

Technical Report No.: 120714 – 16 – TAC
Regulation: ECE No. 44.04
Manufacturer: Carfoldio Ltd., Israel
Type: Mifold MF01

UN/ECE Technical Service No. E8/C and E27/J

**TECHNICAL REPORT
No. 120714 – 16 – TAC**

Test according to Regulation ECE No. 44.04

**Uniform provisions concerning the approval of restraining devices
for child occupants of power driven vehicles (“child restraint system”)**

ECE No. 44.00 – date of entry into force: 1981-02-01

including all amendments up to and including:

ECE No. 44.04, supplement 10 – date of entry into force: 2016-06-18

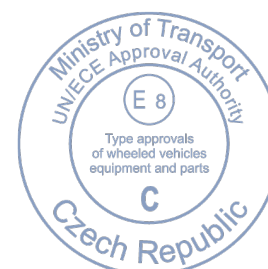
Objectives: Document for issue of approval certificate

I. Technical data

- 0.1. Make (trade name of manufacturer): Mifold
- 0.2. Type: Mifold MF01
- 0.2.1. Commercial name: N/A
- 0.5. Name and address of manufacturer: Carfoldio Ltd.
Zohar House
13 Hasadna Street
PO BOX 2169
Ra'adna, 4365007
Israel
- 0.8. Address of assembly plant: TDL Tetro Ltd.
No. 79, Lijiafang Rd, Lijia Fang Industrial
District
Shipai Town, Dongguan, Guangdong
523000 P.R. China
- 0.9. Location of the approval mark: An adhesive sticker affixed to the bottom of
the unit

1. DESCRIPTION OF CHILD RESTRAINT SYSTEM

- 1.1. Category(ies): Universal
- 1.2. Mass group(s): Group II, III
- 1.3. CRS orientation: Forward facing
- 1.4. CRS class: Non-integral
- 1.5. Belt type: Adult 3-point belt



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|-------|--|--|
| 1.6. | Other features: | Booster cushion |
| 1.7. | Drawings, diagrams and plans of the child restraint including any retractor, chair assembly, impact shield fitted: | See manufacturer's documentation |
| 1.8. | Declaration on toxicity in accordance with par.6.1.5. of this Regulation | All related parts fulfilled the requirements |
| 1.9. | Declaration on flammability in accordance with par.6.1.6. of this Regulation | All related parts fulfilled the requirements |
| 1.10. | Mass of the complete CRS: | 0,704 kg |

II. Test report

1. Test conditions

- | | | |
|------|--------------|---|
| 1.1. | Test sample: | Child restraint system – booster cushion – type Mifold MF01 |
|------|--------------|---|

1.1.1. Samples number and their use:

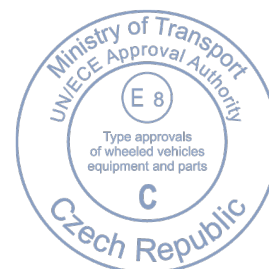
Number	Used for:
H01693001002	Dynamic test – P10 dummy
H01693001002	Production qualification (PQT)-1
H01693001003	PQT-2
H01693001013	PQT-3
H01693001005	PQT-4
H01693001006	PQT-5
H01693001007	Booster pulling test, construction specifications, general and particular specifications and marking review
H01353001013	Dynamic test – P3 dummy
H01353001009	Overturning test – P3 dummy
H01353001010	Overturning test – P6 dummy
H01353001011	Overturning test – P10 dummy
H01647001004	Dynamic test – P6 dummy

- | | | |
|------|-------------------------------|---|
| 1.2. | Test procedures used: | According to requirements of ECE regulation No.44 was checked of fulfilling of general specifications as described in paragraph 6, were performed tests described in paragraphs 7 and 8 and was checked of compulsory marking and instructions as described in paragraphs 4 and 15. |
| 1.3. | Measuring and test equipment: | Used equipments fulfil all requirements of the ECE Regulation No.44 as last amended. |
| 1.5. | Test track or site: | TASS International Homologations B.V.,
The Netherlands |

2. Test results

Following numbering is according to ECE Regulation No.44 / marked in italic /

Description	Result
4. <i>Markings</i>	
4.1. <i>CRS is marked of manufacturer's name, initials or trade mark:</i>	Pass
4.2. <i>CRS is clear and indelible marked with year of production:</i>	Pass
4.3. <i>Routes of adult belts are marked on CRS:</i>	Pass
4.4. <i>CRS is marked by warning label of prohibited use of rearward facing CRS on front seats with airbag:</i>	N/A, forward facing only
4.5. <i>CRS is marked by instruction for use as forward facing if can be used both forward and rearward facing:</i>	N/A, forward facing only
4.6. <i>Load transmitting contact points are marked if alternative strap position is possible:</i>	N/A, no alternative strap position
4.7. <i>Marking required in paragraph 4.3. include an indication that the alternative belt route is described in the instructions if alternative load bearing contact points are possible:</i>	N/A, no alternative load bearing contact points
4.8. <i>ISOFIX marking:</i>	N/A for non-ISOFIX CRS
6. <i>General specifications</i>	
6.1. <i>Positioning and securing on the vehicle:</i>	Pass
6.2. <i>Configuration:</i>	Pass
6.3. <i>ISOFIX restraint specification:</i>	N/A for non-ISOFIX CRS
6.4. <i>Control of marking:</i>	Pass
6.5. <i>Control of instructions on installation and the instructions for use:</i>	Pass



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7. Particular specifications

7.1. Provisions applicable to the assembled restraint

7.1.1. Resistance to corrosion: Pass

7.1.2. Energy absorption: N/A, booster cushion

7.1.3. Overturning: Pass,
 results of dummy head displacement was under 300 mm for all seat configurations and dummies possible to install in the device

7.1.4. Dynamic test: Pass, see Table No. 1

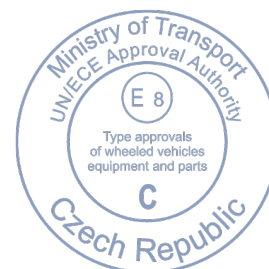
Type of dynamic test device: Deceleration

Deceleration curves: See Graphs on pages 8 - 10

Position of buckle during the test: N/A, (adult) 3-point safety belt is used

Table No. 1 Results of dynamic tests

Testing parameter		Requested	Result		
Impact direction		Frontal	Frontal		
CRS orientation			Forward facing		
Mass of dummy			15 kg (P3)	22 kg (P6)	32 kg (P10)
Bar simulated the dashboard			no	no	no
Test number			KB6606	KB6604	KB6694
Trolley impact speed [km/h]		48-50	49,6	49,5	49,3
Stopping distance of the sled [mm]		600-700	615	635	610
Maximal deceleration of the sled [g]		20-28	24,45	24,35	23,05
Maximum of chest deceleration abdomen towards head z [g]		≤30	20,3	22,8	15,4
Limit of acceleration exceed for period [ms]		<3	0	0	0
Vector sum of max. decelerations [g]		≤55	51,4	56,8	55,3
Limit of acceleration exceed for period [ms]		<3	0	1,1	0,4
Maximum of head displacement	x [mm] (horizontal)	≤550	410	450	500
	at time [ms]		102	115	108
	z [mm] (vertical)	≤840	570	690	745
	at time [ms]		54	266	53
Failure or brakeage		none	none	none	none
Signs of abdominal penetration		none	none	none	none



7.1.5.	Resistance to temperature:	Pass
7.2.	Provisions applicable to individual components of the restraint	
7.2.1.	Buckle	N/A for non-integral class
7.2.2.	Adjusting device:	Pass
7.2.3.	Retractors:	N/A, seat is not equipped
7.2.4.	Straps:	N/A for non-integral class
7.2.5.	Lock-off devices:	N/A, not equipped
7.2.6.	ISOFIX attachment specifications:	N/A for non-ISOFIX CRS
11.	Production qualification	
11.2.	Production qualification test:	See Table No. 2

Table No. 2: Results of production qualification test

Testing parameter		Requested	Result				
Impact direction		Frontal	Frontal				
CRS orientation			Forward facing				
Mass of dummy			32 kg (P10)				
Bar simulated the dashboard			No				
Test number			KB6695	KB6696	KB6698	KB6699	KB6670
Trolley impact speed [km/h]		48-50	49,6	49,6	49,6	49,6	49,7
Stopping distance of the sled [mm]		600-700	625	635	645	637	645
Maximal deceleration of the sled [g]		20-28	23,61	23,99	23,98	23,15	24,13
Maximum of chest deceleration abdomen towards head z [g]		≤30	12,0	23,7	16,1	11,2	19,0
Limit of acceleration exceed for period [ms]		<3	0	0	0	0	0
Vector sum of max. decelerations [g]		≤55	48,6	53,3	55,5	49,9	51,1
Limit of acceleration exceed for period [ms]		<3	0	0	0,4	0	0
Maximum of head displacement	x [mm] (horizontal)	≤550	490	510	500	475	510
	at time [ms]		110	116	112	112	114
	z [mm] (vertical)	≤840	740	740	740	730	740
	at time [ms]		53	53	53	55	51
Failure or brakeage			none	none	none	none	none
Signs of abdominal penetration			none	none	none	none	none

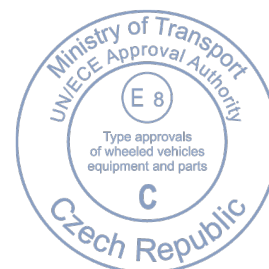


Table No. 5b: Assessment of production qualification tests

Test No.	Maximum horizontal head excursion / mm (L : 550 mm)	Chest acceleration	Remark
		Resultant chest acceleration / g (La: 55 g (3 ms), only for record)	
KB6695	490	48,6	N/A
KB6696	510	53,3	
KB6698	500	55,5	
KB6699	475	49,9	
KB6670	510	51,1	
X = 497,0 mm, S = 14,8 mm, X + S = 511,8 mm ≤ L Xa = 51,68 g, Sa = 2,75 g, Xa + Sa = 54,43 g ≤ La			

Where: L = the limit value of the horizontal head excursion

X = the mean of the values

S = the standard deviation of the values

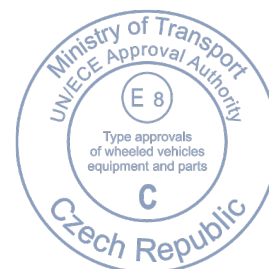
La = the limit value of resultant chest acceleration

Xa = the mean of the values of the resultant chest acceleration during periods whose sum exceed 3 ms

Sa = the standard deviation of the values of resultant chest acceleration during periods whose sum exceed 3 ms

15. Instructions

- 15.1. CRS is accompanied by instructions in the language of the country where the device is sold: Pass
- 15.2. Information and instructions which shall be clearly visible at the point of sale without removing the packing: Pass
- 15.3. Information and instructions which shall be included in instructions on installation and the instructions for use: Pass



3. Specimen submitted to test on: 2016-01-29 to 2016-02-26
4. Date of test: 2016-01-29 to 2016-03-15
- III. Manufacturer's information folder No. P056
92 pages total of 2016-06-15
- IV. Other documentation
Graphs: Deceleration of test sled pages 8 - 15
- V. Attachments
No attachments

Measuring and test equipment and test site meet the requirements of the applicable legislation.
This report must never be reproduced incomplete and without a written permission of the testing laboratory.

VI. Final assessment

The described samples

comply

with the requirements of ECE Regulation No. 44.04
for issue of approval certificate

This technical report consists of pages No. 1 to 15.



Vít Bursík

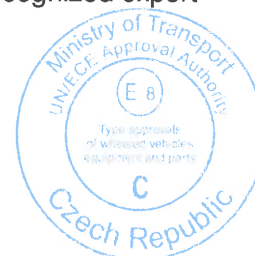
Test executive

Prague, 2016-06-20



Martin Hron

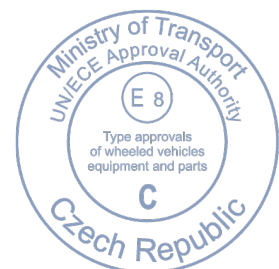
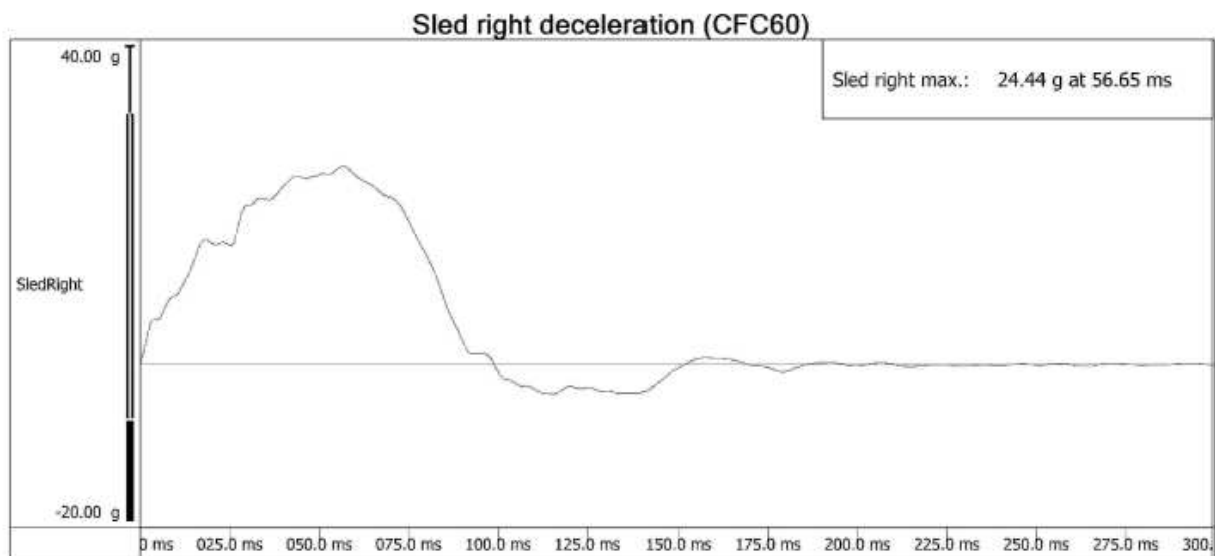
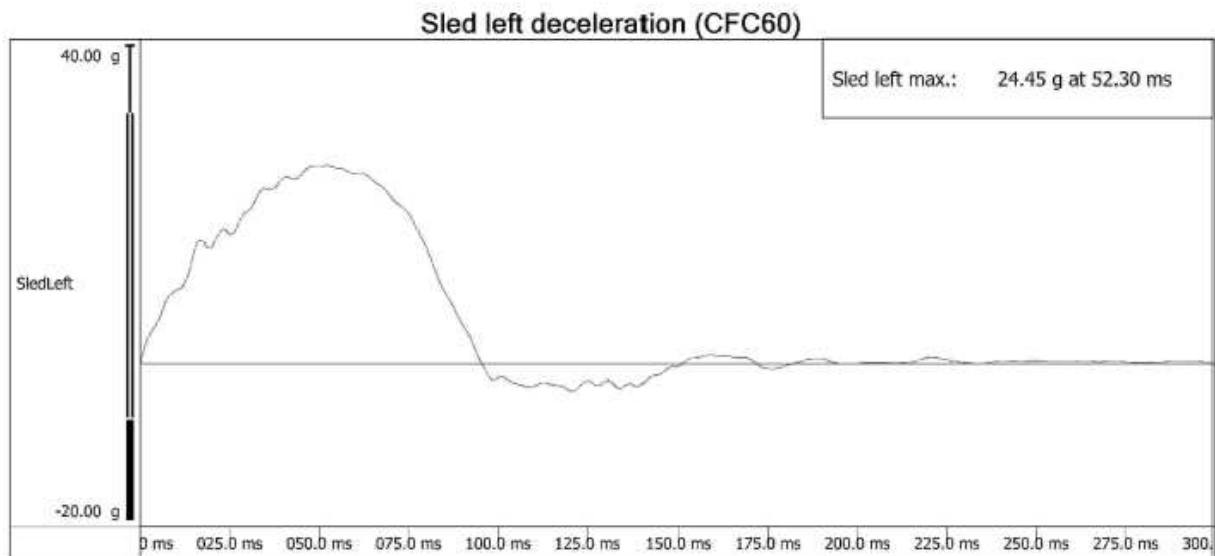
Officially recognized expert



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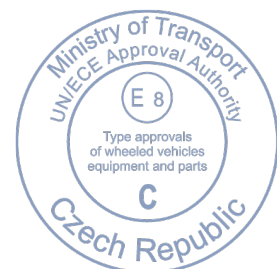
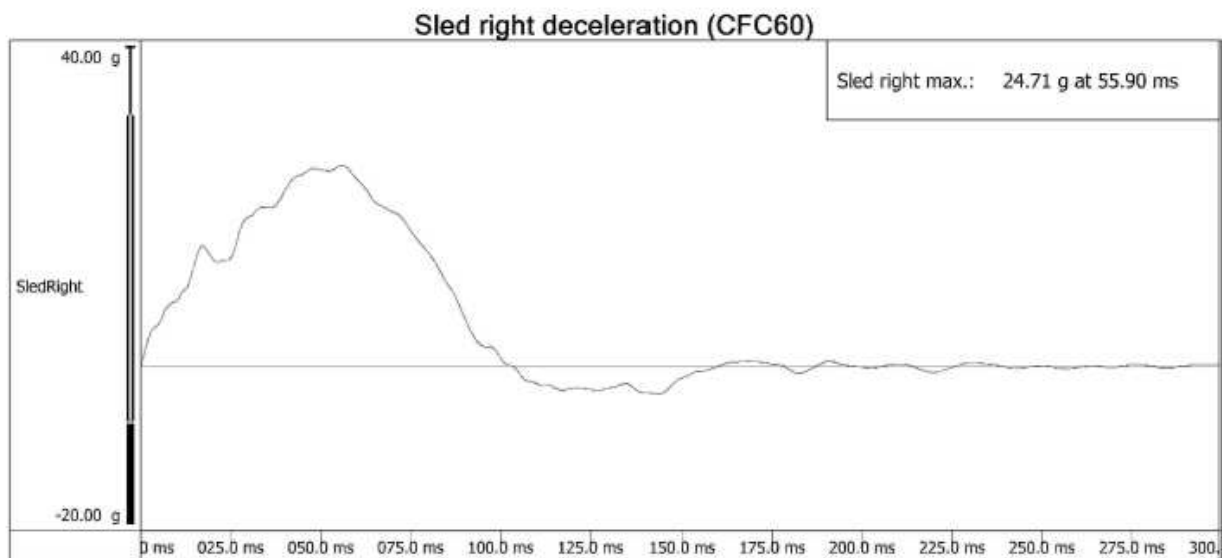
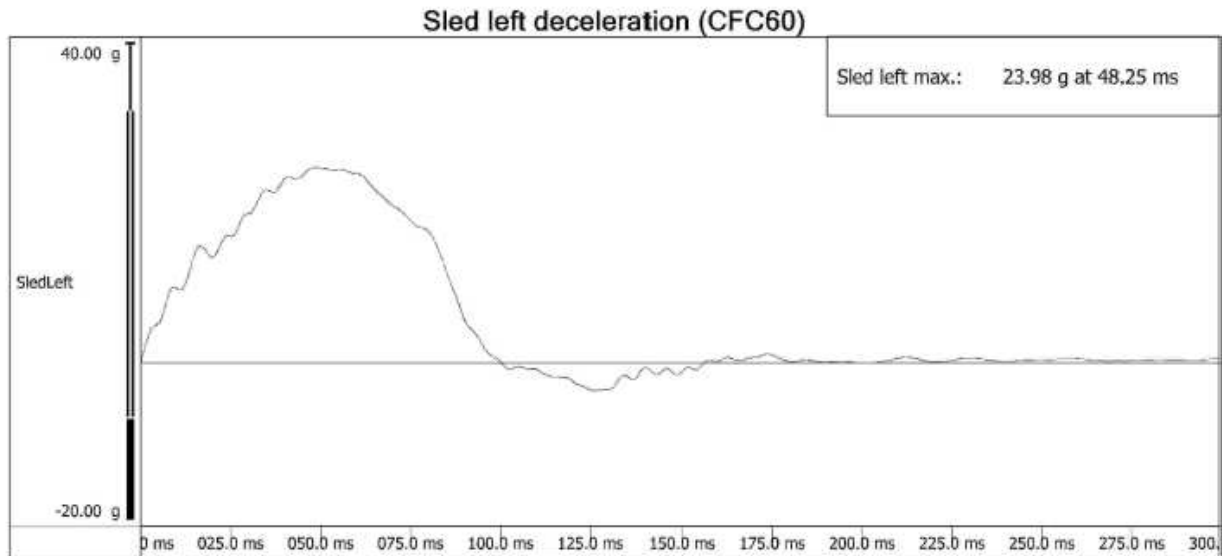
Graphs: Deceleration of test sled trolley

a) Dynamic test No. KB6606 – P3 dummy



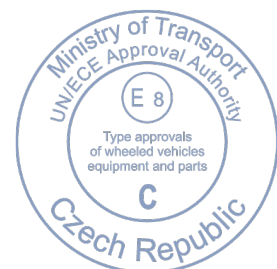
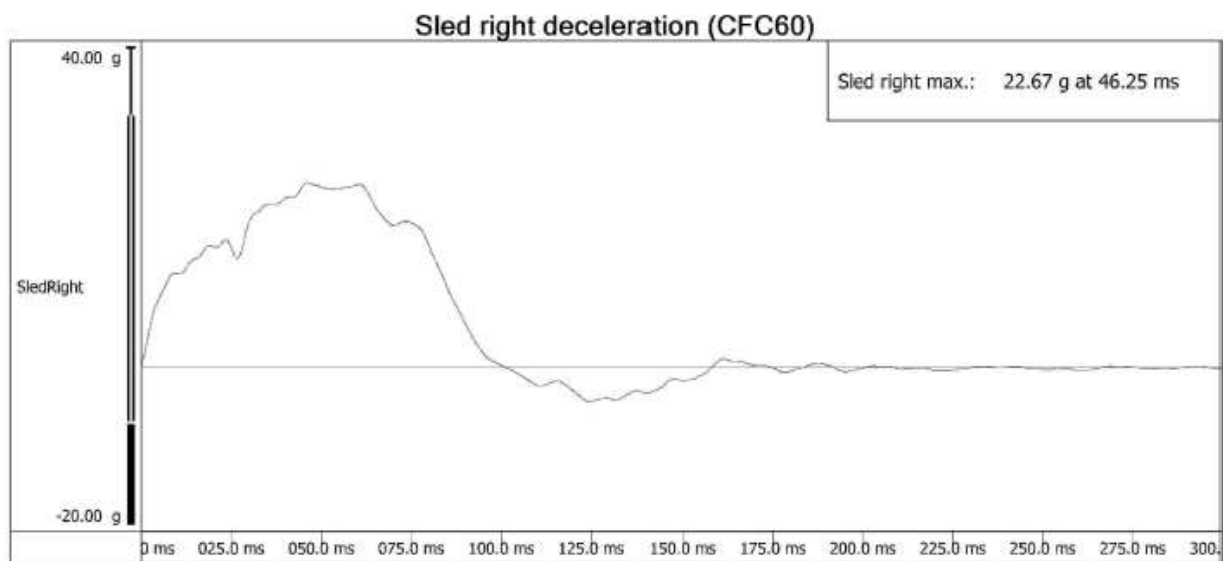
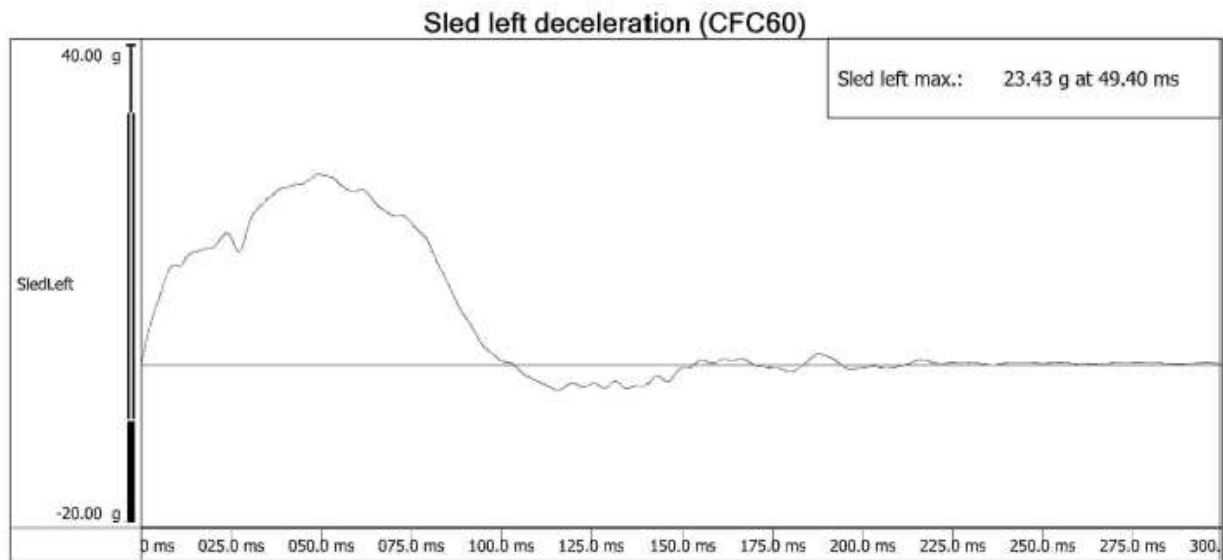
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b) Dynamic test No. KB6604 – P6 dummy



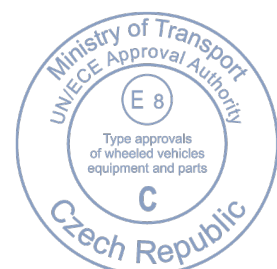
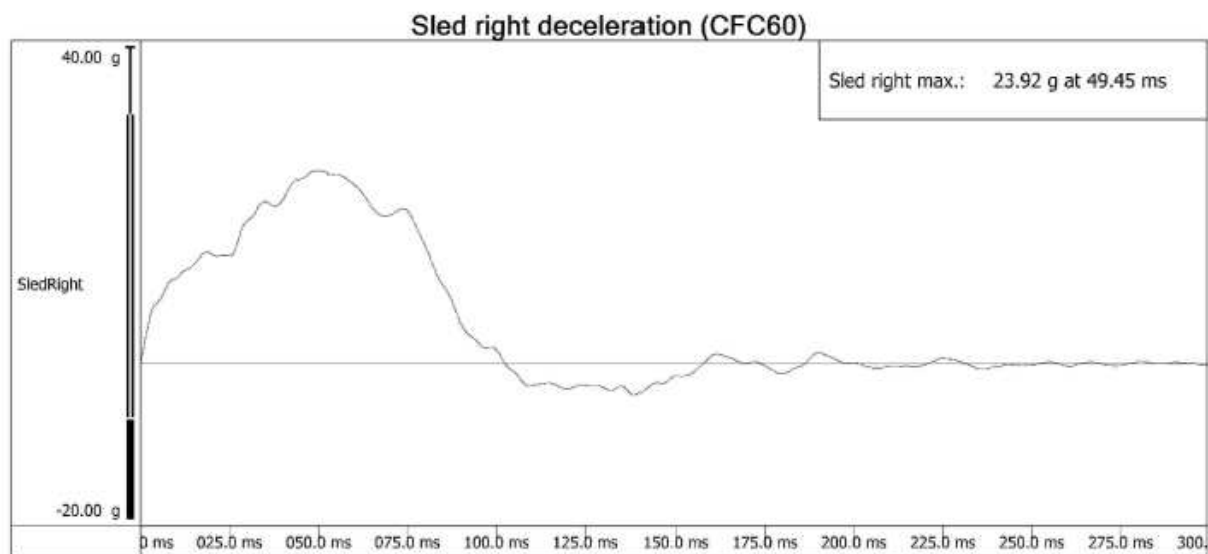
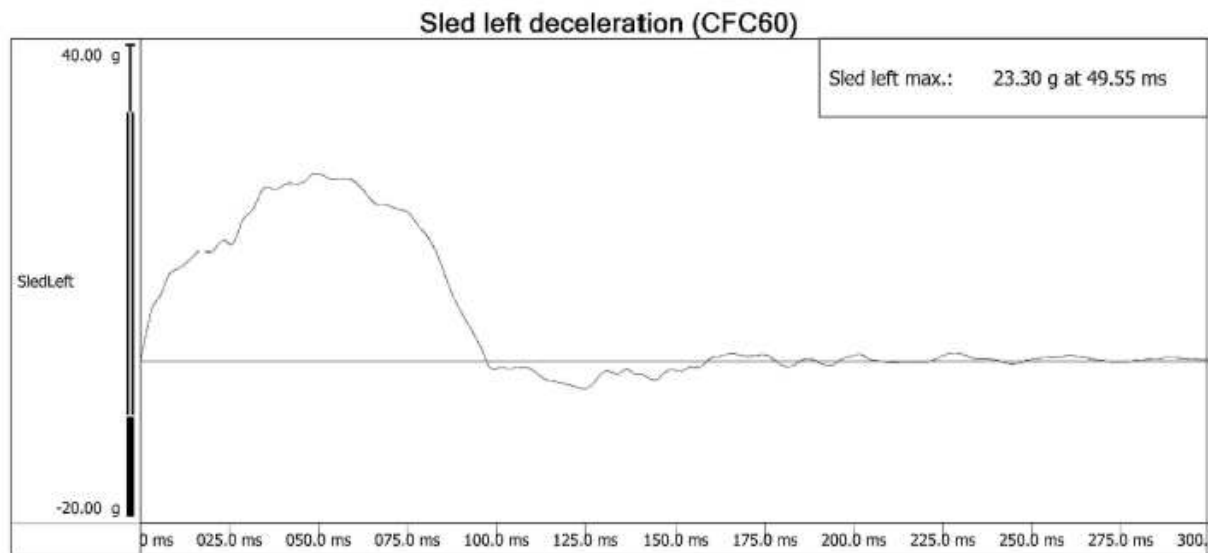
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c) Dynamic test No. KB6694 – P10 dummy



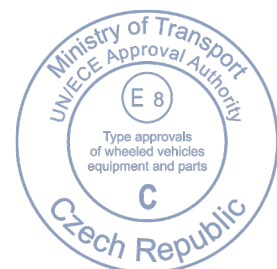
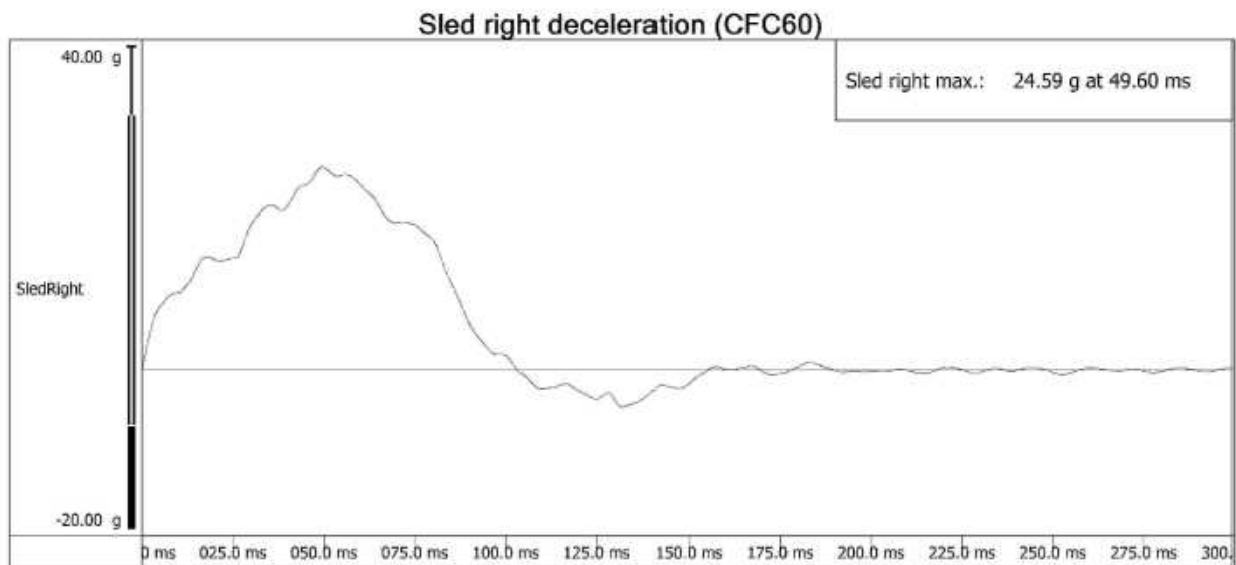
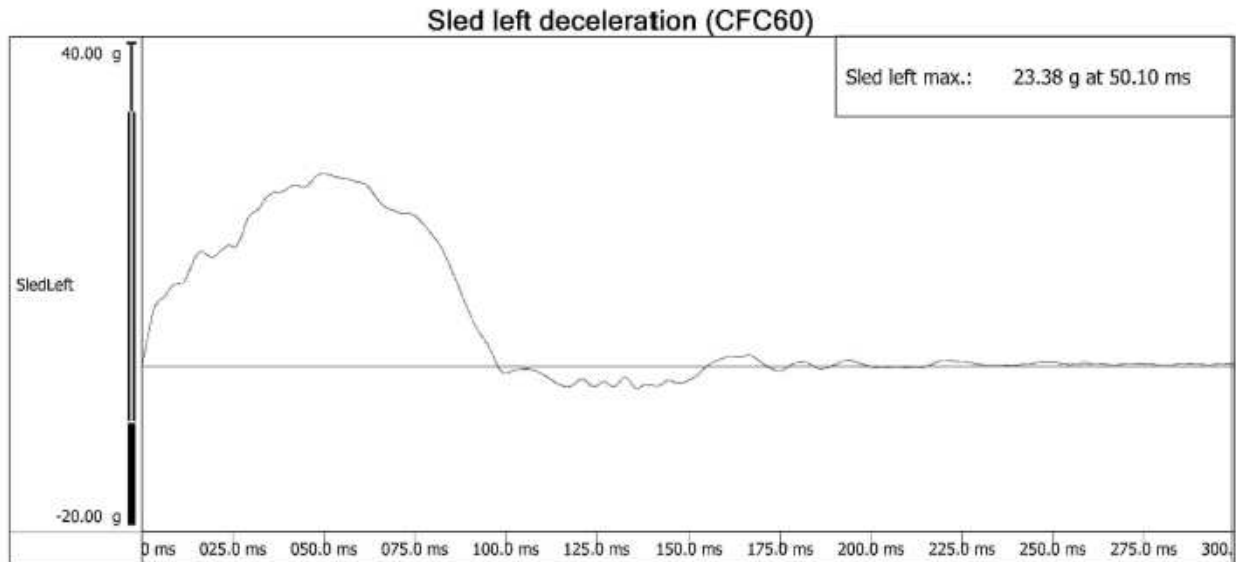
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d) Dynamic test No. KB6695 – P10 dummy – PQT-1



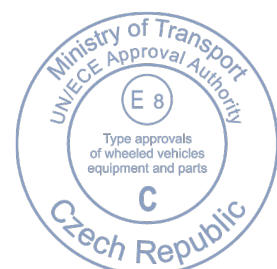
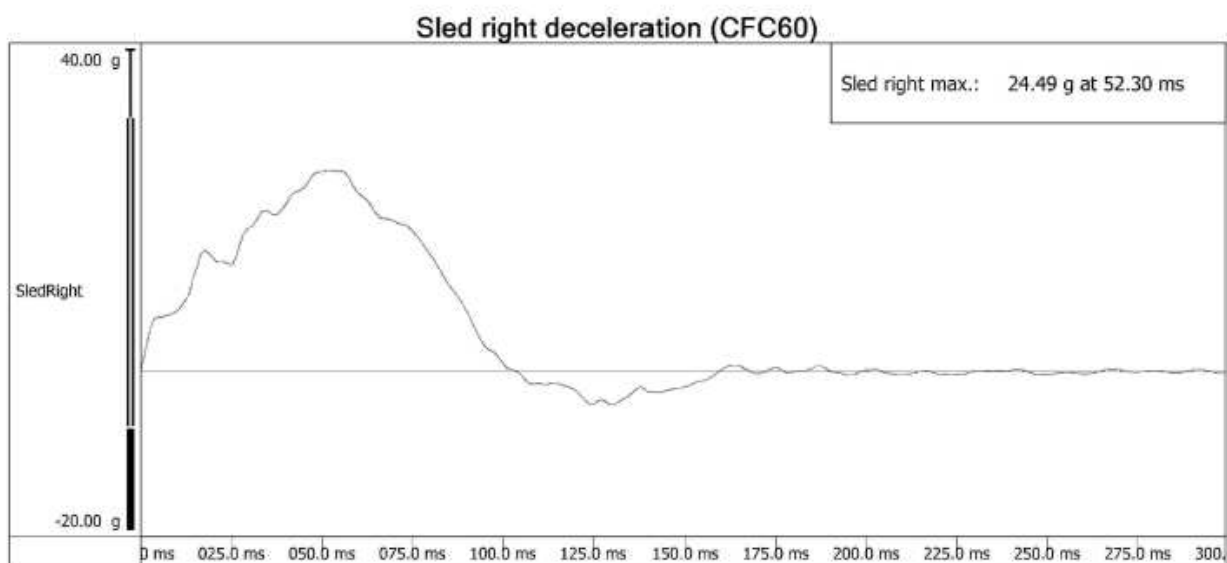
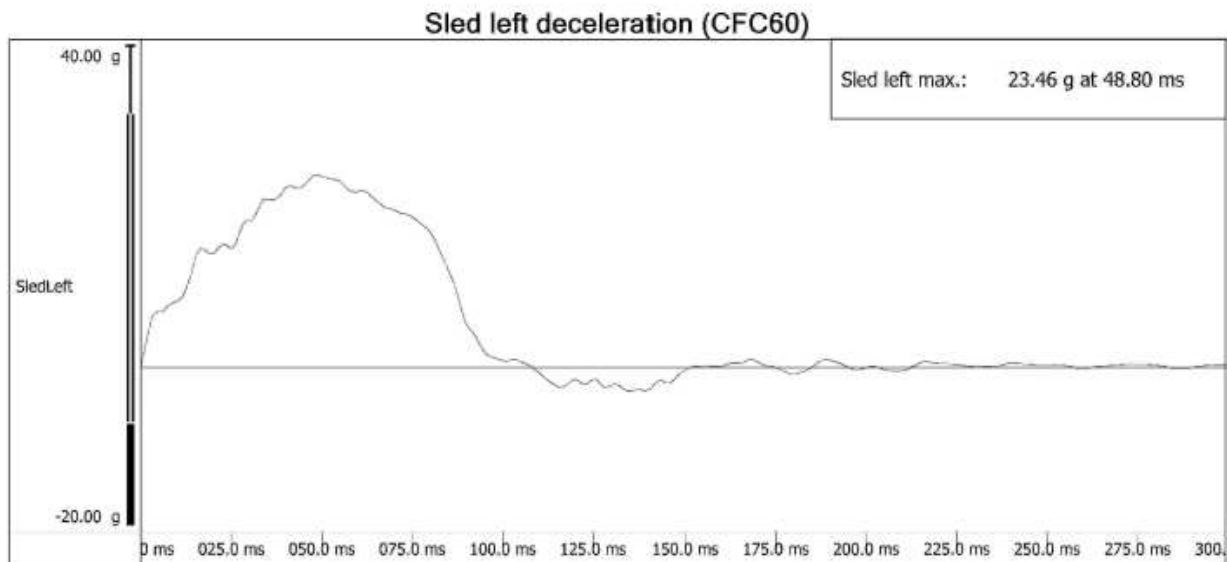
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e) Dynamic test No. KB6696 – P10 dummy – PQT-2

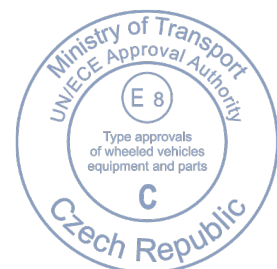
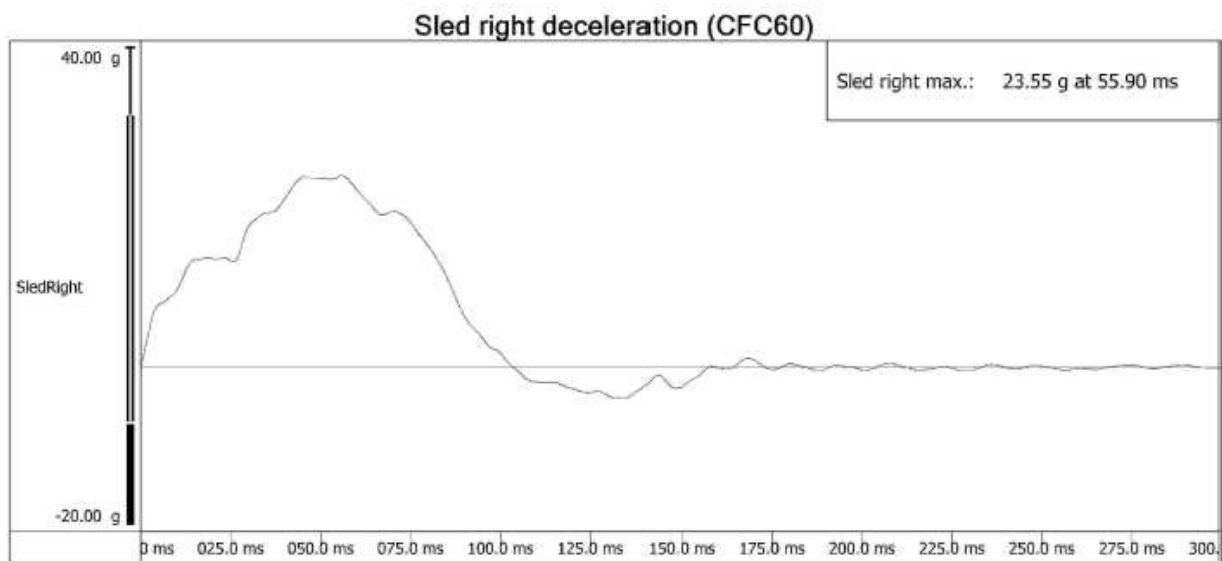
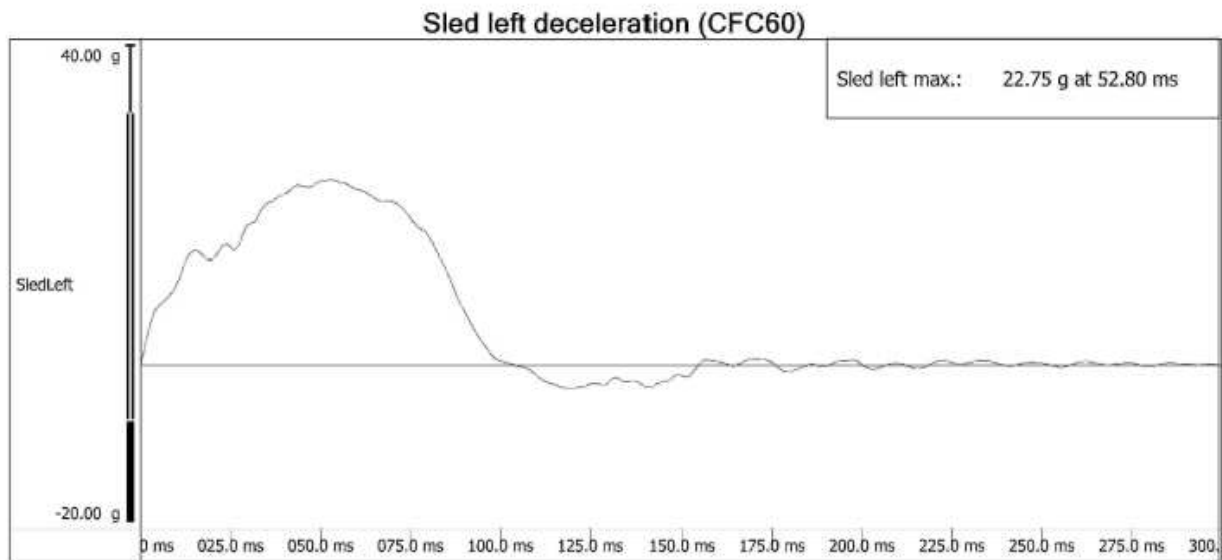


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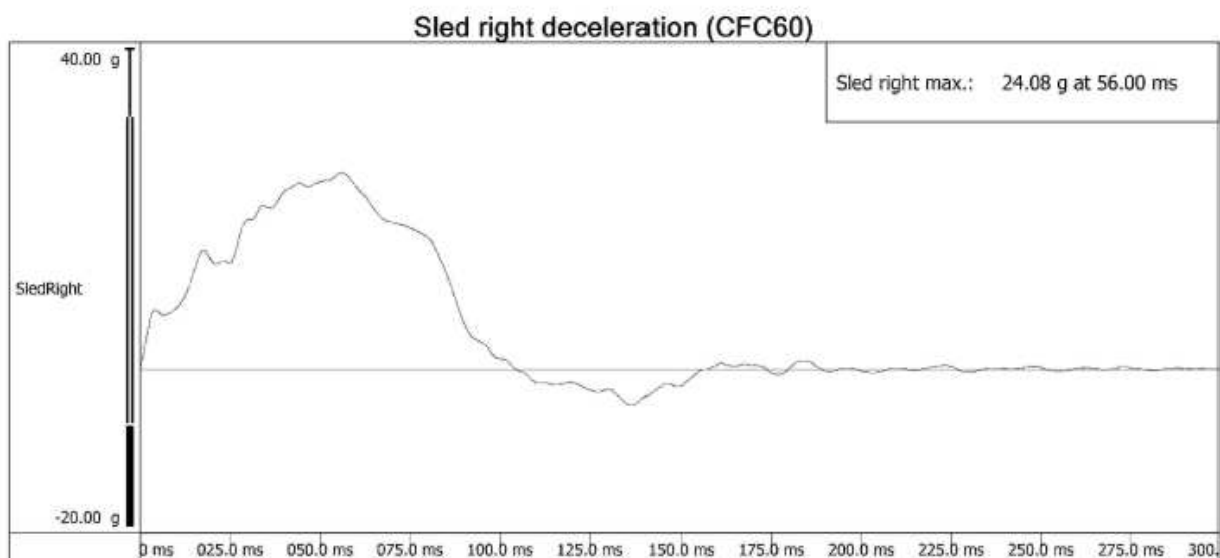
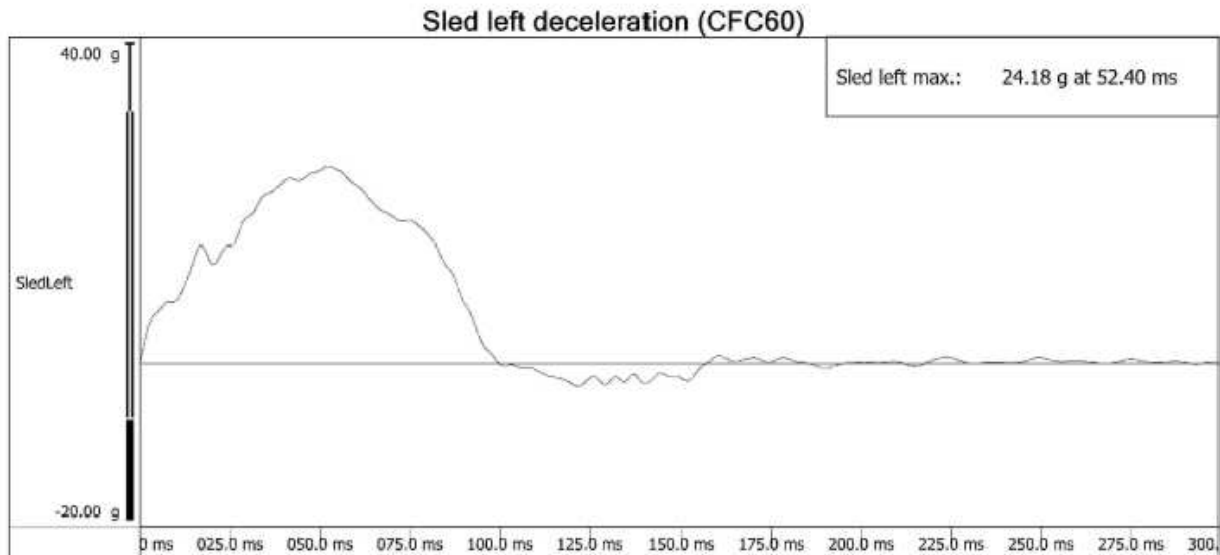
f) Dynamic test No. KB6698 – P10 dummy – PQT-3



g) Dynamic test No. KB6699 – P10 dummy – PQT-4



h) Dynamic test No. KB6700 – P10 dummy – PQT-5



End of the technical report

