件應	部(Part 572 O)之規定。人偶零件應
for modifications and additions stated	stated later. The parts of the dummy	依照最新的品牌統一設計:	依照最新的品牌統一設計:
later. The parts of the dummy should be	should be following the latest agreed		
following the latest agreed brand	brand harmonised design:		
harmonised design:			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.2 Dummy Installation	6.2 Dummy Installation	3.2.6.2 試驗人偶安裝	3.2.6.2 試驗人偶安裝
It is the intention that the dummy should not	It is the intention that the dummy should not	試驗前,人偶不應直接坐在座椅上超	試驗前,人偶不應直接坐在座椅上超
be left to sit directly on the seat for more	be left to sit directly on the seat for more	過2小時。若試驗前1小時內檢查	過 <u>6 小時</u> , <u>亦</u> 不應將試驗人偶整晚
than 2 hours prior to the test. It is acceptable	than 6 hours prior to the test. It is not	人偶定位,得允許人偶放置車內較	留置車內或類似長度的時間。
for the dummy to be left in the vehicle for a	acceptable for the dummy to be left in the	長時間。不應將試驗人偶整晚留置	
longer period, provided that the dummy	vehicle overnight or for a similarly lengthy	車內或類似長度的時間。	
position is checked no more than 1 hour	period		
prior to test. It is not acceptable for the			
dummy to be left in the vehicle overnight or			
for a similarly lengthy period			

SIDE IMPACT MOBILE DEFORMABLE BARRIER TESTING PROTOCOL 3.3側方撞擊試驗規章

SIDE IMPACT MOBILE DEFOR	SIDE IMPACT MOBILE DEFORMABLE BARRIER TESTING PROTOCOL 3.3侧方撞擎試驗規草					
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文			
1 VEHICLE PREPARATION	1 VEHICLE PREPARATION	3.3.1.車輛整備	3.3.1.車輛整備			
1.2.4 In the child restraints to be used for	1.2.4 In the child restraints to be used for	3.3.1.2.4 於第二排駕駛側座椅與乘客	3.3.1.2.4 於駕駛座及乘客座椅後方之			
testing, place masses equivalent to Q10 and	testing, place masses equivalent to Q10 and	<u>側座椅</u> 之試驗用兒童保護裝置,分	試驗用兒童保護裝置,分別放置相			
Q6 child dummies on the second-row	Q6 child dummies on the rear driver seat	別放置相當於 Q10 及 Q6 兒童人偶	當於 Q10 及 Q6 兒童人偶之重量			
driver's side seat and passenger's side seat	and passenger seats respectively (23kg and	之重量(36kg 及 23kg)。若此時無	(36kg 及 23kg)。若此時無法使用			
respectively (23kg and 36kg). If the child	36kg). If the child restraints are not	法使用兒童保護裝置,則於人偶重	兒童保護裝置,則於人偶重量分別			
restraints are not available at this time then	available at this time then default masses of	量分別加上 2kg 及 7kg 之預設重量	加上 2kg 及 7kg 之預設重量(Default			
default masses of 7kg and 2kg should be	7kg and 2kg should be added to the dummy	(Default masses) •	masses) °			
added to the dummy masses.	masses.					
1.4.5 In the child restraints to be used for	1.4.5 In the child restraints to be used for	3.3.1.4.5 於第二排駕駛側座椅與乘客	3.3.1.4.5 於駕駛座及乘客座椅後方之			
testing, place masses equivalent to Q6 and	testing, place masses equivalent to Q6 and	<u>側座椅</u> 之試驗用兒童保護裝置,分	試驗用兒童保護裝置,分別放置相			
Q10 child dummies on the second-row	Q10 child dummies on the rear driver seat	別放置相當於 Q10 及 Q6 兒童人偶	當於 Q10 及 Q6 兒童人偶之重量			
driver's side seat and passenger's side seat	and passenger seats respectively (23kg and	之重量 (36kg 及 23kg)。若此時無	(36kg 及 23kg)。若此時無法使用			
respectively (23kg and 36kg). If the child	36kg). If the child restraints are not	法使用兒童保護裝置,則於人偶重	兒童保護裝置,則於人偶重量分別			
restraints are not available at this time then	available at this time then default masses of	量分別加上 2kg 及 7kg 之預設重量。	加上 2kg 及 7kg 之預設重量。			
default masses of 7kg and 2kg should be	7kg and 2kg should be added to the dummy					
added to the dummy masses.	masses.					
1.4.9 For fully electric vehicles, if a total	1.4.9 For fully electric vehicles, if a total	3.3.1.4.9 對於純電動車輛,若車輛總	3.3.1.4.9 對於純電動車輛,若車輛總			
vehicle mass within 25kg of the reference	vehicle mass within 25kg of the reference	重量與參考車重之差異無法小於	重量與參考車重之差異無法小於			
mass cannot be achieved, it is acceptable for	mass cannot be achieved, it is acceptable for	25kg,則總重量與參考車重之差異	25kg,則總重量與參考車重之差異			
the total mass to be within 2% of the	the total mass to be within 2% of the	應在 2%以內。經車輛業者同意,可	應在 2%以內。			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
reference mass. A heavier test mass may be	reference mass.	使用較重之重量進行試驗,惟試驗	
used with the agreement of the OEM, the		重量不得低於宣告容許誤差之最小	
test mass must not be below the minimum		<u>值。</u>	
value of the specified tolerances.			
2 DUMMY PREPARATION AND	2 DUMMY PREPARATION AND	3.3.2 人偶整備及查驗(Certification)	3.3.2 人偶整備及查驗(Certification)
CERTIFICATION	CERTIFICATION		
2.1 General	2.1 General	3.3.2.1 通則	3.3.2.1 通則
2.1.1 A WorldSID 50th percentile male test	2.1.1 A WorldSID 50th percentile male test	3.3.2.1.1WorldSID 百分之五()成年男	3.3.2.1.1 WorldSID 百分之五()成年男
dummy shall be used in the front driver's	dummy shall be used in the front driver's	性試驗人偶應安裝於駕駛座,該人	性試驗人偶應安裝於駕駛座,該人
position. It shall conform to the	position. It shall conform to the	偶應符合 ISO 15830 <u>第1至5部</u> 詳	偶應符合 <u>2013 年 5 月</u> ISO 15830 <u>第</u>
specification detailed in ISO 15830, parts	specficiation detailed in ISO 15830, parts	列之規格。	<u>1至4部分</u> 詳列之規格,並符合2014
1-5.	1-4, May 2013 and the revisions		年 10 月 3 日 WG5 N1041 第四次修
	documented in WG5 N1041, revision 4,		<u>訂之修訂條文</u> 。
	dated 3rd October 2014.		
2.4 Dummy Clothing and Footwear	2.4 Dummy Clothing and Footwear	3.3.2.4 人偶衣著及鞋履	3.3.2.4 人偶衣著及鞋履
2.4.1 WorldSID	2.4.1 WorldSID	3.3.2.4.1 WorldSID 百分之五 () 成年男	3.3.2.4.1 WorldSID 百分之五()成年男
2.4.1.1The dummy shall be clothed in a	2.4.1 The clothing shall conform to clothing	性人偶	性人偶
sleeveless suit or a modified version of the	assembly drawing W50-80100.pdf (see	3.3.2.4.1.1 人偶應穿著無袖上衣或改	3.3.2.4.1.1 衣著應符合衣著裝配圖
sleeved suit with sleeves removed.	Annex C of ISO 15830) and the	良版可移除衣袖式上衣。	W50-80100.pdf (參見 ISO 15830 附
	subassemblies and component drawings		件 C), 及其內附之次裝配與組件圖
	listed therein.		<u> 示。</u>
2.6 WorldSID Dummy painting and marking	2.6 WorldSID Dummy painting and marking	3.3.2.6 WorldSID 百分之五()成年男	3.3.2.6 WorldSID 百分之五()成年男
2.6.1 The dummy shall have masking tape	2.6.1 The dummy shall have masking tape	性人偶塗色及標記	性人偶塗色及標記
placed on the areas to be painted using the	placed on the areas to be painted using the	3.3.2.6.1 應於人偶預定塗色之區域,	3.3.2.6.1 應於人偶預定塗色之區域,

2019 年版 Euro NCA	P 規章	2017 年版 Euro NO	CAP 規章	修訂 TNCAP 條文草案	<u> </u>	對應 TNCAP 條文	
sizes detailed below. The tape	should be	sizes detailed below. The ta	ape should be	以下方詳列之範圍黏貼紙膠	摎帯。膠	以下方詳列之範圍黏貼紙	膠帶。膠
completely covered with the fo	ollowing	completely covered with th	e following	带應徹底塗滿下列指定顏色	色,唯駕	带應徹底塗滿下列指定顏	色,唯駕
coloured paints. The paint show	uld be applied	coloured paints. The paint s	should be applied	駛頭部僅於膠帶邊緣塗色,	顏料應	駛頭部僅於膠帶邊緣塗色	,顏料應
close to the time of the test to e	ensure that	close to the time of the test	to ensure that	於接近試驗時間時塗上,以	人確保撞	於接近試驗時間時塗上,	以確保撞
the paint will still be wet on im	npact.	the paint will still be wet on impact.		擊時顏料未乾。		擊時顏料未乾。	
Driver		Driver		駕駛		駕駛	
Head(Paint tape outline)	Red	Head(Paint tape outline)	Red	頭部(僅膠帶輪廓塗色)	紅	頭部(僅膠帶輪廓塗色)	紅
Head CoG(circle Ø40mm)	Yellow	Head CoG(circle)	Orange	頭部重心(圓圈 <u>直徑40mm</u>)	黄	頭部重心(圓圈)	<u>橘</u>
Head top along mid sagittal	Green	Shoulder /Arm	Blue	頭頂沿正中矢狀切面	綠	肩部/手臂	藍
plane		2 nd Thorax Rib	Green	肩部/手臂	藍	胸部第二肋骨	綠
Shoulder /Arm	Blue	3 rd Thorax Rib	Red	胸部第二肋骨	綠	胸部第三肋骨	紅
2 nd Thorax Rib	Green	1stAbdoment Rib	Blue	胸部第三肋骨	紅	腹部第一肋骨	藍
3 rd Thorax Rib	Red	2 nd Abdoment Rib	Green	腹部第一肋骨	藍	腹部第二肋骨	綠
1stAbdoment Rib	Blue	Pelvis	Orange	腹部第二肋骨	綠	骨盆	橘
2 nd Abdoment Rib	Green			骨盆	橘		
Pelvis	Orange						
3.1 Dummy Instrumentation		3.1 Dummy Instrumentation	on	3.3.3.1 人偶感測器及資料擷耳	文系統設	3.3.3.1 人偶感測器及資料趨	取系統設
				置		置	
3.1.2		3.1.2				•••	
(請參考末頁表格)		(請參考末頁表格)		3.3.3.1.2		3.3.3.1.2	
				(請參考末頁表格)		(請參考末頁表格)	
4.1 Overview of Settings		4.1 Overview of Settings		3.3.4.1設定綜覽		3.3.4.1設定綜覽	
(請參考末頁表格)		(請參考末頁表格)		(請參考末頁表格)		(請參考末頁表格)	
5.2 Dummy Placement		5.2 Dummy Placement		3.3.5.2 人偶放置		3.3.5.2 人偶放置	
5.2.1 It is the intention that the o	dummy	5.2.1 It is the intention that t	he dummy	3.3.5.2.1 試驗前,人偶不應直	直接坐在	3.3.5.2.1 試驗前,人偶不應	直接坐在
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2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
should not be left to sit directly on the seat	should not be left to sit directly on the seat	座椅上超過2小時。若試驗前1小	座椅上超過 2 小時。可將人偶放置
for more than 2 hours prior to the test. It is	for more than 2 hours prior to the test. It is	時內檢查人偶定位,則允許人偶放	車內更久的時間, <u>惟不應放置整晚</u>
acceptable for the dummy to be left in the	acceptable for the dummy to be left in the	置車內較長時間。不應將試驗人偶	或類似長度的時間。
vehicle for a longer period, provided that	vehicle for a longer period, provided that	整晚留置車內或類似長度的時間。	
the dummy is checked no more then one	the dummy is not left in overnight or for a		
hour prior to test. It is not acceptable for the	similarly lengthy period.		
dummy to be left in the vehicle overnight or			
for a similarly lengthy period.			
	5.2.2 If it is known that the dummy will be in		3.3.5.2.2 若已知人偶將放置車內超過
	the vehicle for a time longer than 2 hours,		2 小時,則應於座椅上放置膠合板
	then the dummy should be sat on plywood		(Plywood board),讓人偶坐在上面。
	boards placed over the seat. This should		如此應能避免座椅不符實際狀況地
	eliminate unrealistic compression of the		<u>壓縮(Compression)。</u>
	seat.		
5.2.2 If the vehicle has only two side doors, it	5.2.3 If the vehicle has only two side doors, it	3.3.5.2.2 若車輛僅有兩扇側門,可能	3.3.5.2.3 若車輛僅有兩扇側門,可能
may be necessary to fit the child restraint	may be necessary to fit the child restraint	需先裝兒童保護裝置及兒童人偶	需先裝兒童保護裝置及兒童人偶
systems and child dummies (Section 5.3)	systems and child dummies (Section 5.3)	(3.3.5.3),再於第一排座椅設置駕	(3.3.5.3),再於第一排座椅設置駕
before setting up the driver dummy in the	before setting up the driver dummy in the	駛人偶。	駛人偶。
front seat	front seat.		
5.2.3 H-point	5.2.4 H-point	<u>3.3.5.2.3</u> H 點	<u>3.3.5.2.4</u> H 點
Note that the H-point of the WorldSID	Note that the H-point of the WorldSID	WorldSID 人偶的 H 點位於 H 點人體	WorldSID 人偶的 H 點位於 H 點人體
dummy is situated 20mm forward of that of	dummy is situated 20mm forward of that of	模型所決定之 H 點前方 20mm 處。	模型所決定之 H 點前方 20mm 處。
the H-point determined by the H-point	the H-point determined by the H-point		
manikin.	manikin.		
5.2.3.1 Using only the controls that move the	5.2.4.1 Using only the controls that move the	3.3.5.2.3.1 僅使用控制座椅前後移動	3.3.5.2.4.1 僅使用控制座椅前後移動

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2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
seat fore-aft, move the test seat to the	seat fore-aft, move the test seat to the	的控制器,將試驗座椅移至最後方	的控制器,將試驗座椅移至最後方
rearmost position to facilitate placement of	rearmost position to facilitate placement of	的位置,方便放置人偶。	的位置,方便放置人偶。
the dummy.	the dummy.		
5.2.3.2 Position the dummy in the seat such	5.2.4.2 Position the dummy in the seat such	3.3.5.2.3.2 將人偶置於座椅上,使其正	3.3.5.2.4.2 將人偶置於座椅上,使其正
that the mid-sagittal plane is coincident with	that the mid-sagittal plane is coincident with	中矢狀切面(Mid-sagittal plane)對齊	中矢狀切面(Mid-sagittal plane)對齊
the centreline markings and the upper torso	the centreline markings and the upper torso	中線標記,並將上部軀幹靠在椅背	中線標記,並將上部軀幹靠在椅背
resting against the seat back.	resting against the seat back.	上。	上。
5.2.3.3 Apply a fore-aft and lateral rocking	5.2.4.3 Apply a fore-aft and lateral rocking	3.3.5.2.3.3 以前後及橫向搖晃動作,使	3.3.5.2.4.3 以前後及橫向搖晃動作,使
motion to settle the pelvis rearward in the	motion to settle the pelvis rearward in the	骨盆向後貼合座椅。	骨盆向後貼合座椅。
seat.	seat.		
5.2.3.4 To ensure a repeatable and stable	5.2.4.4 To ensure a repeatable and stable	3.3.5.2.3.4 為確保可重複放置及固定	3.3.5.2.4.4 為確保可重複放置及固定
pelvis position, ensure that the pelvis is in	pelvis position, ensure that the pelvis is in	之骨盆位置,確認整個骨盆與座墊	之骨盆位置,確認整個骨盆與座墊
contact with the seat cushion over the whole	contact with the seat cushion over the whole	確實接觸。	確實接觸。
length.	length.		
5.2.3.5 To ensure a repeatable placement of	5.2.4.5 To ensure a repeatable placement of	3.3.5.2.3.5 為確保下腹部肋骨可重複	3.3.5.2.4.5 為確保下腹部肋骨可重複
the lower abdominal rib, make sure it is	the lower abdominal rib, make sure it is	放置,確認肋骨位於骨盆腔(Pelvis	放置,確認肋骨位於骨盆腔(Pelvis
inside the pelvis flesh and not on top of it.	inside the pelvis flesh and not on top of it.	flesh)內,而非骨盆腔上方。	flesh)內,而非骨盆腔上方。
5.2.3.6 Move the seat together with the	5.2.4.6 Move the seat together with the	3.3.5.2.3.6 將座椅連同人偶移至	<u>3.3.5.2.4.6</u> 將座椅連同人偶移至
dummy to the test seat position defined in	dummy to the test seat position defined in	3.3.4.4.10 定義之試驗座椅位置。若	3.3.4.4.10 定義之試驗座椅位置。若
4.4.9. If it is not possible to reach the seat	4.4.9. If it is not possible to reach the seat	因碰到膝部而無法移至該試驗座椅	因碰到膝部而無法移至該試驗座椅
test position due to knee contact, shift the	test position due to knee contact, shift the	位置,則將目標試驗座椅位置逐步	位置,則將目標試驗座椅位置逐步
targeted test seat position rearwards in the	targeted test seat position rearwards in the	向後修改,直到膝部至少有 5mm 間	向後修改,直到膝部至少有 5mm 間
stepwise increments to the closest position	stepwise increments to the closest position	隙為止,並依此修改目標 H 點。	隙為止,並依此修改目標 H 點。
where the knee clearance is at least 5mm.	where the knee clearance is at least 5mm.		
Modify the target H-point accordingly.	Modify the target H-point accordingly.		

2019 年版 Euro NCAP 規章
5.2.3.7 Verify that the H-point is reasonably
close (±10mm) to the target H-point 5.1.21
or as defined in 5.2.3.6 if the target H-poin
has been modified. If not, repeat step
5.2.3.3. If it is still not possible, record the
rearmost seat cushion reference point and
the dummy H-point and proceed to the nex
step.
5.2.3.8 Extend the right leg without
displacing the thigh from the seat cushion.
Allow the sole of the foot to settle on the
accelerator pedal; the heel of the shoe
should be in contact with the floor pan.
Where a lack of ankle articulation prevents
the foot from sitting flat on the accelerator
pedal, keep the foot at a 90 degree angle to

5.2.3.9 Extend the left leg without lifting the thigh from the seat cushion and allow the sole of the foot to settle on the footrest or floor if no footrest is present. The heel of the shoe should be in contact with the floor. In case of tibia contact, slide the foot rearward toward the seat until a 5mm

the tibia and ensure that the heel is in

contact with the floor.

2017 年版 Euro NCAP 規章

- 5.2.4.7 Verify that the H-point is reasonably close (±10mm) to the target H-point 5.1.21 or as defined in 5.2.4.6 if the target H-point has been modified. If not, repeat step 5.2.4.3. If it is still not possible, record the rearmost seat cushion reference point and the dummy H-point and proceed to the next step.
- 5.2.4.8 Extend the right leg without displacing the thigh from the seat cushion. Allow the sole of the foot to settle on the accelerator pedal; the heel of the shoe should be in contact with the floor pan. Where a lack of ankle articulation prevents the foot from sitting flat on the accelerator pedal, keep the foot at a 90 degree angle to the tibia and ensure that the heel is in contact with the floor.
- 5.2.4.9 Extend the left leg without lifting the thigh from the seat cushion and allow the sole of the foot to settle on the footrest or floor if no footrest is present. The heel of the shoe should be in contact with the floor. In case of tibia contact, slide the foot rearward toward the seat until a 5mm

修訂 TNCAP 條文草案

- 10mm) 3.3.5.1.21 之目標 H 點,若 目標 H 點已修改,則依 3.3.5.2.3.6 定義。否則,重複步驟 3.3.5.2.3.3。 若仍無法符合,則記錄最後方座墊 參考點及人偶 H 點,接著進行下個 步驟。
- |<u>3.3.5.2.3.8|</u> 在不移動座墊上大腿之情|<u>3.3.5.2.4.8</u>| 在不移動座墊上大腿之情 況下,伸展右腿並使鞋底平放於加 速踏板上,鞋跟應接觸地板平底處 (Floor pan)。若沒有踝關節,導致足 部無法平放於加速踏板上,則使足 部與脛骨呈90度,並確保鞋跟與地 板接觸。

3.3.5.2.3.9 在不移動座墊上大腿之情
3.3.5.2.4.9 在不移動座墊上大腿之情 況下,伸展左腿並使鞋底平放於置 腳板(Footrest)或地板(若未配備置 腳板)上,鞋跟應接觸地板。若碰 到脛骨,則將足部向後朝座椅移 動,直到有 5mm 的間隙。若沒有踝 關節,導致足部無法平放於地板

對應 TNCAP 條文

- 3.3.5.2.3.7 確認 H 點相當接近(±<mark>3.3.5.2.4.7 確認 H 點相當接近(±</mark> 10mm) 3.3.5.1.21 之目標 H 點,若 目標 H 點已修改,則依 3.3.5.2.4.6 定義。否則,重複步驟 3.3.5.2.4.3。 若仍無法符合,則記錄最後方座執 參考點及人偶 H 點,接著進行下個 步驟。
 - 況下,伸展右腿並使鞋底平放於加 速踏板上,鞋跟應接觸地板平底處 (Floor pan)。若沒有踝關節,導致足 部無法平放於加速踏板上,則使足 部與脛骨呈90度,並確保鞋跟與地 板接觸。

況下,伸展左腿並使鞋底平放於置 腳板(Footrest)或地板(若未配備置 腳板)上,鞋跟應接觸地板。若碰 到脛骨,則將足部向後朝座椅移 動,直到有 5mm 的間隙。若沒有踝 關節,導致足部無法平放於地板

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
clearance is obtained. Where a lack of ankle	clearance is obtained. Where a lack of ankle	上,則使足部與脛骨呈90度,並確	上,則使足部與脛骨呈90度,並確
articulation prevents the foot from sitting	articulation prevents the foot from sitting	保鞋跟與地板接觸。	保鞋跟與地板接觸。
flat on the floor, keep the foot at a 90 degree	flat on the floor, keep the foot at a 90 degree		
angle to the tibia and ensure that the heel is	angle to the tibia and ensure that the heel is		
in contact with the floor.	in contact with the floor.		
5.2.3.10 Position the H-point of the dummy	5.2.4.10 Position the H-point of the dummy	3.3.5.2.3.10 調整人偶 H 點,以符合依	3.3.5.2.4.10 調整人偶 H 點,以符合依
to match the WorldSID H-point coordinates	to match the WorldSID H-point coordinates	3.3.5.1 紀錄之 WorldSID H 點座標	3.3.5.1 紀錄之 WorldSID H 點座標
recorded following Section 5.1 to within	recorded following Section 5.1 to within	(容許誤差±10mm),以 X 座標為	(容許誤差±10mm),以 X 座標為
±10mm. Prioritise the X coordinate.	±10mm. Prioritise the X coordinate.	優先。	優先。
5.2.4 Head and torso	5.2.5 Head and torso	3.3.5.2.4 頭部及軀幹	<u>3.3.5.2.5</u> 頭部及軀幹
5.2.4.1 Adjust the dummy until the thorax tilt	5.2.5.1 Adjust the dummy until the thorax tilt	3.3.5.2.4.1 調整人偶,使胸部傾斜感測	3.3.5.2.5.1 調整人偶,使胸部傾斜感測
sensor coincides with the angle specified by	sensor coincides with the angle specified by	器符合車輛業者宣告之角度。	器符合車輛業者宣告之角度。
the manufacturer.	the manufacturer.		
5.2.4.2 If the rib angle is not specified by the	5.2.5.2 If the rib angle is not specified by the	3.3.5.2.4.2 若車輛業者未宣告肋骨角	3.3.5.2.5.2 若車輛業者未宣告肋骨角
manufacturer and the seat back is $23^{\circ} \pm 1^{\circ}$,	manufacturer and the seat back is $23^{\circ} \pm 1^{\circ}$,	度且椅背角度為23±1度,則調整	度且椅背角度為23±1度,則調整
adjust the dummy until the thorax tilt sensor	adjust the dummy until the thorax tilt sensor	人偶,使其胸部感測器讀數為-2度	人偶,使其胸部感測器讀數為-2度
reads -2° (2° downwards) $\pm 1^{\circ}$.	reads -2° (2° downwards) $\pm 1^{\circ}$.	(朝下 2 度) ± 1 度。	(朝下 2 度) ± 1 度。
5.2.4.3 If no rib angle is specified and the seat	5.2.5.3 If no rib angle is specified and the seat	3.3.5.2.4.3 若未宣告肋骨角度且椅背	3.3.5.2.5.3 若未宣告肋骨角度且椅背
back angle is not $23^{\circ} \pm 1^{\circ}$, no further	back angle is not 23° ± 1°, no further	角度非為 23 度±1 度,則無須再調整	角度非為 23 度±1 度,則無須再調整
adjustment of rib angle is required.	adjustment of rib angle is required.	肋骨角度。	肋骨角度。
5.2.4.4 Adjust the dummy neck bracket to	5.2.5.4 Adjust the dummy neck bracket to	3.3.5.2.4.4 調整人偶頸套(Neck	3.3.5.2.5.4 調整人偶頸套(Neck
level the head at the closest position to 0° ±	level the head at the closest position to $0^{\circ} \pm$	bracket),使頭部水平盡可能接近 0±	bracket),使頭部水平盡可能接近 0±
1°.	1°.	1度。	1度。
5.2.5 Legs and feet	5.2.6 Legs and feet	3.3.5.2.5 腿部及足部	3.3.5.2.6 腿部及足部
5.2.5.1 Proceed to the final foot and leg	5.2.6.1 Proceed to the final foot and leg	<u>3.3.5.2.5.1</u> 重複 3.3.5.1.7 及 3.3.5.1.8,	<u>3.3.5.2.6.1</u> 重複 3.3.5.1.7 及 3.3.5.1.8,

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
positioning by repeating Section 5.1.7 and	positioning by repeating Section 5.1.7 and	進行最後的足部及腿部位置調整。	進行最後的足部及腿部位置調整。
5.1.8. Where a lack of ankle articulation	5.1.8. Where a lack of ankle articulation	若沒有踝關節,導致足部無法平放	若沒有踝關節,導致足部無法平放
prevents the foot from sitting flat on the	prevents the foot from sitting flat on the	於加速踏板/地板上,則使足部與脛	於加速踏板/地板上,則使足部與脛
accelerator pedal/floor, keep the foot at a 90	accelerator pedal/floor, keep the foot at a 90	骨呈90度,並確保鞋跟盡可能向前	骨呈90度,並確保鞋跟盡可能向前
degree angle to the tibia and ensure that the	degree angle to the tibia and ensure that the	移且與地板接觸。	移且與地板接觸。
heel is as far forward as possible and in	heel is as far forward as possible and in		
contact with the floor.	contact with the floor.		
5.2.5.2 No distance is specified for the knee	5.2.6.2 No distance is specified for the knee	3.3.5.2.5.2 膝部間隔距離並未規定,惟	3.3.5.2.6.2 膝部間隔距離並未規定,惟
spacing. However, priority should be given	spacing. However, priority should be given	應優先考量下列條件:	應優先考量下列條件:
to ensure the following:	to ensure the following:		
5.2.5.3 There is 5 mm clearance between the	5.2.6.3 There is 5 mm clearance between the	3.3.5.2.5.3 膝部/腿部距轉向機柱護蓋	3.3.5.2.6.3 膝部/腿部距轉向機柱護蓋
knees/legs and the steering shroud and	knees/legs and the steering shroud and	(Steering shroud)與中控台(Centre	(Steering shroud)與中控台(Centre
centre console.	centre console.	console)有 5mm 的間隙。	console)有 5mm 的間隙。
5.2.5.4 There is a stable foot and ankle	5.2.6.4 There is a stable foot and ankle	<u>3.3.5.2.5.4</u> 足部及腳踝位置穩定。	<u>3.3.5.2.6.4</u> 足部及腳踝位置穩定。
position.	position.		
5.2.5.5 The legs are as parallel as possible to	5.2.6.5 The legs are as parallel as possible to	3.3.5.2.5.5 雙腿盡可能與矢狀切面平	3.3.5.2.6.5 雙腿盡可能與矢狀切面平
the sagittal plane.	the sagittal plane.	行。	行。
5.2.6 Arms	5.2.7 Arms	3.3.5.2.6 手臂	<u>3.3.5.2.7</u> 手臂
5.2.6.1 Place both arms at the first detent	5.2.7.1 Place both arms at the first detent	3.3.5.2.6.1 肋骨角度感測器與手臂角	3.3.5.2.7.1 肋骨角度感測器與手臂角
downward of the most upward detent that	downward of the most upward detent that	度之水平夾角(Differential angle)須	度之水平夾角(Differential angle)須
corresponds to a differential angle of 32°	corresponds to a differential angle of 32°	達 32 度,將雙臂置於由上往下第一	達 32 度,將雙臂置於由上往下第一
between rib angle sensor and the arm angle.	between rib angle sensor and the arm angle.	個符合此要求之鎖定位置(Detent)。	個符合此要求之鎖定位置(Detent)。
5.2.7 Seat belt	5.2.8 Seat belt	3.3.5.2.7 安全帶	3.3.5.2.8 安全帶
5.2.7.1 Where possible, initially position the	5.2.8.1 Where possible, initially position the	3.3.5.2.7.1 依實際狀況,先將安全帶上	3.3.5.2.8.1 依實際狀況,先將安全帶上
upper seat belt anchorage in the	upper seat belt anchorage in the	部固定器調整至車輛業者第50百分	部固定器調整至車輛業者第50百分

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
manufacturers 50th percentile design	manufacturers 50th percentile design	位設計位置。若未提供設計位置,	位設計位置。若未提供設計位置,
position. If no design position is provided,	position. If no design position is provided,	則將可調整的安全帶上部固定器設	則將可調整的安全帶上部固定器設
set the adjustable upper seat belt anchorage	set the adjustable upper seat belt anchorage	於中間位置或向上最接近的段位。	於中間位置或向上最接近的段位。
to the mid-position or nearest notch upward.	to the mid-position or nearest notch upward.		
5.2.7.2 Carefully place the seat belt across the	5.2.8.2 Carefully place the seat belt across the	3.3.5.2.7.2 將安全帶小心圍繞試驗人	3.3.5.2.8.2
dummy and lock as normal.	dummy and lock as normal.	偶,並正常扣上。	偶,並正常扣上。
5.2.7.3 Remove the slack from the lap section	5.2.8.3 Remove the slack from the lap section	3.3.5.2.7.3 消除腰部織帶鬆弛,直到織	3.3.5.2.8.3 消除腰部織帶鬆弛,直到纖
of the webbing until it is resting gently	of the webbing until it is resting gently	帶輕輕繞過貼合人偶骨盆周圍。消	帶輕輕繞過貼合人偶骨盆周圍。消
around the pelvis of the dummy. Only	around the pelvis of the dummy. Only	除織帶鬆弛部分時,應盡可能使用	除織帶鬆弛部分時,應盡可能使用
minimal force should be applied to the	minimal force should be applied to the	最小的力道。腰部安全帶(Lap belt)	最小的力道。腰部安全帶(Lap belt)
webbing when removing the slack. The	webbing when removing the slack. The	路徑應盡可能平順自然。	路徑應盡可能平順自然。
route of the lap belt should be as natural as	route of the lap belt should be as natural as		
possible.	possible.		
5.2.7.4 Place one finger behind the diagonal	5.2.8.4 Place one finger behind the diagonal	3.3.5.2.7.4 將一隻手指置於織帶對角	3.3.5.2.8.4 將一隻手指置於織帶對角
section of the webbing at the height of the	section of the webbing at the height of the	線部位後方且人偶胸骨高度處。將	線部位後方且人偶胸骨高度處。將
dummy sternum. Pull the webbing away	dummy sternum. Pull the webbing away	織帶水平往前拉,遠離胸部,並讓	織帶水平往前拉,遠離胸部,並讓
from the chest horizontally forward and	from the chest horizontally forward and	織帶僅依捲收器機構的力道向導帶	織帶僅依捲收器機構的力道向導帶
allow it to retract in the direction of the	allow it to retract in the direction of the	環(D-loop)方向捲收。重複此步驟三	環(D-loop)方向捲收。重複此步驟三
D-loop using only the force provided by the	D-loop using only the force provided by the	次。	次。
retractor mechanism. Repeat this step three	retractor mechanism. Repeat this step three		
times, only.	times, only.		
5.2.7.5 After following the above steps, the	5.2.8.5 After following the above steps, the	<u>3.3.5.2.7.5</u> 依上述步驟執行後,安全	<u>3.3.5.2.8.5</u> 依上述步驟執行後,安全
seatbelt should lie in a natural position	seatbelt should lie in a natural position	带應圍繞人偶胸骨及肩部鎖骨,處	帶應圍繞人偶胸骨及肩部鎖骨,處
across the dummy sternum and shoulder	across the dummy sternum and shoulder	於自然位置。若情況並非如此,例	於自然位置。若情況並非如此,例
clavicle. Where this is not the case, for	clavicle. Where this is not the case, for	如安全带接近或接觸頸部,或位於	如安全带接近或接觸頸部,或位於

example the belt is close to or in contact with the neck or the belt is above the shoulder rotation adjustment screw, and the upper belt anchorage is adjustable the anchorage should be lowered and steps 5.2.7.3 and 5.2.7.4 repeated. 5.2.7.6 The upper anchorage should be lowered and steps 5.2.7.3 and 5.2.7.4 repeated. 5.2.7.6 The upper anchorage should be lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.7.3 and 5.2.7.4. This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the dummy nose and the diagonal webbing. 5.2.7.9 Measure the horizontal distance between the dummy nessure 5.2.8 After positioning the dummy measure example the belt is close to or in contact with the neck or the belt is above the should be marked significant and the with the neck or the belt is above the should be marked across the dumpt of \$2.8.8 or \$2.8.3 and \$2.8.4 repeated. 5.2.7.6 The upper anchorage should be lowered and steps 5.2.8.3 and 5.2.8.4 This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing. 5.2.7.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure 5.2.8 After positioning the dummy measure 5.2.8 After positioning the dummy measure	ı				
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anchorage should be lowered and steps 5.2.7.3 and 5.2.7.4 repeated. 5.2.7.6 The upper anchorage should be lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.7.3 and 5.2.7.4. This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure anchorage should be lowered and steps 5.2.8.3 and 5.2.8.4 repeated. 5.2.8.6 The upper anchorage should be lowered and steps 5.2.8.3 and 5.2.8.4 repeated. 5.2.8.6 The upper anchorage should be lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.8.3 and 5.2.8.4 This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure 5.2.8 Mears the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure		shoulder rotation adjustment screw, and the	shoulder rotation adjustment screw, and the	定器,並重複步驟 <u>3.3.5.2.7.3</u> 及	定器,並重複步驟 <u>3.3.5.2.8.3</u> 及
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5.2.7.6 The upper anchorage should be lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.7.3 and 5.2.7.4. This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the dummy nose and the diagonal webbing. 5.2.8 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure 5.2.8 The upper anchorage should be lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.7.3 M (3.3.5.2.7.3 M (3.3.5.2.7.3 M (3.3.5.2.8.6 重 複 步 縣 3.3.5.2.8.3 M (4) 上部 国定器應降至合 適高度,足以確保安全帶處於自然 位置。這可能須要多次嘗試。 6.2.8.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure 5.2.8 After positioning the dummy measure		anchorage should be lowered and steps	anchorage should be lowered and steps		
lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.7.3 and 5.2.7.4. This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the dummy nose and the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure lowered by a sufficient amount to ensure a natural belt position following the repetition of steps 5.2.8.3 and 5.2.7.4 後,上部固定器應降至合 適高度,足以確保安全帶處於自然 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 位置。這可能須要多次嘗試。 於試驗人偶胸部標記安全帶位置, 以確保不再有調整。同時,在安全 带上於導帶環高度處標記,以利於 試驗準備期間維持初始張力。 試驗準備期間維持初始張力。 試驗準備期間維持初始張力。 常的重直距離。 3.3.5.2.7.8 测量人偶鼻子與對角式纖帶與車門/車 窗的水平距離。 窗的水平距離。 窗的水平距離。 3.3.5.2.8.9 Measure the dummy nose and the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure		5.2.7.3 and 5.2.7.4 repeated.	5.2.8.3 and 5.2.8.4 repeated.		
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of steps 5.2.7.3 and 5.2.7.4. This may require multiple attempts. 5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the dummy nose and the diagonal webbing. 5.2.8 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure of steps 5.2.8.3 and 5.2.8.4. This may require multiple attempts. 5.2.8.3 and 5.2.8.4 Inis may require multiple attempts. 5.2.8.3 and 5.2.8.4. This may require multiple attempts. 5.2.8.3 and 5.2.8.4 Inis may require multiple attempts. 5.2.8.3 and 5.2.8.4 Inis may require multiple attempts. 5.2.8.3 and 5.2.8.4 This may require multiple attempts. 5.2.8.3 and 5.2.8.4 This may require multiple attempts. 5.2.8.3 and 5.2.8.4 This may require multiple attempts. 5.2.8.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing. 5.2.8.9 Measure the vertical distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure of steps 5.2.8.3 and 5.2.8.4. This may require multiple attempts. 5.2.8.7 Once the belt is positioned the location of the belt is positioned the location of the belt is positioned the location of the belt should be marked across the dummy reasure sate made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the diagonal webbing and the door/window. 5.2.8 Measure the vertical distance between the diagonal webbing and the door/		lowered by a sufficient amount to ensure a	lowered by a sufficient amount to ensure a	3.3.5.2.7.4後,上部固定器應降至合	3.3.5.2.8.4後,上部固定器應降至合
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5.2.7.7 Once the belt is positioned the location of the belt should be marked across the dummy chest to ensure that no further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the dummy nose and the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the door/window. 5.2.8 After positioning the dummy measure 5.2.8 After positioning the dummy measure 5.2.8.7 Once the belt is positioned the location of the belt at the location of the belt at the location further adjustments are made. Mark also the belt at the level of the D-loop to be sure that the initial tension is maintained during test preparation. 5.2.8.8 Measure the vertical distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the		of steps 5.2.7.3 and 5.2.7.4. This may	of steps 5.2.8.3 and 5.2.8.4. This may	位置。這可能須要多次嘗試。	位置。這可能須要多次嘗試。
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initial tension is maintained during test preparation. 5.2.7.8 Measure the vertical distance between the duagonal webbing. 5.2.7.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure initial tension is maintained during test preparation. 5.2.8.8 Measure the vertical distance between the vertical distance between the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure initial tension is maintained during test preparation. 5.2.8.8 Measure the vertical distance between the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure initial tension is maintained during test preparation. 5.2.8.8 Measure the vertical distance between the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8 After positioning the dummy measure initial tension is maintained during test preparation. 5.2.8.8 Measure the vertical distance between the diagonal webbing. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window. 5.2.9 After positioning the dummy measure		adjustments are made. Mark also the belt at	adjustments are made. Mark also the belt at	带上於導帶環高度處標記,以利於	帶上於導帶環高度處標記,以利於
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5.2.7.9 Measure the horizontal distance between the diagonal webbing and the door/window.5.2.8.9 Measure the horizontal distance between the diagonal webbing and the door/window.3.3.5.2.7.9 測量對角式織帶與車門/車 窗的水平距離。3.3.5.2.8.9 测量對角式織帶與車門/車 窗的水平距離。5.2.8 After positioning the dummy measure5.2.9 After positioning the dummy measure3.3.5.2.8 人偶位置調整好後,依照		5.2.7.8 Measure the vertical distance between	5.2.8.8 Measure the vertical distance between	3.3.5.2.7.8 測量人偶鼻子與對角式織	3.3.5.2.8.8 測量人偶鼻子與對角式織
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door/window. door/window. 5.2.8 After positioning the dummy measure 5.2.9 After positioning the dummy measure 3.3.5.2.8 人偶位置調整好後,依照 3.3.5.2.9 人偶位置調整好後,依照		5.2.7.9 Measure the horizontal distance	5.2.8.9 Measure the horizontal distance	3.3.5.2.7.9 測量對角式織帶與車門/車	3.3.5.2.8.9 測量對角式織帶與車門/車
5.2.8 After positioning the dummy measure 5.2.9 After positioning the dummy measure 3.3.5.2.8 人偶位置調整好後,依照 3.3.5.2.9 人偶位置調整好後,依照		between the diagonal webbing and the	between the diagonal webbing and the	窗的水平距離。	窗的水平距離。
		door/window.	door/window.		
and record the dummy position according to and record the dummy position according to 3.3.5.4 進行量測並記錄人偶位置, 3.3.5.4 進行量測並記錄人偶位置,		5.2.8 After positioning the dummy measure	5.2.9 After positioning the dummy measure	3.3.5.2.8 人偶位置調整好後,依照	3.3.5.2.9 人偶位置調整好後,依照
		and record the dummy position according to	and record the dummy position according to	3.3.5.4 進行量測並記錄人偶位置,	3.3.5.4 進行量測並記錄人偶位置,

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
Section 6.4 and determine the impact	Section 6.4 and determine the impact	再依 3.3.1.3 所述決定撞擊位置。	再依 3.3.1.3 所述決定撞擊位置。
location as described in Section 1.4.	location as described in Section 1.4.		

2019年Euro NCAP規章

3.1.2

Location	Parameter	Minimum amplitude	Channel count
Head	Linear acceleration, Ax, Ay, Az	250g	3
Upper neck	Forces and moments Fx, Fy, Fz, Mx, My, Mz	5kN, 300Nm	6
Shoulder - Joint	Forces, Fx, Fy, Fz	8kN	3
Shoulder – Rib	Displacement & rotation	100mm	2
Thorax - Upper rib	Displacement & rotation	100mm	2
Thorax - Mid rib	Displacement & rotation	100mm	2
Thorax - Lower rib	Displacement & rotation	100mm	2
Thoracic temperature*	Temperature, see 2.5.1.3	30°C	1
Abdomen - Upper rib	Displacement & rotation	100mm	2
Abdomen - Lower rib	Displacement & rotation	100mm	2
Spine - T12	Acceleration, Ax, Ay, Az	200g	3
Pelvis	Acceleration, Ax, Ay, Az	200g	3
Pelvis – Pubic	Force	5kN	1
Femoral neck – struck side only	Force, Fx, Fy, Fz	5kN	3
	Total Channels		35

2017年Euro NCAP規章

3.1.2

Location	Parameter	Minimum amplitude	Channel count
Head	Linear acceleration, Ax, Ay, Az	250g	3
Upper neck	Forces and moments Fx, Fy, Fz, Mx, My, Mz	5kN, 300Nm	6
Shoulder – Joint	Forces, Fx, Fy, Fz	8kN	3
Shoulder – Rib 2d IR Tracc	Displacement & rotation	100mm	2
Thorax - Upper rib 2d IR Tracc	Displacement & rotation	100mm	2
Thorax - Mid rib 2d IR Tracc	Displacement & rotation	100mm	2
Thorax - Lower rib 2d IR Tracc	Displacement & rotation	100mm	2
Thoracic temperature*	Temperature, see 2.5.1.3	30°C	1
Abdomen - Upper rib 2d IR Tracc	Displacement & rotation	100mm	2
Abdomen - Lower rib 2d IR Tracc	Displacement & rotation	100mm	2
Spine - T12	Acceleration, Ax, Ay, Az	200g	3
Pelvis	Acceleration, Ax, Ay, Az	200g	3
Pelvis – Pubic	Force	5kN	1
Femoral neck - struck side only	Force, Fx, Fy, Fz	5kN	3
	Total Channels		35

修訂 TNCAP 條文草案

3.3.3.1.2

位置	参 數	最低振幅	頻道數量
頭部	線性加速度(Linear acceleration), A _x 、A _y 、A _z	250g	3
上頸部	カ與力矩 Fx、Fy、Fz,Mx、My、Mz	5kN, 300Nm	6
肩部-關節	$ holdsymbol{\mathcal{D}} , F_x \cdot F_y \cdot F_z $	8kN	3
肩部-肋骨	位移及旋轉	100mm	2
胸部一上肋骨	位移及旋轉	100mm	2
胸部-中肋骨	位移及旋轉	100mm	2
胸部一下肋骨	位移及旋轉	100mm	2
胸部溫度*	温度,如 3.3.2.5.1.3	30°C	1
腹部一上肋骨	位移及旋轉	100mm	2
腹部一下肋骨	位移及旋轉	100mm	2
脊椎- T12	加速度, A_x 、 A_y 、 A_z	200g	3
骨盆	加速度,Ax、Ay、Az	200g	3
骨盆- 恥骨	カ	5kN	1
股骨頸-僅撞 擊側	カ, F_x 、 F_y 、 F_z	5kN	3
	頻道總數		35

對應 TNCAP 條文

3.3.3.1.2

位置	參數	最低振幅	頻道數量
頭部	線性加速度(Linear acceleration), A _x 、A _y 、A _z	250g	3
上頸部	力與力矩 F _x 、F _y 、F _z ,M _x 、M _y 、M _z	5kN, 300Nm	6
肩部-關節	カ・ F_x 、 F_y 、 F_z	8kN	3
肩部—肋骨	位移及旋轉	100mm	2
2d IR Tracc	12 40 17 24 44		
胸部一上肋骨 2d IR Tracc	位移及旋轉	100mm	2
 胸部—中肋骨	位移及旋轉	100mm	2
2d IR Trace		10011111	
胸部一下肋骨	位移及旋轉	100mm	2
2d IR Trace			
胸部温度*	溫度,如 3.3.2.5.1.3	30°C	1
腹部一上肋骨 2d IR Tracc	位移及旋轉	100mm	2
腹部一下肋骨	位移及旋轉	100mm	2
<mark>2d IR Tracc</mark> 脊椎- T12	加速度,Ax、Av、Az	200g	3
骨盆	加速度,Ax、Ay、Az	200g	3
骨盆- 恥骨	カ	5kN	1
股骨頸-僅撞擊側	カ, F_x 、 F_y 、 F_z	5kN	3
	頻道總數		35

2019年Euro NCAP規章

2017年Euro NCAP規章

4.1 Overview of Settings

Adjustment	Required Setting	Notes	Methods	
Seat fore/aft	As defined in 4.4			
Seat base tilt	As defined in 4.4			
Seat height	As defined in 4.4		7	
Torso angle	Manufacturer's design position	Otherwise 23° to Vertical	See Section 5.1	
Seat lumbar support	Fully retracted		See Section 4.2	
Front head restraint height & tilt	Mid locking position	As whiplash test position. If there is any interference with the rear of the dummy head, move the HR to the most rearward position.	See Section 6.3 Whiplash testing protocol.	
Front seat belt anchorage (where adjustable)	Initially, manufacturer's 50th percentile design position	If no design position then set to mid position, or nearest notch upwards	See Section 5.2.7	
Steering wheel	Highest position and most outward		See Section 0	
Rear seat fore/aft (where adjustable)	Manufacturer's design position	Where no details are provided in the handbook, set to mid	See Section 4.6	
Rear seat back angle (where adjustable)	Manufacturer's design position	Otherwise 25° to Vertical	See Section 4.6	
Rear seat facing	Forwards			
Rear head restraint beight & tilt	As recommended in vehicle handbook	Where no details are provided in the handbook, set to mid or next lowest position for height and mid locking position for talt. Must not interfere with child/CRS installation	t Whiplash testing protocol.	
Rear seat belt anchorage (where adjustable)	As recommended in vehicle handbook for CRS installation.	If no recommendation then set to mid- position, or nearest notch upwards. MUST be same as ODB		
Arm-rests (Front seats)	Lowered position	May be left up if dammy positioning does not allow lowering. Where adjustable place in horizontal position		
Arm-rests (Rear seats)	Stowed position	•		
Side window glazing	All raised			
Gear change lever	In the neutral position			
Parking brake	Engaged			
Pedals	Normal position of rest	Adjustable pedals fully forward	See Section 4.2	
Doors	Closed, not locked			
Roof / sugroof	Raised / fully closed	Where applicable		
Sun visors	Stowed position			
Rear view mirror	Normal position of use			

(查項次異動並不影響方向盤設定對應章節(4.5節),故研判此處Section 0 為誤植)

4.1 Overview of Settings

Adjustment	Required Setting	Notes	Methods
Seat fore/aft	As defined in 4.4		
Seat base tilt	As defined in 4.4		
Seat height	As defined in 4.4		
Torso angle	Manufacturer's design position	Otherwise 23° to Vertical	See Section 5.1
Seat lumbar support	Fully retracted		See Section 4.2
Front head restraint height & tilt	Mid locking position	As whiplash test position. If there is any interference with the rear of the dummy head, move the HR to the most rearward position.	See Section 6.2 Whiplash testing protocol.
Front seat belt anchorage (where adjustable)	Initially, manufacturer's 50th percentile design position	If no design position then set to mid position, or nearest notch upwards	See Section 5.2.8
Steering wheel	Highest position and most outward		See Section 4.5
Rear seat fore/aft (where adjustable)	Manufacturer's design position	Where no details are provided in the handbook, set to mid	See Section 4.6
Rear seat back angle (where adjustable)	Manufacturer's design position	Otherwise 25° to Vertical	See Section 4.6
Rear seat facing	Forwards		
Rear head restraint height & tilt	As recommended in vehicle handbook.	Where no details are provided in the handbook, set to mid or next lowest position for height and mid locking position for tilt. Must not interfere with child/CRS installation	See Section 6.2 Whiplash testing protocol.
Rear seat belt anchorage (where adjustable)	As recommended in vehicle handbook for CRS installation.	If no recommendation then set to mid- position, or nearest notch upwards. MUST be same as ODB	
Arm-rests (Front seats)	Lowered position	May be left up if dummy positioning does not allow lowering. Where adjustable place in horizontal position	
Arm-rests (Rear seats)	Stowed position		
Side window glazing	All raised		
Gear change lever	In the neutral position		
Parking brake	Engaged		
Pedals	Normal position of rest	Adjustable pedals fully forward	See Section 4.2
Doors	Closed, not locked		
Roof/sumroof	Raised / fully closed	Where applicable	
Sun visors	Stowed position		

修訂 TNCAP 條文草案			對應 TNCAP 條文				
3.3.4.1設定	[綜覽			3.3.4.1設定	[綜覽		
調整	設定要求	附註	做法	調整	設定要求	附註	做法
座椅前後	如 3.3.4.4 定義			座椅前後	如 3.3.4.4 定義		
位置				位置			
座椅底座	如 3.3.4.4 定義			座椅底座	如 3.3.4.4 定義		
傾斜度				傾斜度			
座椅高度	如 3.3.4.4 定義			座椅高度	如 3.3.4.4 定義		
軀幹角度	車輛業者之設計	否則為垂直向後傾斜 23 度	如 3.3.5.1	軀幹角度	車輛業者之設計	否則為垂直向後傾斜 23 度	如 3.3.5.1
	位置				位置		
座椅腰部	完全縮回		如 3.3.4.2	座椅腰部	完全縮回		如 3.3.4.2
支撐				支撐			
第一排座	中間鎖定位置	同鞭甩試驗位置。頭枕若會影響	如「前座鞭甩	第一排座	中間鎖定位置	同鞭甩試驗位置。頭枕若會影響	如「前座鞭甩
椅頭枕		人偶頭部後方,則將頭枕移至最	試驗規章」	椅頭枕		人偶頭部後方,則將頭枕移至最	試驗規章」
高度及傾		後方的位置。	3.5.5.2	高度及傾		後方的位置。	3.5.5.2
斜度				斜度			
前座安全	初始為車輛業者	若無設計位置,則調整至中間位	如 <u>3.3.5.2.7</u>	前座安全	初始為車輛業者	若無設計位置,則調整至中間位	如 <u>3.3.5.2.8</u>
带固定裝	之第50百分位	置或至向上最接近的段位		带固定裝	之第50百分位設	置或至向上最接近的段位	
置	設計位置			置	計位置		
(若可調				(若可調			
整)				整)			
方向盤	最高且最向後		如 3.3.4.5	方向盤	最高且最向後		如 3.3.4.5
	(靠人偶)的位				(靠人偶)的位		
	置				置		

後座前後	車輛業者之設計	手冊若未提供相關資訊,則調至	如 3.3.4.6	後座前後	車輛業者之設計	手冊若未提供相關資訊,則調至	如 3.3.4.6
位置	位置	中間位置		位置	位置	中間位置	
(若可調				(若可調			
整)				整)			
後座椅背	車輛業者之設計	否則為垂直向後傾斜 25 度	如 3.3.4.6	後座椅背	車輛業者之設計	否則為垂直向後傾斜 25 度	如 3.3.4.6
角度(若	位置			角度(若	位置		
可調整)				可調整)			
後座方向	朝前			後座方向	朝前		
後座頭枕	如車主手冊建議	手冊若未提供相關資訊,則將高	如「前座鞭甩	後座頭枕	如車主手冊建議	手冊若未提供相關資訊,則將高	如「前座鞭馬
高度及傾		度調整至中間或向下最接近的	試驗規章」	高度及傾		度調整至中間或向下最接近的位	試驗規章」
斜度		位置,將傾斜度調整至中間鎖定	3.5.5.2	斜度		置,將傾斜度調整至中間鎖定位	3.5.5.2
		位置。不可影響兒童/兒童保護裝				置。不可影響兒童/兒童保護裝置	
		置安裝。				安裝。	
後座安全	如車主手册對於	若無建議,則調整至中間位置或		後座安全	如車主手册對於	若無建議,則調整至中間位置或	
带固定裝	兒童保護裝置安	至向上最接近的段位,須與偏置		带固定裝	兒童保護裝置安	至向上最接近的段位,須與偏置	
置	裝之建議。	撞擊之位置相同		置	裝之建議。	撞擊之位置相同	
(若可調				(若可調			
整)				整)			
扶手(第	使用位置	若人偶放置後扶手無法位於使		扶手(第	使用位置	若人偶放置後扶手無法位於使用	
一排座		用位置,則可保持於非使用位		一排座		位置,則可保持於非使用位置。	
椅)		置。於水平位置可調整處。		椅)		於水平位置可調整處。	
扶手(後	收納位置			扶手(後	收納位置		
座)				座)			
車窗	全部升起			車窗	全部升起		
變速箱	空檔			變速箱	空檔		
駐煞車	致動(Engaged)			駐煞車	致動(Engaged)		

踏板	未踩踏之正常位	可調整式踏板設於完全向前的位	如 3.3.4.2	踏板	未踩踏之正常位	可調整式踏板設於完全向前的位	如 3.3.4.2
	置(Position of	置			置(Position of	置	
	rest)				rest)		
車門	關閉但不上鎖			車門	關閉但不上鎖		
車頂/天	升起/完全關閉	依實際狀況		車頂/天	升起/完全關閉	依實際狀況	
窗				窗			
遮陽板	收合位置			遮陽板	收合位置		
照後鏡	正常使用位置			照後鏡	正常使用位置		

OBLIQUE POLE SIDE IMPACT TESTING PROTOCOL 3.4側方立柱撞擊試驗規章

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
1.5 Vehicle Preparation	1.5 Vehicle Preparation	3.4.1.5 車輛整備	3.4.1.5 車輛整備
1.5.9 For fully electric vehicles, if a total	1.5.9 For fully electric vehicles, if a total	3.4.1.5.9 對於純電動車輛,若車輛總	3.4.1.5.9 對於純電動車輛,若車輛總
vehicle mass within 25kg of the reference	vehicle mass within 25kg of the reference	重量與參考車重之差異無法小於	重量與參考車重之差異無法小於
mass cannot be achieved, it is acceptable for	mass cannot be achieved, it is acceptable for	25kg,則總重量與參考車重之差異	25kg,則總重量與參考車重之差異
the total mass to be within 2% of the	the total mass to be within 2% of the	應在2%以內。經車輛業者同意,可	應在2%以內。
reference mass. A heavier test mass may be	reference mass.	使用較重之重量進行試驗,惟試驗	
used with the agreement of the OEM, the		重量不得低於宣告容許誤差之最小	
test mass must not be below the minimum		<u>值。</u>	
value of the specified tolerances.			
2 DUMMY PREPARATION AND	2 DUMMY PREPARATION AND	3.4.2 人偶整備及查驗(Certification)	3.4.2 人偶整備及查驗(Certification)
CERTIFICATION	CERTIFICATION		
2.1 General	2.1 General	3.4.2.1 通則	3.4.2.1 通則
2.1.1 A WorldSID 50th percentile male test	2.1.1 A WorldSID 50th percentile male test	3.4.2.1.1WorldSID 百分之五 () 成年男	3.4.2.1.1WorldSID 百分之五 () 成年男
dummy shall be used in the front driver's	dummy shall be used in the front driver's	性試驗人偶應安裝於駕駛座,該人	性試驗人偶應安裝於駕駛座,該人
position. It shall conform to the	position. It shall conform to the	偶應符合 2013 年 5 月 ISO 15830 <u>第</u>	偶應符合 2013 年 5 月 ISO 15830 <u>第</u>
specification detailed in ISO 15830, parts	specficiation detailed in ISO 15830, parts	<u>1至5部</u> 詳列之規格。	<u>1至4部分</u> 詳列之規格 <u>,並符合2014</u>
1-5.	1-4, May 2013 and the revisions		年2月11日 WG5 N1041 第三次修
	documented in WG5 N1041, revision 3,		<u>訂之修訂條文</u> 。
	dated 11th February 2014.		
2.4 Dummy Clothing and Footwear	2.4 Dummy Clothing and Footwear	3.4.2.4 人偶衣著及鞋履	3.4.2.4 人偶衣著及鞋履
2.4.1 The dummy shall be clothed in a	2.4.1 The clothing shall conform to clothing	3.4.2.4.1 人偶應穿著無袖上衣或改良	3.4.2.4.1 衣著應符合衣著裝配圖
sleeveless suit or a modified version of the	assembly drawing W50-80100.pdf (see	版可移除衣袖式上衣。	<u>W50-80100.pdf(参見 ISO 15830 附</u>
sleeved suit with sleeves removed.	Annex C of ISO 15830) and the		件 C),及其內附之次裝配與組件圖

2019 年版 Euro NCAP 規章		2017 年版 Euro NCAP 規	章	修訂 TNCAP 條文草質	条	對應 TNCAP 條う	ζ
		subassemblies and component drawings				<u> 示。</u>	
		listed therein.					
2.6 Dummy painting		2.6 Dummy painting		3.4.2.6 人偶塗色		3.4.2.6 人偶塗色	
2.6.1 The dummy shall have mas	king tape	2.6.1 The dummy shall have masking	ng tape	3.4.2.6.1 應於人偶預定塗色=	之區域,	3.4.2.6.1 應於人偶預定塗色	色之區域,
placed on the areas to be painte	d using the	placed on the areas to be painted u	sing the	以下方詳列之範圍黏貼紙原	膠帶。膠	以下方詳列之範圍黏貼約	氏膠帶。膠
sizes detailed below. The tape s	hould be	sizes detailed below. The tape show	uld be	带應徹底塗滿下列指定顏	色,唯駕	带應徹底塗滿下列指定	顏色,唯駕
completely covered with the following	llowing	completely covered with the follow	wing	駛頭部僅於膠帶邊緣塗色	,顏料應	駛頭部僅於膠帶邊緣塗6	色,顏料應
coloured paints. The paint shou	ld be applied	coloured paints. The paint should l	be applied	於接近試驗時間時塗上,」	以確保撞	於接近試驗時間時塗上	,以確保撞
close to the time of the test to e	nsure that	close to the time of the test to ensu	re that	擊時顏料未乾。		擊時顏料未乾。	
the paint will still be wet on im	pact.	the paint will still be wet on impac	t.				
Driver		Driver		駕駛		駕駛	
Head(Paint tape outline)	Red	Head(Paint tape outline)	Red	頭部(僅膠帶輪廓塗色)	紅	頭部(僅膠帶輪廓塗色)	紅
Head CoG(circle Ø40mm)	Yellow	Head CoG(circle)	Yellow	頭部重心(圓圈 <u>直徑40mm</u>)	黄	頭部重心 (圓圈)	黄
Head top along mid sagittal	Green	Shoulder /Arm	Blue	頭頂沿正中矢狀切面	綠	肩部/手臂	藍
plane		2 nd Thorax Rib	Green	肩部/手臂	藍	胸部第二肋骨	綠
Shoulder /Arm	Blue	3 rd Thorax Rib	Red	胸部第二肋骨	綠	胸部第三肋骨	紅
2 nd Thorax Rib	Green	1stAbdoment Rib	Blue	胸部第三肋骨	紅	腹部第一肋骨	藍
3 rd Thorax Rib	Red	2 nd Abdoment Rib	Green	腹部第一肋骨	藍	腹部第二肋骨	綠
1stAbdoment Rib	Blue	Pelvis	Orange	腹部第二肋骨	綠	骨盆	橘
2 nd Abdoment Rib	Green		ľ	骨盆	橘		
Pelvis	Orange						
3.1 Dummy Instrumentation 3.1 l		3.1 Dummy Instrumentation		3.4.3.1 人偶感測器及資料擷耳	取系統設	3.4.3.1 人偶感測器及資料	頡取系統設
				置		置	
3.1.2		3.1.2					
(請參考末頁表格)		(請參考末頁表格)		3.4.3.1.2		3.4.3.1.2	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
		(請參考末頁表格)	(請參考末頁表格)
4.1 Overview of Settings	4.1 Overview of Settings	3.4.4.1 設定綜覽	3.4.4.1 設定綜覽
(請參考末頁表格)	(請參考末頁表格)	(請參考末頁表格)	(請參考末頁表格)
5.2 Head Protection Device marking	5.2 Head Protection Device marking	3.4.5.2 頭部保護裝置(Head Protection	3.4.5.2 頭部保護裝置(Head Protection
		Device,HPD)標記	Device,HPD)標記
5.2.3 Using the location of the H-point for the	5.2.3 Using the location of the H-point for the		
rear seating position as measured for the	rear seating position as measured for the	3.4.5.2.3 使用後座鞭甩規章(Rear	3.4.5.2.3 使用後座鞭甩規章(Rear
Rear Whiplash protocol, calculate and	Rear Whiplash protocol, calculate and	Whiplash)所測得之後座 H 點位置,	Whiplash)所測得之後座 H 點位置,
record the corresponding head centre of	record the corresponding head centre of	計算並記錄後座最前方與最後方座	計算並記錄後座最前方與最後方座
gravity positions in the most forward and	gravity positions in the most forward and	椅位置其分别對應之頭部重心位	椅位置其分别對應之頭部重心位
rearward seating positions:	rearward seating positions:	置:	置:
5 th female Head CoG in most forward seating	5 th female Head CoG in most forward seating	第5百分位女性於最前方座椅位置之	第5百分位女性於最前方座椅位置之
position:	position:	頭部重心:	頭部重心:
$X_{CoG,5th} = \text{H-point}(X) + 126 - \text{remaining seat}$	$X_{\text{CoG,5th}} = \text{H-point}(X) + 126 - \text{seat travel (if}$	X _{CoG,5th} = H 點(X) + 126 - 座椅 <u>剩</u>	X _{CoG,5th} = H 點(X) + 126 - 座椅調
travel (if applicable)	applicable)	餘調整範圍(依實際狀況)	整範圍(依實際狀況)
$Z_{\text{CoG,5th}} = \text{H-point}(Z) + 594$	$Z_{\text{CoG},5\text{th}} = \text{H-point}(Z) + 594$	$Z_{\text{CoG,5th}} = H$ 點(Z) + 594	$Z_{\text{CoG,5th}} = H$ 點(Z) + 594
95 th male Head CoG in most rearward seating	95 th male Head CoG in most rearward seating	第 95 百分位男性於最後方座椅位置	第 95 百分位男性於最後方座椅位置
position:	position:	之頭部重心:	之頭部重心:
$X_{CoG,95th} = H-point(X) + 147 + remaining seat$	$X_{\text{CoG,95th}} = \text{H-point}(X) + 147$	X _{CoG,95th} = H 點(X)+ 147 <u>+ 座椅剩</u>	$X_{\text{CoG},95\text{th}} = H$ 點(X) + 147
travel (if applicable)		餘調整範圍(依實際狀況)	$Z_{\text{CoG},95\text{th}} = H \text{\$L} (Z) + 693$
$Z_{\text{CoG},95\text{th}} = \text{H-point}(Z) + 693$	$Z_{\text{CoG},95\text{th}} = \text{H-point}(Z) + 693$	$Z_{\text{CoG,95th}} = H \text{!"} !$	
5.3 Dummy Placement	5.3 Dummy Placement	3.4.5.3 人偶放置	3.4.5.3 人偶放置
5.3.1 It is the intention that the dummy	5.3.1 It is the intention that the dummy	3.4.5.3.1 試驗前,人偶不應直接坐在	3.4.5.3.1 試驗前,人偶不應直接坐在
should not be left to sit directly on the seat	should not be left to sit directly on the seat	座椅上超過2小時。若試驗前1小	座椅上超過 2 小時。可將人偶放置
for more than 2 hours prior to the test. It is	for more than 2 hours prior to the test. It is	時內檢查人偶定位,則允許人偶放	車內更久的時間, <u>惟不應放置整晚</u>

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
acceptable for the dummy to be left in the	acceptable for the dummy to be left in the	置車內較長時間。不應將試驗人偶	或類似長度的時間。
vehicle for a longer period, provided that	vehicle for a longer period, provided that	<u>整晚留置車內</u> 或類似長度的時間。	
the dummy position is checked no more	the dummy is not left in overnight or for a		
then one hour prior to test. It is not	similarly lengthy period.		
acceptable for the dummy to be left in the			
vehicle overnight or for a similarly lengthy			
period.	5.3.2 If it is known that the dummy will be in		3.4.5.3.2 若已知人偶將放置車內超過
	the vehicle for a time longer than 2 hours,		2 小時,則應於座椅上放置膠合板
	then the dummy should be sat on plywood		(Plywood board),讓人偶坐在上面,
	boards placed over the seat. This should		如此可避免座椅不符實際狀況地壓
	eliminate unrealistic compression of the seat		<u>縮(Compression)。</u>
5.3.2 H-point	5.3.3 H-point	<u>3.4.5.3.2</u> H 點	<u>3.4.5.3.3</u> H 點
Note that the H-point of the WorldSID	Note that the H-point of the WorldSID	WorldSID 人偶的 H 點位於 H 點人體	WorldSID 人偶的 H 點位於 H 點人體
dummy is situated 20mm forward of that	dummy is situated 20mm forward of that	模型所決定之 H 點前方 20mm 處	模型所決定之 H 點前方 20mm 處
of the H-point determined by the H-point	of the H-point determined by the H-point		
manikin.	manikin.		
5.3.2.1 Using only the controls that move the	5.3.3.1 Using only the controls that move the	3.4.5.3.2.1 僅使用控制座椅前後移動	3.4.5.3.3.1 僅使用控制座椅前後移動
seat fore-aft, move the test seat to the	seat fore-aft, move the test seat to the	的控制器,將試驗座椅移至最後方	的控制器,將試驗座椅移至最後方
rearmost position to facilitate placement of	rearmost position to facilitate placement of	的位置,方便放置人偶。	的位置,方便放置人偶。
the dummy.	the dummy.		
5.3.2.2 Position the dummy in the seat such	5.3.3.2 Position the dummy in the seat such	3.4.5.3.2.2 將人偶置於座椅上,使其	3.4.5.3.3.2 將人偶置於座椅上,使其
that the mid-sagittal plane is coincident with	that the mid-sagittal plane is coincident with	正中矢狀切面(Mid-sagittal plane)對	正中矢狀切面(Mid-sagittal plane)對
the centreline markings and the upper torso	the centreline markings and the upper torso	齊中線標記,並將上部軀幹靠在椅	齊中線標記,並將上部軀幹靠在椅
resting against the seat back.	resting against the seat back.	背上。	背上。
5.3.2.3 Apply a fore-aft and lateral rocking	5.3.3.3 Apply a fore-aft and lateral rocking	3.4.5.3.2.3 以前後及橫向搖晃動作,	3.4.5.3.3.3 以前後及橫向搖晃動作,

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
motion to settle the pelvis rearward in the	motion to settle the pelvis rearward in the	使骨盆向後貼合座椅。	使骨盆向後貼合座椅。
seat.	seat.		
5.3.2.4 To ensure a repeatable and stable	5.3.3.4 To ensure a repeatable and stable	3.4.5.3.2.4 為確保可重複放置及固定	3.4.5.3.3.4 為確保可重複放置及固定
pelvis position, ensure that the pelvis is in	pelvis position, ensure that the pelvis is in	之骨盆位置,確認整個骨盆與座墊	之骨盆位置,確認整個骨盆與座墊
contact with the seat cushion over the whole	contact with the seat cushion over the whole	確實接觸。	確實接觸。
length.	length.		
5.3.2.5 To ensure a repeatable placement of	5.3.3.5 To ensure a repeatable placement of	3.4.5.3.2.5 為確保下腹部肋骨可重複	3.4.5.3.3.5 為確保下腹部肋骨可重複
the lower abdominal rib, make sure it is	the lower abdominal rib, make sure it is	放置,確認肋骨位於骨盆腔(Pelvis	放置,確認肋骨位於骨盆腔(Pelvis
inside the pelvis flesh and not on top of it.	inside the pelvis flesh and not on top of it.	flesh)內,而非骨盆腔上方。	flesh)內,而非骨盆腔上方。
5.3.2.6 Move the seat together with the	5.3.3.6 Move the seat together with the	3.4.5.3.2.6 將座椅連同人偶移至	3.4.5.3.3.6 將座椅連同人偶移至
dummy to the test seat position defined in	dummy to the test seat position defined in	3.4.4.4.10 定義之試驗座椅位置。若	3.4.4.4.10 定義之試驗座椅位置。若
4.4.9. If it is not possible to reach the seat	4.4.9. If it is not possible to reach the seat	因碰到膝部而無法移至該試驗座椅	因碰到膝部而無法移至該試驗座椅
test position due to knee contact, shift the	test position due to knee contact, shift the	位置,則將目標試驗座椅位置逐步	位置,則將目標試驗座椅位置逐步
targeted test seat position rearwards in the	targeted test seat position rearwards in the	向後修改,直到膝部至少有 5mm 間	向後修改,直到膝部至少有 5mm 間
stepwise increments to the closest position	stepwise increments to the closest position	隙為止,並依此修改目標 H 點。	隙為止,並依此修改目標 H 點。
where the knee clearance is at least 5mm.	where the knee clearance is at least 5mm.		
Modify the target H-point accordingly.	Modify the target H-point accordingly.		
5.3.2.7 Verify that the H-point is reasonably	5.3.3.7 Verify that the H-point is reasonably	3.4.5.3.2.7 確認 H 點相當接近(±	3.4.5.3.3.7 確認 H 點相當接近(±
close (±10mm) to the target H-point 5.1.21	close (± 10 mm) to the target H-point 5.1.21	10mm) 3.4.5.1.21 之目標 H 點,若	10mm) 3.4.5.1.21 之目標 H 點,若
or as defined in 5.3.2.6 if the target H-point	or as defined in 5.3.3.6 if the target H-point	目標 H 點已修改,則依 <u>3.4.5.3.2.6</u>	目標 H 點已修改,則依 <u>3.4.5.3.3.6</u>
has been modified. If not, repeat step	has been modified. If not, repeat step	定義。否則,重複步驟 <u>3.4.5.3.2.3</u> 。	定義。否則,重複步驟 <u>3.4.5.3.3.3</u> 。
5.3.2.3 . If it is still not possible, record the	5.3.3.3. If it is still not possible, record the	若仍無法符合,則記錄最後方座墊	若仍無法符合,則記錄最後方座墊
rearmost seat cushion reference point and	rearmost seat cushion reference point and	參考點及人偶 H 點,接著進行下個	參考點及人偶 H 點,接著進行下個
the dummy H-point and proceed to the next	the dummy H-point and proceed to the next	步驟。	步驟。
step.	step.		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
5.3.2.8 Extend the right leg without	5.3.3.8 Extend the right leg without	3.4.5.3.2.8 在不移動座墊上大腿之情	3.4.5.3.3.8 在不移動座墊上大腿之情
displacing the thigh from the seat cushion.	displacing the thigh from the seat cushion.	況下,伸展右腿並使鞋底平放於加	況下,伸展右腿並使鞋底平放於加
Allow the sole of the foot to settle on the	Allow the sole of the foot to settle on the	速踏板上,鞋跟應接觸地板平底處	速踏板上,鞋跟應接觸地板平底處
accelerator pedal; the heel of the shoe	accelerator pedal; the heel of the shoe	(Floor pan)。若沒有踝關節,導致足	(Floor pan)。若沒有踝關節,導致足
should be in contact with the floor pan.	should be in contact with the floor pan.	部無法平放於加速踏板上,則使足	部無法平放於加速踏板上,則使足
Where a lack of ankle articulation prevents	Where a lack of ankle articulation prevents	部與脛骨呈90度,並確保鞋跟與地	部與脛骨呈90度,並確保鞋跟與地
the foot from sitting flat on the accelerator	the foot from sitting flat on the accelerator	板接觸。	板接觸。
pedal, keep the foot at a 90 degree angle to	pedal, keep the foot at a 90 degree angle to		
the tibia and ensure that the heel is in	the tibia and ensure that the heel is in		
contact with the floor	contact with the floor		
5.3.2.9 Extend the left leg without lifting the	5.3.3.9 Extend the left leg without lifting the	3.4.5.3.2.9 在不移動座墊上大腿之情	3.4.5.3.3.9 在不移動座墊上大腿之情
thigh from the seat cushion and allow the	thigh from the seat cushion and allow the	況下,伸展左腿並使鞋底平放於置	況下,伸展左腿並使鞋底平放於置
sole of the foot to settle on the footrest or	sole of the foot to settle on the footrest or	腳板(Footrest)或地板(若未配備置	腳板(Footrest)或地板(若未配備置
floor if no footrest is present. The heel of	floor if no footrest is present. The heel of	腳板)上,鞋跟應接觸地板。若碰	腳板)上,鞋跟應接觸地板。若碰
the shoe should be in contact with the floor.	the shoe should be in contact with the floor.	到脛骨,則將足部向後朝座椅移	到脛骨,則將足部向後朝座椅移
In case of tibia contact, slide the foot	In case of tibia contact, slide the foot	動,直到有 5mm 的間隙。若沒有踝	動,直到有 5mm 的間隙。若沒有踝
rearward toward the seat until a 5mm	rearward toward the seat until a 5mm	關節,導致足部無法平放於地板	關節,導致足部無法平放於地板
clearance is obtained. Where a lack of ankle	clearance is obtained. Where a lack of ankle	上,則使足部與脛骨呈90度,並確	上,則使足部與脛骨呈90度,並確
articulation prevents the foot from sitting	articulation prevents the foot from sitting	保鞋跟與地板接觸。	保鞋跟與地板接觸。
flat on the floor, keep the foot at a 90 degree	flat on the floor, keep the foot at a 90 degree		
angle to the tibia and ensure that the heel is	angle to the tibia and ensure that the heel is		
in contact with the floor.	in contact with the floor.		
5.3.2.10 Position the H-point of the dummy	5.3.3.10 Position the H-point of the dummy	3.4.5.3.2.10 調整人偶 H 點,以符合依	3.4.5.3.3.10 調整人偶 H 點,以符合依
to match the WorldSID H-point coordinates	to match the WorldSID H-point coordinates	3.4.5.1 紀錄之 WorldSID H 點座標	3.4.5.1 紀錄之 WorldSID H 點座標
recorded following Section 5.1 to within	recorded following Section 5.1 to within	(容許誤差±10mm),以X座標為優	(容許誤差±10mm),以X座標為優

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
±10mm. Prioritise the X coordinate.	±10mm. Prioritise the X coordinate.	先。	先。
5.3.3 Head and torso	5.3.4 Head and torso	3.4.5.3.3 頭部及軀幹	<u>3.4.5.3.4</u> 頭部及軀幹
5.3.3.1 Adjust the dummy until the thorax tilt	5.3.4.1 Adjust the dummy until the thorax tilt	3.4.5.3.3.1 調整人偶,使胸部傾斜感測	3.4.5.3.4.1 調整人偶,使胸部傾斜感測
sensor coincides with the angle specified by	sensor coincides with the angle specified by	器符合車輛業者宣告之角度。	器符合車輛業者宣告之角度。
the manufacturer.	the manufacturer.		
5.3.3.2 If the rib angle is not specified by the	5.3.4.2 If the rib angle is not specified by the	3.4.5.3.3.2 若車輛業者未宣告肋骨角	3.4.5.3.4.2 若車輛業者未宣告肋骨角
manufacturer and the torso angle is $23^{\circ} \pm$	manufacturer and the torso angle is 23° \pm	度且軀幹角度為 23±1 度,則調整人	度且軀幹角度為 23±1 度,則調整人
1°, adjust the dummy until the thorax tilt	1°, adjust the dummy until the thorax tilt	偶,使其胸部感測器讀數為-2度(朝	偶,使其胸部感測器讀數為-2度(朝
sensor reads -2° (2° downwards) $\pm 1^{\circ}$.	sensor reads -2° (2° downwards) $\pm 1^{\circ}$.	下 2 度) ±1 度。	下 2 度) ±1 度。
5.3.3.3 If no rib angle is specified and the seat	5.3.4.3 If no rib angle is specified and the seat	3.4.5.3.3.3 若未宣告肋骨角度且椅背	3.4.5.3.4.3 若未宣告肋骨角度且椅背
back angle is not $23^{\circ} \pm 1^{\circ}$, no further	back angle is not $23^{\circ} \pm 1^{\circ}$, no further	角度非為 23±1 度,則無須再調整肋	角度非為 23±1 度,則無須再調整肋
adjustment of rib angle is required.	adjustment of rib angle is required.	骨角度。	骨角度。
5.3.3.4 Adjust the dummy neck bracket to	5.3.4.4 Adjust the dummy neck bracket to	3.4.5.3.3.4 調整人偶頸套(Neck	3.4.5.3.4.4 調整人偶頸套(Neck
level the head at the closest position to 0° ±	level the head at the closest position to 0° \pm	bracket),使頭部水平盡可能接近	bracket),使頭部水平盡可能接近
1°.	1°.	0±1 度。	0±1 度。
5.3.4 Legs and feet	5.3.5 Legs and feet	3.4.5.3.4 腿部及足部	<u>3.4.5.3.5</u> 腿部及足部
5.3.4.1 Proceed to the final foot and leg	5.3.5.1 Proceed to the final foot and leg	<u>3.4.5.3.4.1</u> 重複 3.4.5.1.7 及 3.4.5.1.8,	<u>3.4.5.3.5.1</u> 重複 3.4.5.1.7 及 3.4.5.1.8,
positioning by repeating Section 5.1.7 and	positioning by repeating Section 5.1.7 and	進行最後的足部及腿部位置調整。	進行最後的足部及腿部位置調整。
5.1.8. Where a lack of ankle articulation	5.1.8. Where a lack of ankle articulation	若沒有踝關節,導致足部無法平放	若沒有踝關節,導致足部無法平放
prevents the foot from sitting flat on the	prevents the foot from sitting flat on the	於加速踏板/地板上,則使足部與脛	於加速踏板/地板上,則使足部與脛
accelerator pedal/floor, keep the foot at a 90	accelerator pedal/floor, keep the foot at a 90	骨呈90度,並確保鞋跟盡可能向前	骨呈90度,並確保鞋跟盡可能向前
degree angle to the tibia and ensure that the	degree angle to the tibia and ensure that the	移且與地板接觸。	移且與地板接觸。
heel is as far forward as possible and in	heel is as far forward as possible and in		
contact with the floor.	contact with the floor.		
5.3.4.2 No distance is specified for the knee	5.3.5.2 No distance is specified for the knee	3.4.5.3.4.2 膝部間隔距離並未規定,惟	3.4.5.3.5.2 膝部間隔距離並未規定,惟

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
spacing. However, priority should be given	spacing. However, priority should be given	應優先考量下列條件:	應優先考量下列條件:
to ensure the following:	to ensure the following:		
5.3.4.3 There is 5 mm clearance between the		 <u>3.4.5.3.4.3</u> 膝部/腿部距轉向機柱護蓋	345353 膝部/腿部距轉向機柱護蓋
knees/legs and the steering shroud and	knees/legs and the steering shroud and	(Steering shroud) 與中控台(Centre	
centre console.	centre console.	console)有 5mm 的間隙。	console)有 5mm 的間隙。
5.3.4.4 There is a stable foot and ankle	5.3.5.4 There is a stable foot and ankle	,	3.4.5.3.5.4 足部及腳踝位置穩定。
		5.4.3.3.4.4 足即及腳啄但且怎足。	<u>5.4.5.5.4</u> 足的及腳啄但且信尺。
position.	position.	2.45.2.45 维明争工处态左小师工币	2.4.5.2.5.5. 维明事工处的左小师工工
5.3.4.5 The legs are as parallel as possible to		3.4.5.3.4.5 雙腿盡可能與矢狀切面平	
the sagittal plane.	the sagittal plane.	行。	行。
5.3.5 Arms	5.3.6 Arms	3.4.5.3.5 手臂	<u>3.4.5.3.6</u> 手臂
5.3.5.1 Place both arms at the first detent	5.3.6.1 Place both arms at the first detent	3.4.5.3.5.1 肋骨角度感測器與手臂角	3.4.5.3.6.1 肋骨角度感測器與手臂角
downward of the most upward detent that	downward of the most upward detent that	度之水平夾角(Differential angle)須	度之水平夾角(Differential angle)須
corresponds to a differential angle of 32°	corresponds to a differential angle of 32°	達 32 度,將雙臂置於由上往下第一	達 32 度,將雙臂置於由上往下第一
between rib angle sensor and the arm angle.	between rib angle sensor and the arm angle.	個符合此要求之鎖定位置(Detent)。	個符合此要求之鎖定位置(Detent)。
5.3.6 Seat belt	5.3.7 Seat belt	<u>3.4.5.3.6</u> 安全帶	<u>3.4.5.3.7</u> 安全带
5.3.6.1 Where possible, initially position the	5.3.7.1 Where possible, initially position the	<u>3.4.5.3.6.1</u> 依實際狀況,先將安全帶	<u>3.4.5.3.7.1</u> 依實際狀況, 先將安全帶
upper seat belt anchorage in the	upper seat belt anchorage in the	上部固定器調整至車輛業者第50百	上部固定器調整至車輛業者第50百
manufacturers 50th percentile design	manufacturers 50th percentile design	分位設計位置。若未提供設計位	分位設計位置。若未提供設計位
position. If no design position is provided,	position. If no design position is provided,	置,則將可調整的安全帶上部固定	置,則將可調整的安全帶上部固定
set the adjustable upper seat belt anchorage	set the adjustable upper seat belt anchorage		器設於中間位置或向上最接近的段
to the mid-position or nearest notch upward.	to the mid-position or nearest notch upward.	位。	位。
5.3.6.2 Carefully place the seat belt across the	•	3.4.5.3.6.2 將安全帶小心圍繞試驗人	3.4.5.3.7.2 將安全帶小心圍繞試驗人
dummy and lock as normal.	dummy and lock as normal.	偶,並正常扣上。	偶,並正常扣上。
•		•	<u>3.4.5.3.7.3</u> 消除腰部織帶鬆弛,直到
of the webbing until it is resting gently	of the webbing until it is resting gently	織帶輕輕繞過貼合人偶骨盆周圍。	
of the webbing that it is festing gently	of the wedding that it is festing gentry	"和 在 在 元 也 和 日 八 四 月 鱼 月 国	城市在在流型和日八两月鱼川田。

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2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
around the pelvis of the dummy. Only	around the pelvis of the dummy. Only	消除織帶鬆弛部分時,應盡可能使	消除纖帶鬆弛部分時,應盡可能使
minimal force should be applied to the	minimal force should be applied to the	用最小的力道。腰部安全带(Lap	用最小的力道。腰部安全帶(Lap
webbing when removing the slack. The	webbing when removing the slack. The	belt)路徑應盡可能平順自然。	belt)路徑應盡可能平順自然。
route of the lap belt should be as natural as	route of the lap belt should be as natural as		
possible.	possible.		
5.3.6.4 Place one finger behind the diagonal	5.3.7.4 Place one finger behind the diagonal	3.4.5.3.6.4 將一隻手指置於織帶對角	3.4.5.3.7.4 將一隻手指置於織帶對角
section of the webbing at the height of the	section of the webbing at the height of the	線部位後方且人偶胸骨高度處。將	線部位後方且人偶胸骨高度處。將
dummy sternum. Pull the webbing away	dummy sternum. Pull the webbing away	織帶水平往前拉,遠離胸部,並讓	織帶水平往前拉,遠離胸部,並讓
from the chest horizontally forward and	from the chest horizontally forward and	纖帶僅依捲收器機構的力道向導帶	織帶僅依捲收器機構的力道向導帶
allow it to retract in the direction of the	allow it to retract in the direction of the	環(D-loop)方向捲收。重複此步驟三	環(D-loop)方向捲收。重複此步驟三
D-loop using only the force provided by the	D-loop using only the force provided by the	次。	次。
retractor mechanism. Repeat this step three	retractor mechanism. Repeat this step three		
times, only.	times, only.		
5.3.6.5 After following the above steps, the	5.3.7.5 After following the above steps, the	<u>3.4.5.3.6.5</u> 依上述步驟執行後,安全	<u>3.4.5.3.7.5</u> 依上述步驟執行後,安全
seatbelt should lie in a natural position	seatbelt should lie in a natural position	带應圍繞人偶胸骨及肩部鎖骨,處	帶應圍繞人偶胸骨及肩部鎖骨,處
across the dummy sternum and shoulder	across the dummy sternum and shoulder	於自然位置。若情況並非如此,例	於自然位置。若情況並非如此,例
clavicle. Where this is not the case, for	clavicle. Where this is not the case, for	如安全带接近或接觸頸部,或位於	如安全带接近或接觸頸部,或位於
example the belt is close to or in contact	example the belt is close to or in contact	肩部旋轉調整螺絲上,而安全帶上	肩部旋轉調整螺絲上,而安全帶上
with the neck or the belt is above the	with the neck or the belt is above the	部固定器可以調整,則應降低該固	部固定器可以調整,則應降低該固
shoulder rotation adjustment screw, and the	shoulder rotation adjustment screw, and the	定器,並重複步驟 <u>3.4.5.3.6.3</u> 及	定器,並重複步驟 <u>3.4.5.3.7.3</u> 及
upper belt anchorage is adjustable the	upper belt anchorage is adjustable the	<u>3.4.5.3.6.4 •</u>	<u>3.4.5.3.7.4</u> °
anchorage should be lowered and steps	anchorage should be lowered and steps		
5.3.6.3 and 5.3.6.4 repeated.	5.3.7.3 and 5.3.7.4 repeated.		
5.3.6.6 The upper anchorage should be	5.3.7.6 The upper anchorage should be	3.4.5.3.6.6 重複步驟 3.4.5.3.6.3 及	<u>3.4.5.3.7.6</u> 重複步驟 <u>3.4.5.3.7.3</u> 及
lowered by a sufficient amount to ensure a	lowered by a sufficient amount to ensure a	3.4.5.3.6.4後,上部固定器應降至合	3.4.5.3.7.4 後,上部固定器應降至合

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
natural belt position following the repetition	natural belt position following the repetition	適高度,足以確保安全帶處於自然	適高度,足以確保安全帶處於自然
of steps 5.3.6.3 and 5.3.6.4. This may	of steps 5.3.7.3 and 5.3.7.4. This may	位置。這可能須要多次嘗試。	位置。這可能須要多次嘗試。
require multiple attempts.	require multiple attempts.		
5.3.6.7 Once the belt is positioned the	5.3.7.7 Once the belt is positioned the	<u>3.4.5.3.6.7</u> 安全帶位置調整好後,應	<u>3.4.5.3.7.7</u> 安全帶位置調整好後,應
location of the belt should be marked across	location of the belt should be marked across	於試驗人偶胸部標記安全帶位置,	於試驗人偶胸部標記安全帶位置,
the dummy chest to ensure that no further	the dummy chest to ensure that no further	以確保不再有調整。同時,在安全	以確保不再有調整。同時,在安全
adjustments are made. Mark also the belt at	adjustments are made. Mark also the belt at	带上於導帶環高度處標記,以利於	帶上於導帶環高度處標記,以利於
the level of the D-loop to be sure that the	the level of the D-loop to be sure that the	試驗準備期間維持初始張力。	試驗準備期間維持初始張力。
initial tension is maintained during test	initial tension is maintained during test		
preparation.	preparation.		
5.3.6.8 Measure the vertical distance between	5.3.7.8 Measure the vertical distance between	3.4.5.3.6.8 测量人偶鼻子與對角式織	3.4.5.3.7.8 测量人偶鼻子與對角式織
the dummy nose and the diagonal webbing.	the dummy nose and the diagonal webbing.	帶的垂直距離	帶的垂直距離。
5.3.6.9 Measure the horizontal distance	5.3.7.9 Measure the horizontal distance	3.4.5.3.6.9 測量對角式織帶與車門/車	3.4.5.3.7.9 測量對角式織帶與車門/車
between the diagonal webbing and the	between the diagonal webbing and the	窗的水平距離。	窗的水平距離。
door/window.	door/window.		
5.3.7 After positioning the dummy measure	5.3.8 After positioning the dummy measure	3.4.5.3.7 人偶位置調整好後,依照	3.4.5.3.8 人偶位置調整好後,依照
and record the dummy position according to	and record the dummy position according to	3.4.5.4 進行量測並記錄人偶位置,	3.4.5.4 進行量測並記錄人偶位置,
Section 6.4 and determine the impact	Section 6.4 and determine the impact	再依 3.4.1.4 所述決定撞擊位置。	再依 3.4.1.4 所述決定撞擊位置。
location as described in Section 1.4.	location as described in Section 1.4		

2019年Euro NCAP規章 2017年Euro NCAP規章 3.1.2 3.1.2 Minimum Channel Minimum Channel Location Location Parameter Parameter. amplitude count amplitude count Head Linear acceleration, Ax. Av. Az 250g 3 Head Linear acceleration, Ax. Ay. Az. 3 250g Forces and moments Forces and moments Upper neck 5kN, 300Nm 6 Upper neck 5kN, 300Nm 6 Fx, Fy, Fz, Mx, My, Mz Fx, Fy, Fz, Mx, My, Mz Shoulder - Joint Forces, Fx. Fy. Fz. SkN 3 Shoulder - Joint Forces, Fx. Fv. Fz 8kN 3 Shoulder - Rib Displacement & rotation 2 100mm 2d IR Trace Shoulder - Rib 2 Displacement & rotation $100 \mathrm{mm}$ Thorax - Upper rib Displacement & rotation 100mm 2 Thorax - Upper rib Displacement & rotation 2 100mm 2d IR Trace Thorax - Mid rib 2 Thorax - Mid rib Displacement & rotation 100mm Displacement & rotation 100mm 2 2d IR Trace Thorax - Lower rib 2 Thorax - Lower rib Displacement & rotation 100mm Displacement & rotation 100mm 2 2d IR Tracc Thoracic temperature* Temperature, see 2.5.1.3 30°C 1 Thoracic temperature* Temperature, see 2.5.1.3 1 30°C Abdomen - Upper rib Abdomen - Upper rib Displacement & rotation 100mm 2 Displacement & rotation 2 100mm 2d IR Trace Abdomen - Lower rib Displacement & rotation 100mm 2 Abdomen - Lower rib Displacement & rotation 100 mm2 2d IR Tracc Spine - T12 Acceleration, Ax, Ay, Az 200g 3 3 Spine - T12 Acceleration, Ax. Av. Az. 200g Pelvis Acceleration, Ax, Ay, Az 200g 3 Pelvis Acceleration, Ax, Ay, Az 200g 3 Pelvis - Pubic Force 5kN 1 Pelvis - Pubic Force 5kN 1 Femoral neck - struck Femoral neck - struck Force, Fx. Fy. Fz 5kN 3 Force, Fx, Fy, Fz 5kN 3 side only side only **Total Channels** 35 **Total Channels** 35 修訂 TNCAP 條文草案 對應 TNCAP 條文 3.4.3.1.2 3.4.3.1.2 參數 最低振幅 頻道數 位置 參數 最低振幅 頻道數 位置 量 量 250g 頭部 線性加速度(Linear acceleration), 頭部 線性加速度(Linear acceleration), 250g $A_x \cdot A_y \cdot A_z$ $A_x \cdot A_y \cdot A_z$ 力與力矩 力與力矩 上頸部 5kN. 上頸部 5kN, $F_x \cdot F_y \cdot F_z \cdot M_x \cdot M_y \cdot M_z$ $F_x \cdot F_y \cdot F_z \cdot M_x \cdot M_y \cdot M_z$ 300Nm 300Nm

肩部-關節	$h, F_x \cdot F_y \cdot F_z$	8kN	3
肩部-肋骨	位移及旋轉	100mm	2
胸部-上肋骨	位移及旋轉	100mm	2
胸部-中肋骨	位移及旋轉	100mm	2
胸部-下肋骨	位移及旋轉	100mm	2
胸部溫度*	温度,如 2.5.1.3	30℃	1
腹部一上肋骨	位移及旋轉	100mm	2
腹部一下肋骨	位移及旋轉	100mm	2
脊椎- T12	加速度,Ax、Ay、Az	200g	3
骨盆	加速度,Ax、Ay、Az	200g	3
骨盆- 恥骨	カ	5kN	1
股骨頸-僅撞	$h, F_x \cdot F_y \cdot F_z$	5kN	3
擊側			
	頻道總數		35

肩部-關節	カ, F_x 、 F_y 、 F_z	8kN	3
肩部—肋骨	位移及旋轉	100mm	2
2dIR Tracc			
胸部-上肋骨	位移及旋轉	100mm	2
2d IR Tracc			
胸部-中肋骨	位移及旋轉	100mm	2
2d IR Tracc			
胸部一下肋骨	位移及旋轉	100mm	2
2d IR Tracc			
胸部温度*	温度,如 2.5.1.3	30°C	1
腹部一上肋骨	位移及旋轉	100mm	2
2d IR Tracc			
腹部一下肋骨	位移及旋轉	100mm	2
2d IR Tracc			
脊椎- T12	加速度,Ax、Ay、Az	200g	3
骨盆	加速度,Ax、Ay、Az	200g	3
骨盆- 恥骨	カ	5kN	1
股骨頸-僅撞	カ・ F_x 、 F_y 、 F_z	5kN	3
擊側			
	頻道總數		35

2019年Euro NCAP規章

4.1

Adjustment	Required Setting	Notes	Methods
Seat Fore/Aft	As defined in 4.4		NAME OF TAXABLE PARTY.
Seat Base Tilt	As defined in 4.4		
Seat Height	As defined in 4.4		
Torso Angle	Manufacturer's design position	Otherwise 23° to Vertical	See Section 5.1
Seat Lumbar Support	Fully retracted		See Section 0
Front Head Restraint Height & Tilt	Mid locking position	As whiplash test position. If there is any interference with the rear of the dummy head, move the HR to the most rearward position.	See Section 6.2 Whiplash testing protocol.
Steering wheel	Highest position and most outward		See Section 4.5
Rear Seat Fore/Aff	Fully rearward		See Section 4.6
Rear Seat Back Angle	Manufacturer's design position	Otherwise 25° to Vertical	See Section 4.6
Rear Seat Facing	Forward		
Rear Head Restraint Height & Tilt	As recommended in vehicle handbook	Where no details are provided in the handbook, set to mid or next lowest position for height and mid locking position for tilt.	See Section 6.2 Whiplash testing protocol.
Arm-rests (Front seats)	Lowered position	May be left up if dummy positioning does not allow lowering. Where adjustable place in horizontal position.	
Arm-rests (Rear seats)	Stowed position		
Side Window Glazing	All raised		
Gear change lever	In the neutral position		
Parking Brake	Engaged		
Pedals	Normal position of rest	Adjustable pedals fully forward	See Section 0
Doors	Closed, not locked		
Roof / sunroof	Raised / fully closed	Where applicable	
Sun Visors	Stowed position		
Rear view mirror	Normal position of use		
Seat belt anchorage (where adjustable)	Initially, manufacturer's 50th percentile design position	If no design position then set to mid position, or nearest notch upwards	See Section 5.3.6

(查項次異動並不影響座椅及踏板調整對應章節(4.2節),故研判此處Section 0為誤植)

2017年Euro NCAP規章

4.1

Adjustment	Required Setting	Notes	Methods
Seat Fore/Aft	As defined in 4.4		A STATE OF THE STA
Seat Base Tilt	As defined in 4.4		
Seat Height	As defined in 4.4		
Torso Angle Manufacturer's design Otherwi- position Otherwi-		Otherwise 23° to Vertical	See Section 5.1
Seat Lumbar Support	Fully retracted		See Section 4.2
Front Head Restraint Height & Tilt	any interference with the rear of the		See Section 6.2 Whiplash testing protocol.
eering wheel Highest position and most outward		See Section 4.5	
Rear Seat Fore/Aft	Fully rearward		See Section 4.6
Rear Seat Back Angle	Seat Back Angle Manufacturer's design Otherwise 25° to Vertical position		See Section 4.6
Rear Seat Facing	Forward		
Rear Head Restraint Height & Tilt	As recommended in vehicle handbook	Where no details are provided in the handbook, set to mid or next lowest position for height and mid locking position for tilt.	See Section 6.2 Whiplash testing protocol.
Arm-rests (Front seats)	Lowered position	May be left up if dummy positioning does not allow lowering. Where adjustable place in horizontal position.	
Arm-rests (Rear seats)	Stowed position		
Side Window Glazing	All raised		
Gear change lever	In the neutral position		
Parking Brake	Engaged		
Pedals	Normal position of rest	Adjustable pedals fully forward	See Section 4.2
Doors	Closed, not locked	770-711-711-71	
Roof / sunroof	Raised / fully closed	Where applicable	
Sun Visors	Stowed position		
Rear view mirror	Normal position of use	TA MA 191 1910 - 2	
Seat belt anchorage (where adjustable)	Initially, manufacturer's 50th percentile design position	If no design position then set to mid position, or nearest notch upwards	See Section 5.3.7

修訂 TNCAP 條文草案 對應 TNCAP 條文 3.4.4.1 3.4.4.1 設定要求 設定要求 調整 附註 做法 調整 附註 做法 座椅前後 如 3.4.4.4 定義 座椅前後 如 3.4.4.4 定義 位置 位置 座椅底座 如 3.4.4.4 定義 座椅底座 如 3.4.4.4 定義 (seat base) (seat base) 傾斜度 傾斜度 座椅高度 如 3.4.4.4 定義 座椅高度 如 3.4.4.4 定義 軀幹角度 車輛業者之設 否則為垂直向後傾斜 23 度 驅幹角度 車輛業者之設 否則為垂直向後傾斜 23 度 如 3.4.5.1 如 3.4.5.1 計位置 計位置 座椅腰部 完全縮回 如 3.4.4.2 座椅腰部 完全縮回 如 3.4.4.2 支撐 支撐 第一排座 中間鎖定位置 同鞭甩(Whiplash)試驗位置。如「前座鞭甩 第一排座 中間鎖定位置 同鞭甩(Whiplash)試驗位置。如「前座鞭甩 頭枕若會影響人偶頭部後試驗規章」 頭枕若會影響人偶頭部後試驗規章」 椅頭枕 椅頭枕 高度及傾 方,則將頭枕移至最後方的位3.5.5.2 方,則將頭枕移至最後方的位3.5.5.2 高度及傾 斜度 斜度 置。 最高且最向後 如 3.4.4.5 方向盤 最高且最向後 如 3.4.4.5 方向盤 (靠人偶)位置 (靠人偶)位置 後座前後 完全向後 後座前後 完全向後 如 3.4.4.6 ± 3.4.4.6 位置 位置 後座椅背 車輛業者之設 否則為垂直向後傾斜 25 度 如 3.4.4.6 後座椅背 車輛業者之設 否則為垂直向後傾斜 25 度 如 3.4.4.6 角度 角度 計位置 計位置 後座方向 朝前 後座方向 朝前

後麻晒椒	如車主手冊建	手冊若未提供相關資訊,則將	加「前成獅用	经成码址	如車主手冊建	手冊若未提供相關資訊,則將	加一前成獅用
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	' ' ' '			•	' ' '		1
高度及傾		高度調整至中間或向下最接		高度及傾	譲	高度調整至中間或向下最接	
斜度		近的位置,並將傾斜度調整至	3.5.5.2	斜度		近的位置,並將傾斜度調整至	3.5.5.2
		中間鎖定位置。				中間鎖定位置。	
扶手(第	使用位置	若人偶放置後扶手無法位於		扶手(第	使用位置	若人偶放置後扶手無法位於	
一排座		使用位置,則可保持於非使用		一排座		使用位置,則可保持於非使用	
椅)		位置。於水平位置可調整處。		椅)		位置。於水平位置可調整處。	
扶手(後	收納位置			扶手(後	收納位置		
座)				座)			
車窗	全部升起			車窗	全部升起		
變速箱	空檔			變速箱	空檔		
駐煞車	致動(Engaged)			駐煞車	致動(Engaged)		
踏板	未踩踏之正常	可調整式踏板設於完全向前	女u 3.4.4.2	踏板	未踩踏之正常	可調整式踏板設於完全向前	如 3.4.4.2
	位置(Position of	的位置			位置(Position of	的位置	
	rest)				rest)		
車門	關閉但不上鎖			車門	關閉但不上鎖		
車頂/天窗	升起/完全關閉	依實際狀況		車頂/天窗	升起/完全關閉	依實際狀況	
遮陽板	收合位置			遮陽板	收合位置		
照後鏡	正常使用位置			照後鏡	正常使用位置		
安全帶固	初始為車輛業	若無設計位置,則調整至中間	如 3.4.5.3.6	安全带固	初始為車輛業	若無設計位置,則調整至中間	<u> 숙마 3.4.5.3.7</u>
定裝置	者第50百分位	位置或至向上最接近的段位		定裝置	者第50百分位	位置或至向上最接近的段位	
(若可調	之設計位置			(若可調	之設計位置		
整)				整)			

TEST PROTOCOL – Lane Support Systems 3.12 車道輔助系統之試驗規章

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
2 DEFINITIONS	2 DEFINITIONS	3.12.1名詞釋義	3.12.1名詞釋義
Emergency Lane Keeping (ELK) -		3.12.1.2 緊急車道維持輔助系統	
default ON heading correction that is		(Emergency Lane Keeping, ELK):車	
applied automatically by the vehicle in		輛偵測到即將偏離目前行駛之道路	
response to the detection of the vehicle		邊緣或相鄰車道對向來車或車道超	
that is about to drift beyond the edge		車的交通情境下,所自動施加之方向	
of the road or into oncoming or		性修正。	
overtaking traffic in the adjacent lane.			
Lane Keeping Assist (LKA) – heading			
correction that is applied automatically	correction that is applied automatically	Keeping Assist, LKA): 車輛偵測到即	Keeping Assist, LKA): 車輛偵測到即
by the vehicle in response to the	by the vehicle in response to the	將偏離目前行駛之車道邊界標線或	將偏離目前行駛之車道邊界標線
detection of the vehicle that is about to	detection of the vehicle that is about to	道路邊緣時,所自動施加之方向性修	時,所自動施加之方向性修正。
drift beyond a delineated edge line or	drift beyond a delineated edge line of	正。	
road edge of the current travel lane.	the current travel lane.		
Lane Departure Warning (LDW) $-$ a	•		
warning that is provided automatically	warning that is provided automatically	Departure Warning, LDW): 車輛偵測	
by the vehicle in response to the	by the vehicle in response to the	到即將偏離目前行駛之車道邊界標	到即將偏離目前行駛之車道邊界標
vehicle that is about to drift beyond a	vehicle that is about to drift beyond a	線時,所自動出現之警示。	線時,所自動出現之警示。
delineated edge line of the current	delineated edge line of the current		
travel lane.	travel lane.		

			,
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
Vehicle width – the widest point of the	Vehicle width – the widest point of the	<u>3.12.1.6</u> 車輛寬度 (Vehicle width): 車	<u>3.12.1.4</u> 車輛寬度 (Vehicle width): 車
vehicle ignoring the rear-view mirrors,	vehicle ignoring the rear-view mirrors,	輛最大寬度不包括後視鏡、側方標識	輔最大寬度不包括後視鏡、側方標識
side marker lamps, tyre pressure	side marker lamps, tyre pressure	燈、胎壓偵測裝置、方向燈、位置燈、	燈、胎壓偵測裝置、方向燈、位置燈、
indicators, direction indicator lamps,	indicators, direction indicator lamps,	活動式擋泥板及位於地面接觸點正	活動式擋泥板及位於地面接觸點正
position lamps, flexible mud-guards	position lamps, flexible mud-guards	上方之輪胎胎壁(side-wall)最突出	上方之輪胎胎壁(side-wall)最突出
and the deflected part of the tyre	and the deflected part of the tyre	部分。	部分。
side-walls immediately above the	side-walls immediately above the		
point of contact with the ground.	point of contact with the ground.		
Global Vehicle Target (GVT) – means		3.12.1.7 全球目標車 (Global Vehicle	
the vehicle target used in this protocol		Target, GVT): 本試驗規章(LSS test	
		protocol)使用之目標車。	
Time To Collision (TTC) – means the		3.12.1.8 碰撞時間 (Time To Collision,	
remaining time before the VUT strikes		TTC):若受驗車輛與全球目標車皆	
the GVT, assuming that the VUT and		依其速度向前行進,受驗車輛會碰撞	
GVT would continue to travel with the		全球目標車之預估時間值。	
speed it is travelling.			
speed to 15 that entirely			
Lane Edge – means the inner side of		3.12.1.9 車道邊緣(Lane Edge):係指車	
the lane marking or the road edge		道標線內側或道路邊緣。	
inc raise marking of the four edge		Minder a red assistance in security	
	Time To Line Crossing (TTLC) -		3.12.1.6 越線剩餘時間 (Time To Line
	means the remaining time before the		Crossing, TTLC): 假設受驗車輛持續
	means the remaining time before the		<u></u>

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
	VUT crosses the line, assuming that		以相同側向速度偏離向車道標線,受
	the VUT would continue to travel with		驗車輛距越線所剩餘時間。
	the same lateral velocity towards the		
	lane marking.		
Distance To Lane Edge (DTLE) -	Distance To Line Crossing (DTLC) -	3.12.1.10 車道邊緣剩餘距離(Distance	<u>3.12.1.7 越線</u> 剩餘距離 (Distance To
means the remaining lateral distance	means the remaining lateral distance	To <u>Lang Edge</u> , DT <u>LE</u>): 假設受驗車	Line Crossing, DT <u>LC</u>):假設受驗車
(perpendicular to the Lane Edge)	(perpendicular to the line) between the	輛以相同側向速度偏離向車道邊	輛持續以相同側向速度偏離向車道
between the Lane Edge and most outer	inner side of the lane marking and	<u>緣</u> ,在受驗車輛越過車道邊緣前,車	標線,車道標線內緣與輪胎外緣間距
edge of the tyre, before the VUT	most outer edge of the tire, before the	道邊緣與輪胎外緣間所剩餘之横向	越線前所剩餘距離 (與車道標線垂
crosses Lane Edge, assuming that the	VUT crosses the line, assuming that	距離 (與車道 <u>邊緣</u> 垂直)。	直)。
VUT would continue to travel with the	the VUT would continue to travel with		
same lateral velocity towards it.	the same lateral velocity towards the		
	lane marking.		
3 REFERENCE SYSTEM	3 REFERENCE SYSTEM	3.12.2 參考系統	3.12.2 參考系統
3.2 Lateral Path Error	3.4 Dater at Deviation It out I am		3.12.2.2 側向偏離路徑
3.2.1 The lateral path error is	3.2.1 The lateral deviation from path is	側向偏移重之定義為受驗車輛前万甲	3.12.2.2.1 側向偏離路徑之定義為受驗
determined as the lateral distance	determined as the lateral distance		車輛前方中心與預定路徑平行之側
between the centre of the front of the	between the centre of the front of the		向距離,如下圖所示。本量測適用於
VUT when measured in parallel to the	VUT when measured in parallel to the	移之車道偏離。	直線行進後偏移之車道偏離。
intended path as shown in the figure	intended path as shown in the figure		
	below. This measure applies during		
both the straight line approach and the	both the straight line approach and the		
curve that establishes the lane	curve that establishes the lane		

		16 2 77 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	11. 25 mars (1. m. 1/1
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
departure.	departure.		
Lateral Deviation from Path = Yvu	Lateral Deviation from Path = Y_{VUT}	側向偏離路徑 =Y ® 級與 編誤差	側向偏離路徑 =Y 🗞 職 無誤差
error	error	** //	**
Other	Orbin		
		圖 2: 側向 <u>偏移量</u>	圖 2: 側向 <u>偏離路徑</u>
Figure 2: Lateral Path Error	Figure 2: Lateral Deviation from Path		
4 MEASURING EQUIPMENT	4 MEASURING EQUIPMENT	3.12.3 量測配備	3.12.3 量測配備
4.1.1 Sample and record all dynamic	4.1.1 Sample and record all dynamic	3.12.3.1 所有動態數據之採樣及記錄	3.12.3.1 所有動態數據之採樣及記錄
data at a frequency of at least 100Hz	data at a frequency of at least 100Hz.	頻率不得低於 100Hz。使用差分全球	頻率不得低於 100Hz。
Synchronise using the DGPS time		定位系統時間標記(DGPS time	
stamp the GVT data with that of the		stamp)將全球目標車數據與受驗車	
VUT.		····································	
4.2 Measurements and Variables	4.2 Measurements and Variables	3.12.3.2 量測與變數	3.12.3.2 量測與變數
4.2.1 Time T	4.2.1 Time T	3.12.3.2.1時間 T	3.12.3.2.1 時間 T
l			
•T _{steer} , time where VUT T _{steer}		(4) <u>T_{steer}</u> , 受驗車輛進入 T _{steer}	
enters in curve segment		曲線段之時間	
•T _{crossing} , time where VUT T _{crossing}	•T _{crossing} , time where VUT T _{crossing}	(5) T _{crossing} , 受驗車輛越 T _{crossing}	(4) T _{crossing} , 受驗車輛越線 T _{crossing}
crosses the line or road	crosses the line	過直線或道路邊緣之	時間
edge		· · · · · · · · · · · · · · · · · · ·	

2019 年版 Euro NCAP	規章	2017 年版 Euro NCAP 規	章	修訂 TNCAP 條文草	案	對應 TNCAP 條文	
4.2.3 Position of the GVT	X _{GVT} ,			3.12.3.2.3 試驗過程中全	XGVT		
during the entire test	$Y_{GVT} \\$			球目標車之位置	$\underline{\mathbf{Y}_{\mathrm{GVT}}}$		
4.2.4 Speed of the VUT	$V_{long,VUT}$	4.2.3 Speed of the VUT	Vlong	3.12.3.2.4 試驗過程中受	$V_{long,VUT}$	3.12.3.2.3 試驗過程中受驗	Vlong
during the entire test	$V_{lat,VUT} \\$	during the entire test	VUT	驗車輛之速度	$V_{\text{lat},\text{VUT}}$	車輛之速度	VUT
		•V _{crossing} , speed when VUT	$Vlat_{VUT} \\$		V_{GVT}	(1) <u>V_{crossing},</u> 受驗車輛越	Vlat _{VUT}
		crosses the line	V_{crossing}			線時之速度	$\underline{V_{crossing}}$
4.2.5 Speed of the GVT	V_{GVT}			3.12.3.2.5 試驗過程中全			
during the entire test				球目標車輛之速度			
4.2.6 Yaw velocity of the	$oldsymbol{\psi}_{ ext{VUT}}$	4.2.4 Yaw velocity of the	$oldsymbol{\psi}_{ ext{VUT}}$	3.12.3.2.6 試驗過程中受	$oldsymbol{\psi}_{ ext{VUT}}$	3.12.3.2.4 試驗過程中受驗	$oldsymbol{\psi}_{ ext{VUT}}$
VUT during the entire test		VUT during the entire test		驗車輛之橫擺角速度		車輛之橫擺角速度	
4.2.7 Yaw velocity of the	$oldsymbol{\psi}_{ ext{GVT}}$			3.12.3.2.7 試驗過程中全	$\underline{\boldsymbol{\psi}}_{\mathrm{GVT}}$		
GVT during the entire test				球目標車之橫擺角速度			
4.2.8 Steering wheel	$\Omega_{ m VUT}$	4.2.5 Steering wheel velocity	Ω_{VUT}	3.12.3.2.8 試驗過程中受	$\Omega_{ m VUT}$	3.12.3.2.5 試驗過程中受驗	$\Omega_{ m VUT}$
velocity of the VUT during		of the VUT during the entire		驗車輛之方向盤轉速		車輛之方向盤轉速	
the entire test		test					
4.3 Measuring Equipment		4.3 Measuring Equipment		3.12.3.3 量測配備精度		3.12.3.3 量測配備精度	
4.3.1 Equip the VUT v	with data	4.3.1 Equip the VUT wi	th data	3.12.3.3.1 受驗車輛應配備數	據量測與	3.12.3.3.1 受驗車輛應配備數	據量測與
measurement and a	acquisition	measurement and acc	quisition	採集配備,用以抽樣及記錄	聚 據,其	採集配備,用以抽樣及記錄	數據,其
equipment to sample and re	ecord data	equipment to sample and rec	ord data	精準度最低要求如下:		精準度最低要求如下:	
with an accuracy of at least:		with an accuracy of at least:		(1) 受驗車輛與全球目標.	車縱向速	(1) 受驗車輛縱向速度:0.1	km/h;
• VUT and GVT longitudina	l speed to	• VUT longitudinal speed to 0	.1km/h;	度:0.1km/h;		(2) 受驗車輛之橫向及縱下	句位置:
0.1km/h;		• VUT lateral and long	gitudinal	(2) 受驗車輛與全球目標車	之横向及	0.03m;	
• VUT and GVT lateral and		position to 0.03m;		縱向位置:0.03m;			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
longitudinal position to 0.03m;	• VUT heading angle to 0.1°;	(3) 受驗車輛方向角 (heading	(3) 受驗車輛方向角 (heading
• VUT heading angle to 0.1°;	• VUT yaw rate to 0.1°/s;	angle): 0.1° ;	angle): 0.1°;
• VUT and GVT yaw rate to 0.1°/s;		(4) 受驗車輛 <u>與全球目標車</u> 橫擺角速	(4) 受驗車輛橫擺角速度:0.1°/s;
		度:0.1°/s;	
4.4 Data Filtering	4.4 Data Filtering	3.12.3.4 數據濾波	3.12.3.4 數據濾波
4.4.1 Filter the measured data as	4.4.1 Filter the measured data as	3.12.3.4.1 依據下列原則對量測所得數	3.12.3.4.1 依據下列原則對量測所得數
follows:	follows:	據進行濾波:	據進行濾波:
4.4.1.2 Acceleration, yaw rate, steering	4.4.1.2 Acceleration, yaw rate and	3.12.3.4.1.2 加速度、橫擺角速度、方	3.12.3.4.1.2 加速度、横擺角速度及方
wheel torque and steering wheel	steering wheel torque with a 12-pole	向盤扭力以及方向盤轉速由 12-pole	向盤扭力由 12-pole phaseless 巴特沃
velocity with a 12-pole phaseless	phaseless Butterworth filter with a cut	phaseless 巴特沃斯濾波器	斯濾波器(Butterworth filter)及 10Hz
Butterworth filter with a cut off	off frequency of 10Hz.	(Butterworth filter)及 10Hz 之截止頻	之截止頻率進行濾波。
frequency of 10Hz.		率進行濾波。	
5 GLOBAL VEHICLE TARGET		3.12.4 全球目標車	
5.1 Specification		3.12.4.1 規格	
5.1.1 Conduct the tests in this protocol		3.12.4.1.1 進行試驗時,應使用全球目	
using the Global Vehicle Target (GVT)		標車 (GVT),如圖 3 所示。全球目	
as shown in Figure 3 below. The GVT		標車模擬一般 M1 類小客車之光學儀	
replicates the visual, radar and LIDAR		器、雷達及光達 (LIDAR)。	
attributes of a typical M ₁ passenger			
vehicle.			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
DRI * 360		DRI* 360	
Figure 3: Global Vehicle Target (GVT)		圖 3:全球目標車(GVT)	
5.1.2 The GVT is designed to work		3.12.4.1.2 全球目標車應能辨識下列	
with the following types of sensors:		型式之感測器:	
• Radar (24 and 77 GHz)		(1) <u>雷達(24 與 77 GHz)</u>	
•LIDAR		(2) <u>光達</u>	
• Camera		(3) <u>攝影機</u>	
When a manufacturer believes that the		如車輛業者認為受驗車裝設非上述	
GVT is not suitable for another type of		之其他型式感測器且不適用於全球	
sensor system used by the VUT but not		且標車時,則車輛業者應與 TNCAP	
listed above, the manufacturer is asked		執行機構聯繫。	
to contact the Euro NCAP Secretariat.			
6 TEST CONDITIONS	5 TEST CONDITIONS	3.12.5 試驗條件	<u>3.12.4</u> 試驗條件
6.1 Test Track			
6.1.1 Conduct tests on a dry (no visible	5.1 Test Track	3.12.5.1 試驗道路	<u>3.12.4.1</u> 試驗道路
moisture on the surface), uniform,	5.1.1 Conduct tests on a dry (no visible	3.12.5.1.1 試驗道路應乾燥(試驗路面	3.12.4.1.1 試驗道路應乾燥(試驗路面
solid-paved surface with a maximum	moisture on the surface), uniform,	無明顯可見之水分)、平整、固態鋪	無明顯可見之水分)、平整、固態鋪

			,
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
slope of 1% in the longitudinal	solid-paved surface with a consistent	設之路面,縱向最大坡度為1%,車	設之路面, <u>坡度應介於水平至 1%之</u>
direction, < 2% for half a lane width	slope between level and 1%. The test	道中心線兩側之各側車道橫向最大	間。試驗路面之最高煞車係數(PBC)
either side of the centreline and < 3%	surface shall have a minimal peak	坡度應小於2%,及兩側試驗車道外	<u>應大於等於 0.9</u> 。
for the outer half of the test lane in	braking coefficient (PBC) of 0.9.	之横向最大坡度應小於3%。	
lateral direction.			
6.1.2 The test surface shall have a	5.1.2 The surface must be paved and	3.12.5.1.2 試驗路面之最高煞車係數	<u>3.12.4.1.2</u> 試驗道路應為鋪設路面,試
minimal peak braking coefficient	may not contain any irregularities (e.g.	<u>(PBC)應大於等於 0.9,</u> 試驗道路	驗路徑 <mark>兩</mark> 側 3.0m 內及試驗結束時受
(PBC) of 0.9, must be paved and may	large dips or cracks, manhole covers	應為鋪設路面,試驗路徑之中心任一	驗車輛前方 30m 內,不得有任何可
not contain any irregularities (e.g.	or reflective studs) within a lateral	<u>側</u> 3.0m 內及試驗結束時受驗車輛前	能造成感測器偵測異常之不平整處
large dips or cracks, manhole covers	distance of 3.0m to either side of the	方 30m 內,不得有任何可能造成感	(如:驟降斜坡、裂縫、人孔蓋或反
or reflective studs) within a lateral	test line(s) and with a longitudinal	測器偵測異常之不平整處(如:驟降	光路釘)。
distance of 3.0m to either side of the	distance of 30m ahead of the VUT	斜坡、裂縫、人孔蓋或反光路釘)。	
centre of the test lane and with a	from the point after the test is		
longitudinal distance of 30m ahead of	complete.		
the VUT from the point after the test is			
complete.			
6.1.3 Lane Markings and Road Edge	5.1.3 Line Markings	<u>3.12.5.1.3</u> 車道標線 <u>與道路邊緣</u>	<u>3.12.4.1.3</u> 車道標線
6.1.3.1 The tests described in this	5.1.3.1 The LDW and LKA tests	3.12.5.1.3.1 車道維持輔助系統、車道	3.12.4.1.3.1 車道維持輔助系統及車道
document require use of two different	described in this document require use	偏離輔助警示系統及緊急車道維持	偏離輔助警示系統試驗,其試驗車道
types of lane markings conforming to	of two different types of lane markings	輔助系統試驗,其試驗車道寬度不得	寬度不得小於 3m。車道標線應使用
one of the lane markings as defined in	conforming to one of the lane	小於 3m。車道標線應使用白虛線,	白虛線,線段長4m,間距6m,線
UNECE Regulation 130 to mark a	markings as defined in UNECE	線段長4m,間距6m,線寬10cm。	寬 10cm。路面邊線應使用白實線,
lane with a width of 3.5 to 3.7m and a	Regulation 130 to mark a lane with a	路面邊線應使用白實線,線寬為	線寬為 15cm。

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
road edge:	width of 3.5 to 3.7m:	15cm ∘	
1. Dashed line with a width between	1. Dashed line with a width between		
0.10 and 0.25m (0.10 and 0.15m for	0.10 and 0.25m		
centerlines)	2. Solid line with a width between 0.10		
2. Solid line with a width between 0.10	and 0.25m		
and 0.25m			
3. Road Edge consisting of grass		道路邊緣由草地及/或砂礫或任何被	
and/or gravel or any other approved		認可之替代品所組成。	
surrogate			
		七、江江山、自田、山、伊、安、中、江、自、伊	
The inner edge of the lane marking		車道標線邊界內緣應距道路邊緣	
shall be at 0.20 to 0.30m from the road		0.20m 至 0.30m (鋪設試驗路面與道	
edge (transition between paved test		路邊緣材質間之過渡區),如適用。	
surface and road edge material), where			
applicable.			
The lane markings and/or road edge	\mathcal{S}		
should be sufficiently long to ensure	, ,		線距離應確保至少有 20m。
that there is at least 20m of marking	w 1000 2011 of 110111111 g 10111111111 g		
remaining ahead of the vehicle after			
the test is complete.	complete.		
		la la	
		(() + () + () + () + () + () + () + ()	
Figure 4: Layout of the lane markings	Figure 3: Layout of the lane markings	圖 4: 車道標線示意圖	圖 3: 車道標線示意圖

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.1.4 Weather conditions		3.12.5.1.4 天氣條件	
6.1.4.1 Conduct tests in dry conditions	5.1.4 Conduct tests in dry conditions	<u>3.12.5.1.4.1</u> 試驗應於環境溫度5℃ 至	<u>3.12.4.1.4</u> 試驗應於環境溫度 5°C 至
with ambient temperature above 5°C	with ambient temperature above 5°C	40°C 間之乾燥環境進行。	40°C 間之乾燥環境進行。
and below 40°C.	and below 40°C.		
6.1.4.2 No precipitation shall be falling	5.1.5 No precipitation shall be falling	<u>3.12.5.1.4.2</u> 降雨時不得進行試驗,且	3.12.4.1.5 降雨時不得進行試驗,且地
and horizontal visibility at ground	and horizontal visibility at ground	地面水平能見度應大於 1km。風速應	面水平能見度應大於 1km。風速應低
level shall be greater than 1km. Wind	level shall be greater than 1km. Wind	<u>小</u> 於 10m/s,以使受驗車輛干擾降至	於 10m/s,以使受驗車輛干擾 <u>應</u> 降至
speeds shall be below 10m/s to	speeds shall be below 10m/s to	最低。	最低。
minimise VUT disturbance.	minimise VUT disturbance.		
6.1.4.3 Natural ambient illumination	5.1.6 Natural ambient illumination must	3.12.5.1.4.3 試驗區域的自然光線應均	3.12.4.1.6 試驗區域的自然光線應均勻
must be homogenous in the test area	be homogenous in the test area and in	匀照射,白天試驗時照度應高於	照射,白天試驗時照度應高於
and in excess of 2000 lux for daylight	excess of 2000 lux for daylight testing	2000lux,且除了受驗車輛之陰影	2000lux,且除了受驗車輛之陰影
testing with no strong shadows cast	with no strong shadows cast across the	外,不得有其他陰影籠罩試驗區域。	外,不得有其他陰影籠罩試驗區域。
across the test area other than those	test area other than those caused by the	當陽光直接照射時,應確保試驗時之	當陽光直接照射時,應確保試驗時之
caused by the VUT. Ensure testing is	VUT. Ensure testing is not performed	車輛行進方向非直接朝向或背向陽	車輛行進方向非直接朝向或背向陽
not performed driving towards, or	driving towards, or away from the sun	光照射方向。	光照射方向。
away from the sun when there is direct	when there is direct sunlight.		
sunlight.			
6.1.4.4 Measure and record the	5.1.7 Measure and record the following	3.12.5.1.4.4 應於每次試驗開始前或至	3.12.4.1.7 應於每次試驗開始前或至少
following parameters preferably at the	parameters preferably at the	少每隔 30 分鐘,測量與記錄以下參	每隔30分鐘,測量與記錄以下參數:
commencement of every single test or	commencement of every single test or	數:	
at least every 30 minutes:	at least every 30 minutes:		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
a) Ambient temperature in °C;	a) Ambient temperature in °C;	(1) 現場環境溫度,以攝氏記錄;	(1) 現場環境溫度,以攝氏記錄;
b) Track Temperature in °C;	b) Track Temperature in °C;	(2) 路面溫度,以攝氏記錄;	(2) 路面溫度,以攝氏記錄;
c) Wind speed in m/s;	c) Wind speed and direction in m/s;	(3) 風速,以m/s記錄;	(3) 風速與風向,以m/s記錄;
d) Wind direction in azimuth ° and/or		(4) 風向方位角及/或指南針所指方	
compass point direction (monitoring);		<u>向(監測);</u>	
e) Ambient illumination in Lux.	d) Ambient illumination in Lux.	(5) 環境照度,以lux記錄。	(4) 環境照度,以 lux 記錄。
6.2 VUT Preparation	5.2 VUT Preparation	3.12.5.2受驗車輛整備	3.12.4.2受驗車輛整備
6.2.1 System Settings	_	3.12.5.2.1 系統設定	
elements of the system (e.g. the timing of the Lane Departure Warning or the Lane Keep Assist if present) to the middle setting or midpoint and then next poorer performing setting similar	elements of the LKA and/or LDW system (e.g. the timing of the Lane Departure Warning or the Lane Keep Assist if present) to the middle setting or midpoint and then next latest setting similar to the examples shown in	動時機,若有設置)調整至中間選項或距中間點位置但較晚發出警示之選項,如圖 <u>5</u> 所示。應關閉車道置中功能。	駛可調整之設定選項(例如:LKA 更 LDW 系統啟動時機,若有設置)調整 至中間選項或距中間點位置但較晚發
Setting 1 Setting 2 Early Setting 1 Setting 2 Setting 3 Late	Setting 1 Setting 2 Early Setting 1 Setting 2 Setting 3 Late	早 最定1 数定2 投定3 晚	平 投定1 投定2 投定3
Setting 1 Setting 2 Setting 3 Setting 4	Setting 1 Setting 2 Setting 3 Setting 4	设定1 设定2 设定3 设定4	設定1 設定2 設定3 設定4
Figure 4: System setting for testing	Figure 4: LKA and/or LDW system setting for testing		圖 <u>4</u> :LKA 及/或 LDW 系統試驗設定

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.2.2 <u>Tyres</u>	5.2.2 <u>Tyres</u>	3.12.5.2.2輪胎	3.12.4.2.2 輪胎
Perform the testing with new original	Perform the testing with new original	試驗應使用車輛業者指定之型式、尺	試驗應使用車輛業者指定之型式、尺
fitment tyres of the make, model, size,	fitment tyres of the make, model,	寸、速度代號及載重能力指數之全新	寸、速度代號及載重能力指數之全新
speed and load rating as specified by	size, speed and load rating as specified	原廠輪胎。試驗時,可更換車輛業者	原廠輪胎。試驗時,可更換車輛業者
the vehicle manufacturer. It is	by the vehicle manufacturer. It is	或代理商所提供之輪胎,前提是新的	或代理商所提供之輪胎,前提是新的
permitted to change the tyres which	permitted to change the tyres which	輪胎應符合原廠規格之型式、尺寸、	輪胎應符合原廠規格之型式、尺寸、
are supplied by the manufacturer or	are supplied by the manufacturer or	速度代號及載重能力指數。將輪胎充	速度代號及載重能力指數。將輪胎充
acquired at an official dealer	acquired at an official dealer	氣至車輛業者建議之冷胎胎壓。使用	氣至車輛業者建議之冷胎胎壓。使用
representing the manufacturer if those	representing the manufacturer if those	之輪胎胎壓應至少與一般負載狀態	之輪胎胎壓應至少與一般負載狀態
tyres are identical make, model, size,	tyres are identical make, model, size,	之胎壓(<u>L</u> oading normal condition)	之胎壓 (<u>least</u> <u>l</u> oading normal
speed and load rating to the original	speed and load rating to the original	相同。	condition)相同。
fitment. Use inflation pressures	fitment. Use inflation pressures		
corresponding to least loading normal	corresponding to least loading normal		
condition.	condition.		
Run-in tyres according to the tyre	Run-in tyres according to the tyre	依 3.12.6.1.3 節 進 行 輪 胎 磨 合	依 3.12.5.1.3 節 進行輪胎磨合
conditioning procedure specified in	conditioning procedure specified in	(run-in),磨合完畢之輪胎於整個試	(run-in),磨合完畢之輪胎於整個試
7.1.3. After running-in maintain the	6.1.3. After running-in maintain the	驗過程中應維持於車輛相同位置。	驗過程中應維持於車輛相同位置。
run-in tyres in the same position on the	run-in tyres in the same position on the		
vehicle for the duration of the testing.	vehicle for the duration of the testing.		
6.2.3 Wheel Alignment Measurement	5.2.3 Wheel Alignment Measurement	3.12.5.2.3 車輪定位測量(Wheel	<u>3.12.4.2.3</u> 車輪定位測量(Wheel
The vehicle should be subject to a	The vehicle should be subject to a	Alignment Measurement)	Alignment Measurement)
vehicle (in-line) geometry check to	vehicle (in-line) geometry check to	受驗車輛應以車輛業者之設定進行	受驗車輛應以車輛業者之設定進行
record the wheel alignment set by the	record the wheel alignment set by the	車輛幾何檢查(vehicle (in-line)	車輛幾何檢查(vehicle (in-line)
OEM. This should be done with the	OEM. This should be done with the	geometry check),以紀錄其車輪定	geometry check),以紀錄其車輪定

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
vehicle in kerb weight.	vehicle in kerb weight.	位,受驗車輛應為空車重量。	位,受驗車輛應為空車重量。
6.2.4 <u>Unladen Kerb Mass</u>	5.2.4 <u>Unladen Kerb Mass</u>	3.12.5.2.4 空車重量 (Unladen Kerb	3.12.4.2.4 空車重量 (Unladen Kerb
6.2.4.1 Fill up the tank with fuel to at	5.2.4.1 Fill up the tank with fuel to at	Mass)	Mass)
least 90% of the tank's capacity of	least 90% of the tank's capacity of fuel.	3.12.5.2.4.1 車輛燃油箱至少裝滿 90%	3.12.4.2.4.1 車輛燃油箱至少裝滿 90%
fuel.		容量的燃油。	容量的燃油。
6.2.4.2 Check the oil level and top up to	5.2.4.2 Check the oil level and top up to	<u>3.12.5.2.4.2</u> 檢查機油油位,必要時加	<u>3.12.4.2.4.2</u> 檢查機油油位,必要時加
its maximum level if necessary.	its maximum level if necessary.	注至最高油位;同樣地,其他液體若	注至最高油位;同樣地,其他液體若
Similarly, top up the levels of all other	Similarly, top up the levels of all other	有需要也可加注至其最高限值。	有需要也可加注至其最高限值。
fluids to their maximum levels if	fluids to their maximum levels if		
necessary.	necessary.		
			3.12.4.2.4.3 確認備胎及其他隨車工具
			已在車上,除此之外,車內不應有其
with any tools supplied with the	with any tools supplied with the	他物品。	他物品。
vehicle. Nothing else should be in the	vehicle. Nothing else should be in the		
car.	car.		
•	•		3.12.4.2.4.4 確認所有輪胎依車輛業者
	· ·	之建議進行充氣至適當負載狀態	
	instructions for the least loading	(appropriate loading condition) •	(appropriate loading condition) •
condition.	condition.		
			<u>3.12.4.2.4.5</u> 測量前軸及後軸重量,並
masses and determine the total mass of	masses and determine the total mass of	計算車輛之總重量。此重量即為「空	計算車輛之總重量。此重量即為「空

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
the vehicle. The total mass is the	the vehicle. The total mass is the	車重量」, 將該數據記錄於試驗資	車重量」, 將該數據記錄於試驗資
'unladen kerb mass' of the vehicle.	'unladen kerb mass' of the vehicle.	料。	料。
Record this mass in the test details.	Record this mass in the test details.		
6.2.4.6 Calculate the required ballast	5.2.4.6 Calculate the required ballast	3.12.5.2.4.6 試驗規定需配重(ballast	<u>3.12.4.2.4.6</u> 試驗規定需配重(ballast
mass, by subtracting the mass of the	mass, by subtracting the mass of the	mass) 200 公斤,且此重量應包含試	mass) 200 公斤,且此重量應包含試
test driver and test equipment from the	test driver and test equipment from the	驗駕駛及試驗配備之重量。	驗駕駛及試驗配備之重量。
required 200 kg interior load.	required 200 kg interior load.		
6.2.5 Vehicle Preparation	5.2.5 Vehicle Preparation	<u>3.12.5.2.5</u> 車輛整備	<u>3.12.4.2.5</u> 車輛整備
6.2.5.1 Fit the on-board test equipment	5.2.5.1 Fit the on-board test equipment	3.12.5.2.5.1 將車載資料擷取配備裝在	3.12.4.2.5.1 將車載資料擷取配備裝在
and instrumentation in the vehicle.	and instrumentation in the vehicle.	車輛內,並裝配所有相關電線、接線	車輛內,並裝配所有相關電線、接線
Also fit any associated cables, cabling	Also fit any associated cables, cabling	盒及電源。	盒及電源。
boxes and power sources.	boxes and power sources.		
6.2.5.2 Place weights with a mass of the	5.2.5.2 Place weights with a mass of the	3.12.5.2.5.2 置放相當於配重重量	3.12.4.2.5.2 置放相當於配重重量
ballast mass. Any items added should	ballast mass. Any items added should	(weights)。所有物品皆應穩當地固	(weights)。所有物品皆應穩當地固
be securely attached to the car.	be securely attached to the car.	定於車內。	定於車內。
6.2.5.3 With the driver in the vehicle,	5.2.5.3 With the driver in the vehicle,	3.12.5.2.5.3 駕駛上車後,分別量測車	3.12.4.2.5.3 駕駛上車後,分別量測車
	weigh the front and rear axle loads of	「 輔前、後軸重量。	輛前後軸重量。
the vehicle.	the vehicle.		
6.2.5.4 Compare these loads with the	*		
'unladen kerb mass'	"unladen kerb mass"	車重量進行比較。	車重量進行比較。

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.2.5.5 The total vehicle mass shall be	5.2.5.5 The total vehicle mass shall be	3.12.5.2.5.5 車輛總重應為空車重量加	3.12.4.2.5.5 車輛總重應為空車重量加
within $\pm 1\%$ of the sum of the unladen	within $\pm 1\%$ of the sum of the unladen	上 200 公斤,容許誤差值為±1%。前	上 200 公斤,容許誤差值為±1%。前
kerb mass, plus 200kg. The front/rear	kerb mass, plus 200kg. The front/rear	軸/後軸之空車重與加滿燃油配重	軸/後軸之空車重與加滿燃油配重
axle load distribution needs to be	axle load distribution needs to be	後,前軸/後軸重量變化皆在 5%以	後,前軸/後軸重量變化皆在 5%以
within 5% of the front/rear axle load	within 5% of the front/rear axle load	內。若受驗車輛無法符合此規範,可	內。若受驗車輛無法符合此規範,可
distribution of the original unladen	distribution of the original unladen	於車輛內移除或增加與性能表現無	於車輛內移除或增加與性能表現無
kerb mass plus full fuel load. If the	kerb mass plus full fuel load. If the	關之物品。任何用以增加重量之物品	關之物品。任何用以增加重量之物品
vehicle differs from the requirements	vehicle differs from the requirements	應穩當地固定於車內。	應穩當地固定於車內。
given in this paragraph, items may be	given in this paragraph, items may be		
removed or added to the vehicle which	removed or added to the vehicle which		
has no influence on its performance.	has no influence on its performance.		
Any items added to increase the	Any items added to increase the		
vehicle mass should be securely	vehicle mass should be securely		
attached to the car.	attached to the car.		
6.2.5.6 Repeat paragraphs 6.2.5.3 and	5.2.5.6 Repeat paragraphs 5.2.5.3 and	3.12.5.2.5.6 重 複 3.12.5.2.5.3 與	<u>3.12.4.2.5.6</u> 重 複 <u>3.12.4.2.5.3</u> 與
6.2.5.4 until the front and rear axle	5.2.5.4 until the front and rear axle	3.12.5.2.5.4 之動作,直到前後軸重量	3.12.4.2.5.4 之動作,直到前後軸重量
loads and the total vehicle mass are	loads and the total vehicle mass are	及車輛總重符合條文 <u>3.12.5.2.5.5</u> 之	及車輛總重符合條文 <u>3.12.4.2.5.5</u> 之
within the limits set in paragraph	within the limits set in paragraph	規定。增加或移除重量時應謹慎執	規定。增加或移除重量時應謹慎執
6.2.5.5. Care needs to be taken when	5.2.5.5. Care needs to be taken when	行,以維持車輛之慣性屬性(inertial	行,以維持車輛之慣性屬性(inertial
adding or removing weight in order to	adding or removing weight in order to	properties)。試驗內容應記錄最終之	properties)。試驗內容應記錄最終之
approximate the original vehicle	approximate the original vehicle	軸重。試驗狀況應記錄受驗車輛之軸	軸重。試驗狀況應記錄受驗車輛之軸
inertial properties as close as possible.	inertial properties as close as possible.	重。	重。
Record the final axle loads in the test	Record the final axle loads in the test		
details. Record the axle weights of the	details. Record the axle weights of the		
VUT in the 'as tested' condition.	VUT in the 'as tested' condition.		

6.2.5.7 Vehicle dimensional 5.2.5.7 measurements shall be taken. For purposes of this test procedure, vehicle dimensions shall be represented by a two dimensional polygon defined by the lateral and longitudinal dimensions relative to the centroid of the vehicle using the standard SAE coordinate system. The corners of the polygon are defined by the lateral and longitudinal locations where the plane of the outside edge of each tyre makes contact with the road. This plane is defined by running a perpendicular line from the outer most edge of the tyre to the ground at the wheelbase, as illustrated in Figure 5.



Vehicle 5: dimensional Figure Figure lmeasurements

Vehicle measurements shall be taken. For purposes of this test procedure, vehicle dimensions shall be represented by a two dimensional polygon defined by the lateral and longitudinal dimensions relative to the centroid of the vehicle using the standard SAE coordinate system. The corners of the polygon are defined by the lateral and longitudinal 6所示。 locations where the plane of the outside edge of each tyre makes contact with the road. This plane is defined by running a perpendicular line from the outer most edge of the tyre to the ground at the wheelbase, as illustrated in Figure 5.



Vehicle dimensional lmeasurements

此試驗中,車輛尺寸應按標準美國自 動車工程協會(SAE)座標系統(SAE coordinate system)規範呈現,包含 以 2D 多邊形定義出相對於車輛中心 之横向與縱向尺寸。多邊形係以各輪 胎外緣與路面接觸之平面所得之橫 向與縱向位置組成。平面係指輪胎的 最外緣與軸距垂直相交至地面,如圖

dimensional 3.12.5.2.5.7 應進行車輛尺寸量測。在 3.12.4.2.5.7 應進行車輛尺寸量測。在 此試驗中,車輛尺寸應按標準美國自 動車工程協會(SAE)座標系統(SAE coordinate system)規範呈現,包含 以2D 多邊形定義出相對於車輛中心 之横向與縱向尺寸。多邊形係以各輪 胎外緣與路面接觸之平面所得之橫 向與縱向位置組成。平面係指輪胎的 最外緣與軸距垂直相交至地面,如圖 5 所示。



圖 6: 車輛尺寸量測

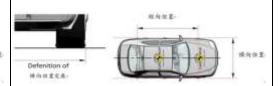


圖 5:車輛尺寸量測

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
6.2.5.8 The vehicle's wheelbase and the	5.2.5.7 The vehicle's wheelbase and the	3.12.5.2.5.8 車輛軸距及橫向與縱向位	3.12.4.2.5.8 車輛軸距及橫向與縱向位
lateral and longitudinal locations shall	lateral and longitudinal locations shall	置皆應量測並記錄。	置皆應量測並記錄。
be measured and recorded.	be measured and recorded.		
7 TEST PROCEDURE	6 TEST PROCEDURE	3.12.6 試驗程序	<u>3.12.5</u> 試驗程序
7.1 VUT Pre-test Conditioning	6.1 VUT Pre-test Conditioning	3.12.6.1 受驗車輛試驗前調整	<u>3.12.5.1</u> 受驗車輛試驗前調整
7.1.1 General			3.12.5.1.1 一般通則
7.1.1.1 A new car is used as delivered	6.1.1.1 A new car is used as delivered	3.12.6.1.1.1 以新車送至檢測機構;然	
to the test laboratory, however a car	to the test laboratory.	而,車輛亦可能已用於其他 TNCAP	
may have been used for other Euro		主動安全試驗。	
NCAP active safety tests.			
7.1.1.2 If requested by the vehicle	6.1.1.2 If requested by the vehicle	3.12.6.1.1.2 若車輛業者要求且該車輛	3.12.5.1.1.2 若車輛業者要求,受驗車
manufacturer and where not already	manufacturer, drive a maximum of	<u>尚未執行其他試驗者</u> ,受驗車輛可行	輛可行駛於市區及鄉村道路之交通
performed for other tests, drive a	100km on a mixture of urban and rural	駛於市區及鄉村道路之交通環境及	環境及設施下最多 100 公里,以校準
maximum of 100km on a mixture of	roads with other traffic and roadside	設施下最多 100 公里,以校準感測器	感測器系統。行駛時,應避免劇烈加
urban and rural roads with other traffic	furniture to 'calibrate' the sensor	系統。行駛時,應避免劇烈加速及煞	速及煞車。
and roadside furniture to 'calibrate'	system. Avoid harsh acceleration and	車。	
the sensor system. Avoid harsh	braking.		
acceleration and braking.			
7.1.2 <u>Brakes</u>	6.1.2 Brakes	3.12.6.1.2 煞車	3.12.5.1.2 煞車
7.1.2.1 Condition the vehicle's brakes	6.1.2.1 If not performed already for	3.12.6.1.2.1 若尚未完成或檢測機構尚	3.12.5.1.2.1 若尚未進行過其他試驗,
in the following manner, if it has not	other tests, or when the vehicle	未進行 100 公里的行駛,則依下列方	或車輛業者要求,應依下列方式調節

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
been done before or in case the lab has	manufacturer requests, condition the	式調節車輛煞車:	車輛煞車:
not performed a 100km of driving:	vehicle's brakes in the following		
	manner:		
• Perform twenty stops from a speed	• Perform ten stops from a speed of	(1) 自車速 56km/h 以平均減速度為	(1) 自車速 56km/h 以平均減速度為
of 56km/h with an average	56km/h with an average deceleration	0.5 至 0.6g 之方式執行 <u>20</u> 次煞	0.5 至 0.6g 之方式執行 <u>10</u> 次煞
deceleration of approximately 0.5 to	of approximately 0.5 to 0.6g.	停。	停。
0.6g.	• Immediately following the series of		
• Immediately following the series of	56km/h stops, perform three	(2) 完成上述 56km/h 一系列煞車	(2) 完成上述 56km/h 一系列煞車
56km/h stops, perform three	additional stops from a speed of	後,緊接著再以 72km/h 的速度	後,緊接著再以 72km/h 的速度
additional stops from a speed of	72km/h, each time applying	煞停 3 次,每次應以足夠的力度	煞停 3 次,每次應以足夠的力度
72km/h, each time applying	sufficient force to the pedal to	踩下煞車,讓車輛的防鎖死煞車	踩下煞車,讓車輛的防鎖死煞車
sufficient force to the pedal to	operate the vehicle's antilock braking	系統 (antilock braking system,	系統 (antilock braking system,
operate the vehicle's antilock braking	system (ABS) for the majority of	ABS)可於每次煞車時充分作動。	ABS)可於每次煞車時充分作動。
system (ABS) for the majority of	each stop.		
each stop.			
• Immediately following the series of	•Immediately following the series of	(3) 完成上述 72km/h 一系列煞車	(3) 完成上述 72km/h 一系列煞車
72km/h stops, drive the vehicle at a	72km/h stops, drive the vehicle at a	後,隨即應以 72km/h 的速度行	後,隨即應以 72km/h 的速度行
speed of approximately 72km/h for	speed of approximately 72km/h for	駛 5 分鐘以冷卻煞車。	駛 5 分鐘以冷卻煞車。
five minutes to cool the brakes.	five minutes to cool the brakes.		
	•Initiation of the first test shall begin		(4) 第一項試驗必須於調整煞車後 2
	within two hours after completion of		小時內開始進行。
	the brake conditioning		
7.1.3 <u>Tyres</u>	6.1.3 Tyres	3.12.6.1.3 輪胎	3.12.5.1.3 輪胎

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2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
7.1.3.1 Condition the vehicle's tyres in	6.1.3.1 Condition the vehicle's tyres in	3.12.6.1.3.1 若未完成其他試驗或檢測	3.12.5.1.3.1 以下列方式調節車輛輪
the following manner to remove the	the following manner to remove the	機構未進行 100 公里的行駛,則以下	胎,以磨除輪胎之毛邊:
mould sheen, if this has not been done	mould sheen:	列方式調節車輛輪胎,以磨除輪胎之	
before for another test or in case the		毛邊:	
lab has not performed a 100km of			
driving:			
7.1.3.2 In case of instability in the	6.1.3.2 In case of instability in the	<u>3.12.6.1.3.2</u> 如正弦轉向模式	<u>3.12.5.1.3.2</u> 如正弦轉向模式
sinusoidal driving, reduce the	sinusoidal driving, reduce the	(sinusoidal driving)致使車身不穩	(sinusoidal driving)致使車身不穩
amplitude of the steering input to an	amplitude of the steering input to an	定,則應減少方向盤輸入之振幅至安	定,則應減少方向盤輸入之振幅至安
appropriately safe level and continue	appropriately safe level and continue	全水平,並完成4次操作。	全水平,並完成4次操作。
the four passes.	the four passes.		
7.1.4 System Check	6.1.4 LKA/LDW System Check	<u>3.12.6.1.4</u> 系統檢查	3.12.5.1.4 車道維持輔助/車道偏離輔
	·	_	助警示系統檢查
7.1.4.1 Before any testing begins,	6.1.4.1 Before any testing begins,	3.12.6.1.4.1 試驗開始前,應以可觸發	<u>3.12.5.1.4.1</u> 試驗開始前,應以可觸發
perform a maximum of ten runs, to	perform a maximum of ten runs, to	系統之最低試驗速度行駛至多 10	系統之最低試驗速度行駛至多 10
	ensure proper functioning of the		· 次,以確保系統正常運作。
system.	system.		
	3		
7.2 Test Scenarios	6.2 Test Scenarios	<u>3.12.6.2</u> 試驗情境	<u>3.12.5.2</u> 試驗情境
The performance of the VUT LSS is	6.2.1 The performance of the VUT LSS	車道輔助系統之受驗車輛性能,其系	3.12.5.2.1 車道輔助系統之受驗車輛性
	is assessed in the LDW-SL, LDW-DL,	統應以下述不同情境進行評等:	能,應以下圖所示之 LDW-實線、
applicable to the system:	LKA-SL scenarios as shown below.		LDW-虛線、LKA-實線情境進行評
- Emergency Lane Keeping (only		(1) 緊急車道維持輔助系統(僅車道	等。
when LSS system is default ON)		輔助系統預設為開啟狀態)	

2019 年版 Euro NCAP 規章 2017年版 Euro NCAP 規章 對應 TNCAP 條文 修訂 TNCAP 條文草案 - Lane Keep Assist (2) 車道維持輔助系統 (3) 車道偏離輔助警示系統 - Lane Departure Warning There is no specific performance test 無盲點監測系統之特定性能試驗(僅 for Blind Spot Monitoring Systems 警示) LDW-Solid Line 車道偏離輔助警示系統-實線 (warning only). 3.12.6.2.1 依各試驗情境之側向速度範 7.2.1 Tests in all scenarios will be performed with 0.1 m/s incremental 圍,所有試驗情境以每次增加 0.1 m/s LDW-Dashed Line 車道偏離輔助警示系統-虛線 steps within the lateral velocities 進行。 specified for the test scenarios. LKA-Solid Line (Full lane marking) 車道維持輔助系統-實線(完整車道 標線) 7.2.2 For testing purposes, assume an 6.2.2 For testing purposes, assume an 3.12.6.2.2 試驗過程中,假設試驗路徑 3.12.5.2.2 試驗過程中,假設試驗路徑 一開始為直線,緊接以固定半徑1200 initial straight line path followed by a initial straight line path followed by a 一開始為直線,緊接以指定試驗情境 fixed radius as specified for the test fixed radius of 1200m followed again 之固定弧度,再接著又為直線路徑。 公尺弧度,再接著又為直線之路徑。 scenarios, followed again by a straight by a straight line, hereby known as the 可由駕駛直接控制受驗車輛,另試驗 可由駕駛直接控制受驗車輛,另試驗 test path. Control the VUT with driver 若有需要,可以使用調節車輛控制之 若有需要,可以使用調節車輛控制之 line, hereby known as the test path. 控制系統作替代。 Control the VUT with driver inputs or inputs or using alternative control 控制系統作替代。 using alternative control systems that systems that can modulate the vehicle can modulate the vehicle controls as controls as necessary to perform the

necessary to perform the tests.

tests.

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
	6.2.3 LDW tests will be performed with		3.12.5.2.3 車道偏離輔助警示系統試驗
	lateral velocities of 0.3m/s and 0.5m/s		應以側向速度為 0.3m/s 與 0.5m/s,
	for both left and right hand side		分別執行左右側車道偏離試驗。
	departures.		
			3.12.5.2.4 車道維持輔助系統試驗應在
	6.2.4 LKA tests will be performed with		側向速度為 0.1 至 1.0m/s 範圍內,以
	0.1 m/s incremental steps (see 6.4.5)		每次增加 0.1 m/s 側向速度 (參
	within the lateral velocity range of 0.1		3.12.5.4.5)分別執行左右側車道偏離
	to 1.0m/s for both left and right hand		試驗。若側向速度等於或大於
	side departures. For lateral velocities		0.6m/s,且 車道維持輔助系統仍持
	of 0.6m/s and greater, continue testing		續介入即可繼續進行試驗。
	as long as the LKA system continues		
	to intervene.		
7.2.2.1 The vehicle manufacturer shall	6.2.4.1 The vehicle manufacturer shall	3.12.6.2.2.1 車輛業者應提供描述閉迴	<u>3.12.5.2.4.1</u> 車輛業者應提供描述閉堰
provide information describing the	provide information describing the	路路徑 (closed loop path) 及/或速度	路路徑(closed loop path)及/或速度
location when the closed loop path	location when the closed loop path	控制之結束時機點資訊,以避免每次	控制之結束時機點資訊,以避免每次
and/or speed control shall be ended so	and/or speed control shall be ended so	試驗時干擾 <u>系統</u> 作動;否則應於每次	試驗時干擾 LKA 系統作動;否則應
as not to interfere with the system	as not to interfere with LKA	側向速度試驗前,應進行兩次校準行	於每次側向速度試驗前,應進行兩次
intervention for each test. Otherwise	intervention for each test. Otherwise	駛,以判定 <u>系統</u> 何時啟動。比較兩次	校準行駛,以判定 <u>LKA 系統</u> 何時啟
for each lateral velocity, two	for each lateral velocity, two	駕駛之方向盤扭力、車輛速度、或橫	動。比較兩次駕駛之方向盤扭力、車
calibration runs shall be performed in	calibration runs shall be performed in	擺角速度(yaw rate)是否顯著不同,	輛速度、或橫擺角速度(yaw rate)
order to determine when the system	order to determine when the LKA	以識別系統介入時機。	是否顯著不同,以識別 LKA 系統介
activates. Compare steering wheel	activates. Compare steering wheel		入時機。
torque, vehicle speed or yaw rate of	torque, vehicle speed or yaw rate of		
both runs and determine where there is	both runs and determine where there is		

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
a notable difference that identifies the	a notable difference that identifies the		
location of intervention.	location of LKA intervention.		
Run 1: Complete the required test path	Run 1: Complete the required test path	第一趟:關閉 <u>系統</u> 狀態下完成要求之	第一趟:關閉 <u>車道維持輔助系統</u> 狀態
with the system turned OFF and	with LKA turned OFF and measure	試驗路徑,以及量測控制參數。	下完成要求之試驗路徑,以及量測控
measure the control parameter	the control parameter		制參數。
		the live and of the live in the first	# 10 - 10 d + 15 / 15 5 / 1 / 1 / 6
	1 1	第二趟:開啟系統狀態下完成要求之	
•	with LKA turned ON and measure the	試驗路徑,以及重測控制麥數。	下完成要求之試驗路徑,以及量測控 制參數。
measure the control parameter	control parameter		则
7.2.2.2 Complete the tests while ending	6.2.4.2 Complete the LKA tests while	3126222 系統的動前結束閉迴路控	3125242 电道维持輔助系統的動前
	•	制下,如 <u>3.12.6.2.2.1</u> 規範。於試驗	
- ·		路徑進行之校準行駛,應至少於介入	
		位置前之縱向 5m 處解除(release)轉	
steering control should occur on the	release of steering control should	向控制。	於車道維持輔助系統介入位置前之
test path and no less than 5m	occur on the test path and no less than		縱向 5m 處解除(release)轉向控制。
longitudinally before the location of	5m longitudinally before the location		
intervention.	of LKA intervention.		
7.2.3 The following parameters should			
be used to create the test paths:	be used to create the test paths:		徑:
(請參考末頁表格)		(請參考末頁表格)	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
Where the lateral offset d from the lane marking or road edge:	Lateral velocity Feb. Var velocity Individual Lateral decision Individual Lateral decision Individual Lateral Offset Individual I	車道標線或道路邊緣的側向偏移量:	100 101 10
d = d1 + d2 + Half of the vehicle		<u>d = d1 + d2 +車輛寬度的一半(m)</u>	
width (m)	Where the offset from lane marking	以及:	車道標線偏離 (d1):
With:	(d1):	d1:橫擺角曲線建立時之側向偏離距	
d1: Lateral distance travelled during		<u>離(m)</u>	d1 = 越線側向速度穩定狀態之側向
curve establishing yaw angle (m)	d1 = Lateral distance travelled during		偏離距 離 (m)
	Vlat steady state (m)		+ 橫擺角曲線建立時之側向偏離距
d2: Lateral distance travelled during	+ Lateral deviation during curve	d2:側向速度穩定狀態之側向偏離距	<u>離(m)</u>
V _{lat} steady state (m)	establishing yaw angle (m)	<u>離 (m)</u>	
(請參考末頁圖示)	+ Half of the vehicle width (m)	(請參考末頁圖示)	+ 車輛寬度的一半 (m)
7.2.4 Emergency Lane Keeping tests 7.2.4.1 Road Edge tests ELK Road Edge tests will be performed with 0.1 m/s incremental steps within the lateral velocity range of 0.2 to 0.5m/s for departures at the front passenger side only.		3.12.6.2.4 緊急車道維持輔助系統試驗 3.12.6.2.4.1 道路邊緣試驗 道路邊緣試驗應於側向速度 0.2 至 0.5m/s 範圍內,以每次增加 0.1 m/s 側向速度進行,其僅適用於朝第一排 乘客側之偏離。 (請參考末頁圖示)	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
7.2.4.2 Oncoming vehicle		3.12.6.2.4.2 對向來車試驗	
7.2.4.2.1 For the oncoming scenario the		3.12.6.2.4.2.1 對向來車之試驗情境,	
GVT will follow a straight line path in		全球目標車之直線車道,其相鄰於受	
the lane adjacent to the VUT's initial		驗車輛初始位置並與其行駛方向相	
position, in the opposite direction to		反。全球目標車之中心線應距車道中	
the VUT. The straight line path of the		之虛線標線內側 1.5m。	
target will be 1.5m from the inner side			
of the centre dashed lane marking.			
7.2.4.2.2 The paths of the VUT and		3.12.6.2.4.2.2 同步受驗車輛及全球目	
target vehicle will be synchronised so		標車之路徑,使得車輛的前緣側方寬	
that the front edges of the vehicle meet		度 10%重疊處,為雙方車輛發生碰	
with a lateral position that gives a 10%		撞之位置(若系統未作動)。	
overlap (assuming no system reaction)			
of the width of the VUT.			
-Tva		(GOT+)	
7.2.4.2.3 ELK oncoming vehicle tests		3.12.6.2.4.2.3 對向來車試驗應於側向	
will be performed with 0.1 m/s		速度 0.3 至 0.6m/s 範圍內,以每次增	
incremental steps within the lateral		加 0.1 m/s 側向速度進行,僅適用於	
velocity range of 0.3 to 0.6m/s for		朝駕駛側之偏離。	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
departures at the driver side only.			
7.2.4.3 Overtaking vehicle		3.12.6.2.4.3 車道超車試驗	
7.2.4.3.1 For the overtaking scenario a		3.12.6.2.4.3.車道超車之試驗情境,全	
GVT will follow a straight line path in		球目標車之直線車道,其相鄰於受驗	
the lane adjacent to the VUT's initial		車輛初始位置並與其行駛方向相	
position at the driver side, in the same		同。全球目標車之中心線應距車道中	
direction as the VUT. The straight line		之虛線標線內側 1.5m。	
path of the target will be 1.5m from			
the inner side of the centre dashed lane			
marking.			
7.2.4.3.2 The paths of the VUT and		3.12.6.2.4.3.2 同步受驗車輛及全球目	
target vehicle will be synchronised so		標車之路徑,使得全球目標車之縱	
that the longitudinal position of the		向位置前緣與受驗車輛之縱向位置	
leading edge of the target vehicle is		後軸,為雙方車輛發生碰撞之位置	
equal to that of the rear axle of the		(若系統未作動)。	
VUT at the impact point (assuming no			
system reaction).			
7.2.4.3.3 ELK overtaking vehicle tests		3.12.6.2.4.3.3 車道超車試驗應於側向	
will be performed with 0.1m/s		速度 0.3 至 0.6m/s 範圍內之非刻意之	
incremental steps within the lateral		變換車道,以及側向速度 0.5 至	
velocity range of 0.3 to 0.6m/s for		0.7m/s 之刻意變換車道,以每次增加	
unintentional lane change and 0.5 to		0.1 m/s 側向速度進行,僅適用於朝	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
0.7m/s for intentional lane changes for		駕駛側之偏離。	
departures at the driver side only.			
7.2.4.3.4 Both unintentional and		3.12.6.2.4.3.4 應於下述兩種情況,進	
intentional lane changes are tested in		行非刻意與刻意的車道變換試驗:	
two situations:		(1) 全球目標車及受驗車輛以相同	
- GVT and VUT travel at the same		之速度行駛 (無相對速度)	
speed (no relative velocity)		(2) 全球目標車 @ 80km /h 超車受	
- GVT @ 80km/h is overtaking the		<u> 驗車輛 @ 72km / h (相對速度</u>	
VUT @ 72km/h (relative velocity of		<u>為 8km/h)</u>	
8km/h)			
7.2.4.3.4 The following parameters		3.12.6.2.4.3.4 應使用以下參數作為刻	
should be used to create the test paths		意變換車道計算試驗路徑,其中在	
for the intentional lane change tests		T _{STEER} 之前以 1.0s ± 0.5s 啟動轉向警	
where the turn signal is applied at 1.0s		<u>示:</u>	
\pm 0.5s before T _{STEER} :		(請參考末頁表格)	
(請參考末頁表格)			
Where the lateral offset d from the		車道標線的側向偏移量:	
lane marking:			
d = d1 + d2 + Half of the vehicle		d = d1 + d2 + 車輛寬度的一半(m)	
width (m)			
With:		以及:	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
d1: Lateral distance travelled during		d1:橫擺角曲線建立時之側向偏離距	
curve establishing yaw angle (m)		<u>離 (m)</u>	
d2: Lateral distance travelled during		d2:側向速度穩定狀態之側向偏離距	
V _{lat} steady state (m)		<u>離(m)</u>	
(*641		(*GVT	
7.2.5 <u>Lane Keep Assist tests</u>		3.12.6.2.5 車道維持輔助系統試驗	
7.2.5.1 Road Edge tests		3.12.6.2.5.1 道路邊緣試驗	
LKA Road Edge tests will be		道路邊緣試驗應於速度 0.2 至 0.5m/s	
performed with 0.1 m/s incremental		範圍內,以每次增加 0.1 m/s 側向速	
steps within the lateral velocity range		度進行,僅適用於朝第一排乘客側之	
of 0.2 to 0.5m/s for departures at the		偏離。	
front passenger side only.		(請參考末頁圖示)	
(請參考末頁圖示)			
7.2.5.2 Dashed line tests		3.12.6.2.5.2 虚線試驗	
LKA Dashed line tests will be		車道維持輔助系統之虛線試驗應於	
performed with 0.1 m/s incremental		側向速度 0.2 至 0.5m/s 範圍內,以每	
steps within the lateral velocity range		次增加 0.1 m/s 側向速度進行,適用	
of 0.2 to 0.5m/s for departures at both		於朝車輛兩側之偏離。	
sides of the vehicle.			

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
7.2.5.3 Solid line tests		3.12.6.2.5.3 實線試驗	
LKA Solid line tests will be performed		車道維持輔助系統之實線試驗應於	
with 0.1 m/s incremental steps within		側向速度 0.2 至 0.5m/s 範圍內,以	
the lateral velocity range of 0.2 to		每次增加 0.1 m/s 側向速度進行,適	
0.5m/s for departures at both sides of		用於車輛兩側之偏離。	
the vehicle.			
C=19		C=19	
7.2.6 Lane Departure Warning tests		3.12.6.2.6 車道偏離警示輔助系統試驗	
In case of LDW only systems or		若僅有車道偏離警示輔助系統或系	
systems where LDW can be used as a		統可以將車道偏離警示輔助作為獨	
standalone function, perform the tests		立功能,則應執行以下試驗。當車道	
below. When combined with an LKA		維持輔助系統及/或緊急車道維持輔	
and/or ELK system, assess the LDW		助系統整合使用時,可併在車道維持	
performance during LKA or ELK		輔助系統或緊急車道維持輔助系統	

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
testing, excluding the intentional		試驗期間,評等車道偏離警示輔助系	
overtaking scenario.		統性能,不包括刻意超車試驗情境。	
7.2.6.1 Dashed line tests		3.12.6.2.6.1 虚線試驗	
LDW Dashed line tests will be		車道偏離警示輔助系統之虛線試驗	
performed with 0.1 m/s incremental		應於側向速度 0.2 至 0.5m/s 範圍內,	
steps within the lateral velocity range		以每次增加 0.1 m/s 側向速度進行,	
of 0.2 to 0.5m/s for departures at both		適用於朝車輛兩側之偏離。	
sides of the vehicle.			
7.2.6.2 Solid line tests		<u>3.12.6.2.6.2 實線試驗</u>	
LDW Solid line tests will be		車道偏離警示輔助系統之實線試驗	
performed with 0.1 m/s incremental		應於向速度 0.2 至 0.5m/s 範圍內,以	
steps within the lateral velocity range of		每次增加 0.1 m/s 側向速度進行,用	
0.2 to 0.5m/s for departures at both		於朝車輛兩側之偏離。	
sides of the vehicle			
7.3 Test Conduct		<u>3.12.6.3</u> 試驗規範(Test Conduct)	
7.3.1 Before every test run, drive the	6.3 Test Conduct	3.12.6.3.1 每次試驗前,受驗車輛應以	<u>3.12.5.3</u> 試驗規範(Test Conduct)

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
VUT around a circle of maximum	6.3.1 Before every test run, drive the	低於 10km/h 之速度繞著最大直徑	3.12.5.3.1 每次試驗前,受驗車輛應以
diameter 30m at a speed less than	VUT around a circle of maximum	30m 之圓圈行駛,先以順時針方向行	低於 10km/h 之速度繞著最大直徑
10km/h for one clockwise lap	diameter 30m at a speed less than	駛一圈,接著以逆時針方向行駛一	30m 之圓圈行駛,先以順時針方向行
followed by one anticlockwise lap,	10km/h for one clockwise lap	圈,最後再將受驗車輛開到試驗道路	駛一圈,接著以逆時針方向行駛一
and then manoeuvre the VUT into	followed by one anticlockwise lap,	上的預備位置。若車輛業者要求,可	圈,最後再將受驗車輛開到試驗道路
position on the test path. If requested	and then manoeuvre the VUT into	於每項試驗前進行此啟始程序	上的預備位置。若車輛業者要求,可
by the OEM an initialisation run may	position on the test path. If requested	(initialization run) °	於每項試驗前進行此啟始程序
be included before every test run.	by the OEM an initialisation run may		(initialization run) °
	be included before every test run.		
7.3.2 For vehicles with an automatic		3.12.6.3.2 若車輛為自動變速者,應選	
transmission select D. For vehicles	6.3.2 For vehicles with an automatic	擇前進檔位 D。若車輛為手排變速者	3.12.5.3.2 若車輛為自動變速者,應選
with a manual transmission select the	transmission select D. For vehicles	於試驗速度行駛時,應選擇轉速可達	擇前進檔位 D。若車輛為手排變速者
highest gear where the RPM will be at	with a manual transmission select the	1500rpm 之最高檔位。	於試驗速度行駛時,應選擇轉速可達
least 1500 at the test speed.	highest gear where the RPM will be at		1500rpm 之最高檔位。
	least 1500 at the test speed.		
Between tests, manoeuvre the VUT at		執行下次試驗前,行駛速度不得高於	
a maximum speed of 50km/h and	Between tests, manoeuvre the VUT at	50km/h,且非必要情況下,應儘量避	執行下次試驗前,行駛速度不得高於
avoid riding the brake pedal and harsh	a maximum speed of 50km/h and	免踩踏煞車 (riding the brake	50km/h,且非必要情況下,應儘量避
acceleration, braking or turning unless	avoid riding the brake pedal and harsh	pedal)、劇烈加速、煞車或轉彎,以	免踩踏煞車 (riding the brake
strictly necessary to maintain a safe	acceleration, braking or turning unless	維持安全的試驗環境。	pedal)、劇烈加速、煞車或轉彎,以
testing environment.	strictly necessary to maintain a safe		維持安全的試驗環境。
	testing environment.		
7.4 Test Execution		<u>3.12.6.4</u> 試驗執行	
7.4.1 Accelerate the VUT to 72 km/h.	6.4 Test Execution	<u>3.12.6.4.1</u> 受驗車輛加速至 72km/h。	<u>3.12.5.4</u> 試驗執行

2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
7.4.2 Where applicable accelerate the	6.4.1 Accelerate the VUT to 72 km/h.	3.12.6.4.2 依試驗情境,全球目標車加	<u>3.12.5.4.1</u> 受驗車輛加速至 72km/h。
target vehicle to 72km/h or 80km/h		速至 72km/h 或 80km/h。	
depending on the test scenario.			
7.4.3 The test shall start at T_0 and is		3.12.6.4.3 試驗於 To 開始,若 To 與	
	6.4.2 The test shall start at T_0 and is		 3.12.5.4.2 試驗於 To 開始,若 To 與
met between T_0 and T_{LKA}/T_{LDW} :	valid when all boundary conditions are		T _{LKA} /T _{LDW} 之間符合下列所有限制條
ELK Road Edge, LKA and LDW	•	緊急車道維持輔助系統之道路邊	
scenarios:	The state of the s	緣、車道維持輔助系統,以及車道偏	, , , , , , , , , , , , , , , , , , ,
		離輔助警示系統情境試驗:	
- Speed of VUT (GPS-speed) 72 ±		(1) 受驗車輛速度 (GPS 速度) 72 ±	
1.0km/h	- Speed of VUT (GPS-speed) 72 ±		 (1) 受驗車輛速度(GPS - 速度)72±
- Lateral deviation from test path VUT	` ' '	(2) 受驗車輛行駛路徑側向偏移量	
0 ± 0.05 m	- Lateral deviation from test path $0 \pm$		(2) 行駛路徑側向偏離距離 0 ±
	0.05m		0.05m
- Steady state lane departure lateral		(3) 穩定狀態之車道偏離側向速度	
velocity ± 0.05m/s	- Steady state lane departure lateral	±0.05m/s	(3) 穩定狀態之車道偏離側向速度
	velocity ± 0.05m/s		±0.05m/s
- Yaw velocity of VUT (upto T _{STEER})		(4) 受驗車輛的橫擺角速度(取決於	
0 ± 1.0 °/s		$\underline{\text{T}_{\text{STEER}}}$) $0 \pm 1.0 ^{\circ}/\text{s}$	
- Steering wheel velocity (upto TSTEER)		(5) 方向盤轉速 <u>(取決於 T_{STEER})</u> <u>0</u> ±	
$0 \pm 15.0^{\circ}/s$	- Steering wheel velocity $\pm 15.0^{\circ}/s$	15.0°/s	(4) 方向盤轉速 ± 15.0°/s

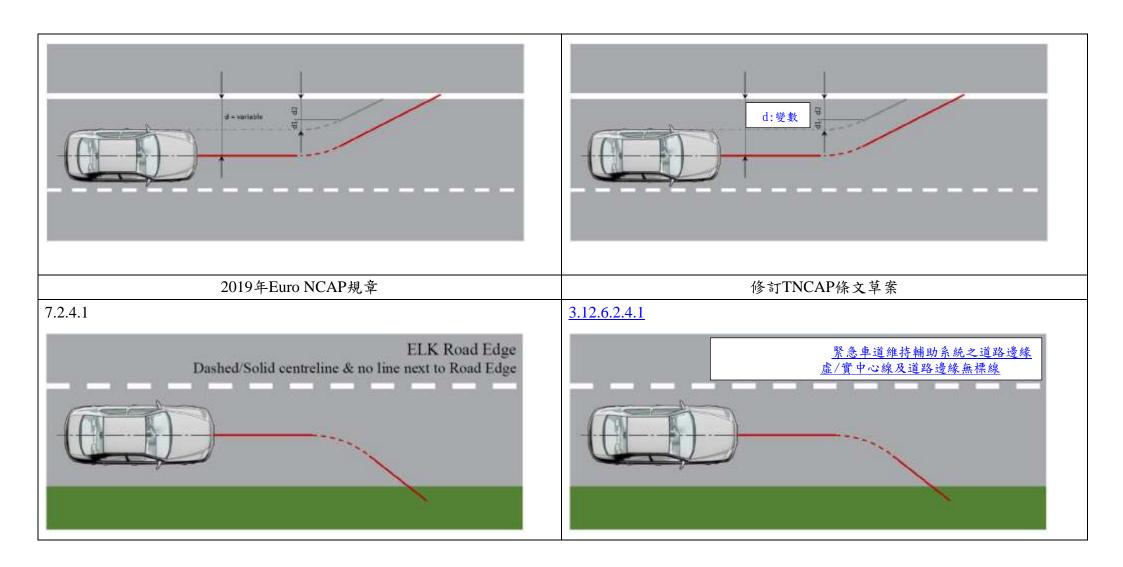
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ELK oncoming scenarios:		緊急車道維持輔助系統之對向來車	
- Speed of GVT (GPS-speed) 72 ±		情境試驗:	
1.0km/h		(1) 全球目標車速度(GPS 速度)	
- Lateral deviation from test path GVT		<u>72±1.0km/h</u>	
$0 \pm [0.30]$ m		(2) 全球目標車行駛路徑側向偏移	
		<u>量 0±0.30 m</u>	
ELK Overtaking scenarios:		緊急車道維持輔助系統之車道超車	
- Relative longitudinal speed 0 or 8		情境試驗:	
± 1.0km/h		(1) <u>相對縱向速度 0 或 8± 1.0km/h</u>	
- Relative longitudinal distance		(2) 相對縱向距離	
@ 0km/h relative velocity 0 \pm		(A) <u>0km/h 相對速度 0±0.20m</u>	
[0.20]m		(B) <u>8km/h 相對速度 x ± 0.20m</u>	
@ 8km/h relative velocity x ±		(C) 全球目標車行駛路徑側向偏移	
[0.20].m		<u>量 0 ± 0.20m</u>	
Lateral deviation from test path GVT			
0 ± 0.20 m			
7.4.3.1 Steer the vehicle as appropriate		3.12.6.4.3.1 應盡可能控制車輛使其平	
to achieve the lateral velocity in a	6.4.2.1 Steer the vehicle as appropriate	穩且在最小偏離條件下達到規定之	3.12.5.4.2.1 應盡可能控制車輛使其平
smooth controlled manner and with	to achieve the lateral velocity in a	側向速度。	穩且在最小偏離條件下達到規定之
minimal overshoot	smooth controlled manner and with		側向速度。
	minimal overshoot		
7.4.4 The end of an LDW test is		3.12.6.4.4 車道偏離輔助警示系統試	
considered as when the warning	6.4.3 The end of an LDW test is	驗結束時機點為警示啟動時。	3.12.5.4.3 車道偏離輔助警示系統試驗

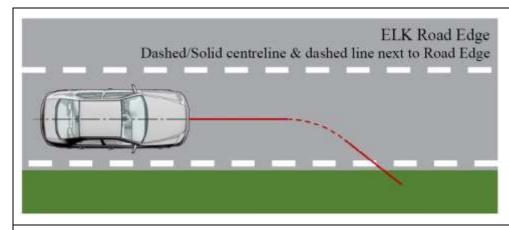
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commences.	considered as when the warning		結束時機點為警示啟動時。
	commences.		
7.4.5 The end of an LKA/ELK Road		<u>3.12.6.4.5</u> 車道維持輔助/緊急車道維	
Edge test is considered complete 2	6.4.4 The end of an LKA test is	持輔助系統之道路邊緣系統試驗結	3.12.5.4.4 車道維持輔助系統試驗結束
seconds after one of the following	considered as when one of the	束時機點,為下述任一情況發生2秒	時機點為下述任一情況發生時:
occurs:	following occurs:	<u>後</u> :	
- The LKA/ELK system fails to		(1) 車道維持輔助/緊急車道維持輔	
maintain the VUT within the	- The LKA system fails to maintain the	<u>助</u> 系統並未讓受驗車輛維持在	(1) 車道維持輔助系統並未讓受驗車
permitted lane departure distance.	VUT within the permitted lane	允許之車道偏離距離內。	輛維持在允許之車道偏離距離
- The LKA/ELK system intervenes to	departure distance.	(2) 車道維持輔助/緊急車道維持輔	內。
maintain the VUT within permitted	- The LKA system intervenes to	助系統介入,將受驗車輛維持在	(2) 車道維持輔助系統介入,將受驗
lane departure distance, such that a	maintain the VUT within permitted	允許之車道偏離距離內,例如在	車輛維持在允許之車道偏離距離
maximum lateral position is achieved	lane departure distance, such that a	達到最大側向位置後修正回到	內,例如在達到最大側向位置後
that subsequently diminishes causing	maximum lateral position is achieved	原車道內。	修正回到原車道內。
the VUT to turn back towards the	that subsequently diminishes causing		
lane.	the VUT to turn back towards the		
	lane.		
7.4.6 The end of an ELK oncoming or		3.12.6.4.6 緊急車道維持輔助系統之	
overtaking test is considered as when	The test is considered complete 2		上述任一情況發生兩秒後,試驗視同
one of the following occurs:	seconds after one of the above occurs.		<u>結束。</u>
- The ELK system intervenes to		(1) 緊急車道維持輔助系統介入以	
prevent a collision between the		避免受驗車輛與全球目標車發	
VUT and target vehicle		<u>生碰撞。</u>	
- The ELK system has failed to			
intervene (sufficiently) to prevent a		(2) 緊急車道維持輔助系統介入(足	

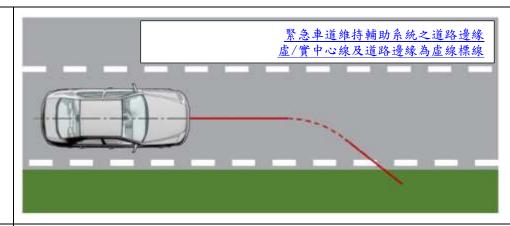
2019 年版 Euro NCAP 規章	2017 年版 Euro NCAP 規章	修訂 TNCAP 條文草案	對應 TNCAP 條文
collision between the VUT and target		夠地)避免受驗車輛與全球目標	
vehicle. This can be assumed when		車發生碰撞失敗。可假設以下任	
one of the following occurs:		一情況發生時:	
o The lateral separation between the			
VUT and target vehicle equal <		(A) 對向來車及車道超車情境試	
0.3m in the oncoming and		驗下,受驗車輛與全球目標車	
overtaking scenario		之間的側向間距等於小於	
o No intervention is observed at a		<u>0.3m ∘</u>	
TTC = 0.8s or a TTC submitted by		(B) <u>TTC 等於 0.8s 或由車輛業者</u>	
the OEM		提供之 TTC,未偵測到系統介	
		<u> </u>	
It is at the labs discretion to select and		檢測機構依試驗結果選擇並使用上	
use one of the options above to ensure		述任一選項以確保安全的試驗環境。	
a safe testing environment.			
7.4.6.1 If the test ends because the		3.12.6.4.6.1 若試驗結束是因為車輛介	
vehicle has failed to intervene		入失敗(足夠地)或全球目標車已偏	
(sufficiently) or if the GVT has left it's		離其指定路徑超過 0.2m,則建議將	
designated path by more than 0.2m, it		受驗車輛及/或全球目標車調整轉向	
is recommended that the VUT and/or		以避免發生碰撞,可手動或藉由重新	
GVT are steered away from the		預設駕駛機器人/ 受驗車輛之轉向	
impact, either manually or by		控制達成。	
reactivating the steering control of the			
driving robot/GVT.			

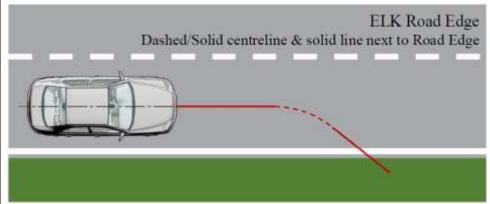
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7.4.7 The subsequent lateral velocity for		3.12.6.4.7下一次試驗之側向速度應增	
the next test is incremented with	6.4.5 The subsequent lateral velocity for	<i>ந</i> ு 0.1m/s ∘	3.12.5.4.5 下一次試驗之側向速度應增
0.1m/s.	the next test is incremented with		⁄ி 0.1m/s ∘
	0.1m/s.		

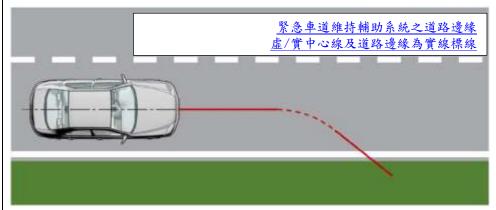
2019年Euro NCAP規章			修訂TNCAP條文草案							
7.2.3			3.12.6.2.3							
Vlat,vuT	R	$oldsymbol{\psi}_{ ext{VUT}}$	d1	d2		侧向速度,%\\	轉彎	試驗過程中€	横擺角曲線	側向速度穩
[m/s]	[m]	[°]	[m]	[m]		<u>[m/s]</u>	<u>半徑</u>	₩ 丰 編 之 横 擺 角	建立時之側	定狀態之側
0.2	1200	0.57	0.06	0.70			<u>[m]</u>	<u>速度[°]</u>	向偏離[m]	向偏離距離
0.3		0.86	0.14	0.90						<u>[m]</u>
0.4		1.15	0.24	0.80		0.2	<u>1200</u>	0.57	<u>0.06</u>	<u>0.70</u>
0.5		1.43	0.38	0.75		0.3		<u>0.86</u>	<u>0.14</u>	0.90
0.6		1.72	0.54	0.60		0.4		<u>1.15</u>	0.24	0.80
						<u>0.5</u>		1.43	0.38	<u>0.75</u>
						0.6		1.72	<u>0.54</u>	0.60











2019年Euro NCAP規章

3.12.6.2.4.3.4

7.2.4.3.4

Vlat,vuT	R	$oldsymbol{\psi}_{ ext{VUT}}$	d1	d2
[m/s]	[m]	[°]	[m]	[m]
0.5	800	1.43	0.25	0.75
0.6		1.72	0.36	0.60
0.7		2.01	0.49	0.53

側向速度,500	轉彎	試驗過程中幾	横擺角曲線	側向速度穩定
<u> </u>	半徑	≠無之橫擺角度	建立時之側	狀態之側向偏
[m/s]	<u>[m]</u>	<u>[°]</u>	<u> 向偏離[m]</u>	離距離[m]
0.5	<u>800</u>	<u>1.43</u>	<u>0.25</u>	<u>0.75</u>
0.6		1.72	<u>0.36</u>	0.60
0.7		<u>2.01</u>	0.49	0.53

修訂TNCAP條文草案

