REPORT NUMBER: 301-CAL-04-05

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
MODERATE-TO-HIGH SPEED REAR IMPACT TEST

PERFORMED IN CONJUNCTION WITH
SAFETY COMPLIANCE TESTING FOR FMVSS 301R
FUEL SYSTEM INTEGRITY

VOLKSWAGEN AG GERMANY
2004 VOLKSWAGEN TOUAREG
MPV

NHTSA NUMBER: C45800

GDAIS TEST NUMBER: 8655-F301-22R

July 2, 2004

GENERAL DYNAMICS
ADVANCED INFORMATION ENGINEERING SERVICES
P.O. BOX 400
BUFFALO, NEW YORK 14225

FINAL REPORT

PREPARED FOR:

U. S. Department of Transportation
National Highway Traffic Safety Administration
Office of Vehicle Safety Research
Crashworthiness Research Division
400 Seventh Street, S. W.
Room No. 6226
Washington, DC 20590

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16. Abstract

This test was performed in conjunction with Compliance Testing for FMVSS 301R, Fuel System Integrity. The purpose of this test is to evaluate the seat and occupant performance in moderate-to-high speed rear impacts. The base FMVSS 301R test was modified as follows:

- 2 fully instrumented 50th percentile male Hybrid III ATDs were positioned in the vehicle (P1 and P3) in place of ballast ATDs.
- 2 door mounted high speed cameras were installed.
- 2 seatback frame and 1 front sill MHDs were installed.
- 4 vehicle accelerometers were installed.
- VRTC seatback translation was installed.

The ATDs were positioned following TP208-12 with the following exceptions:

- Seatbacks for positions that contained a 50th percentile male were set to 25 degrees ± 1 degree as measured with the SAE J826 manikin.

17. Key Words	18. Distribution Statement
Seatback Rotation and Displacement Test FMVSS 301R Rear Impact Test	Copies of this report are available from: NHTSA Technical Reference Division Room 5108 (NPO-230), 400 Seventh , S.W., Washington, D.C. 20590 Telephone No. (202) 366-4946

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SECTION 1

PURPOSE OF TEST

This moderate-to-high speed rear impact test was performed in conjunction with a Federal Motor Vehicle Safety Standard (FMVSS) 301R 30 mph rear moving barrier impact test of a 2004 Volkswagen Touareg MPV. The purpose of this test is to evaluate the seat and occupant performance in moderate-to-high speed rear impacts.

SECTION 2

SUMMARY OF TEST

A 2590 kg 2004 Volkswagen Touareg MPV was impacted from the rear by a 1797 kg moving barrier at a velocity of 47.47 kph (29.5 mph). The test was performed by Advanced Information Engineering Services on July 2, 2004.

The test vehicle was prepared for the Federal Motor Vehicle Safety Standard (FMVSS) 301R Compliance Test Program conducted for the National Highway Traffic Safety Administration (NHTSA) following the OVSC Laboratory Test Procedure No. TP-301-03, dated February 28, 2003. For the purpose of acquiring information for Office of Vehicle Safety Research, the test was modified as follows:

- An instrumented 50th percentile male Part 572E Hybrid III ATD was positioned in the driver seat (P1) in place of a ballast ATD.
- An instrumented 50th percentile male Part 572E Hybrid III ATD was positioned in the right rear passenger seat (P3) in place of a ballast ATD.
- 1 high speed camera was installed on the vehicle front door.
- 1 high speed camera was installed on the vehicle right rear door.
- 2 front seatback frame, 2 rear seatback frame and 1 front sill MHDs were installed to measure rotation about the Y-axis.
- 4 vehicle accelerometers were installed to measure acceleration along the X-axis.
- The VRTC seatback translation was installed.

The crash event was recorded by ten high-speed cameras and one real-time camera. Camera locations and other pertinent camera information are found on pages 3-13 and 3-14 of this report. Pre- and post-test photographs of the ATDs can be found in Appendix A. Electronic data plots are presented in Appendix B.

The occupant and seat data is summarized below.

	Seatback Rotation		HIC (36ms)	Nij				Head-to-Torso Rotation		Clip (g)	Chest Disp. (mm)	Femur	
	Left (deg)	Right (deg)		Ntf	Nte	Ncf	Nce	Flexion (deg)	Extension (deg)			Left (N)	Right (N)
P1	19.3	15.7	119.3	0.16	0.22	0.04	0.02	17.5	-37.6	14.7	-6.2	-267.3	-519.3
P3	9.5	6.1	121.3	0.22	0.34	0.13	0.02	27.5	-34.9	36.9	-5.9	-1134.3	-1043.2

The P1 seatback frame was deformed rearward and the adjustment mechanism remained operable. The seat back reclined statically 7 degrees from its pre-test position. The P3 seatback frame was not deformed rearward and the adjustment mechanism remained operable. The seat back did not recline statically from its pre-test position.

SECTION 3

TEST DATA

DATA SHEET 1

TEST VEHICLE SPECIFICATIONS

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2004 Volkswagen Touareg MPV

NHTSA No.: C45800 ; Color: Beige

Engine Data: 6 Cylinders; - CID; 3.2 Liters; - cc

Placement: X Longitudinal or In-Line; - Transverse or Lateral

Transmission Data: 5 Speeds; - Manual; X Automatic; X Overdrive

Final Drive: - Rear Wheel Drive; - Front Wheel Drive; X Four Wheel Drive

Major Options: X A/C; X Power Steering; X Power Brakes

X Power Windows; X Power Door Locks; X Tilt Wheel

Date Received: 10/29/2003 ; Odometer Reading 354 km

Selling Dealer: McLoughlin Motors Inc.

& Address: Elmer Hill Road Rome, NY 13440

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Volkswagen AG Germany

Date of Manufacture: 05/03

VIN: WVGBC67L64D003224

GVWR: 2945 kg; GAWR-FRONT: 1415 kg; GAWR-REAR: 1610 kg

DATA FROM VEHICLE'S TIRE LABEL:

Location of Placard on Vehicle: Left B-Pillar

Recommended Tire Size: P255/60R17 106 H

* Recommended Cold Tire Pressure: FRONT: 250 kPa; REAR: 300 kPa

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P255/60R17 106 H Manufacturer: Dunlop

Tire Pressure with Maximum Capacity Vehicle Load: FRONT: 350 kPa; REAR: 350 kPa

Type of Spare Tire: 195/80-17 106P

VEHICLE CAPACITY DATA:

Type of Front Seats: - Bench; X Bucket; - Split Bench

Number of Occupants: 2 Front; 3 Rear; 5 Total

Vehicle Capacity Weight (VCW) = 631 kg

No. of Occupants x 68.04 kg = 340.2 kg

Rated Cargo/Luggage Weight (RCLW) = 290.8 kg (136.1 kg maximum)

*Tire pressure used for test

DATA SHEET 2

VEHICLE DATA

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front =	605.0	kg	Right Rear =	557.0	kg
Left Front =	595.0	kg.	Left Rear =	557.0	kg
TOTAL FRONT =	1200	kg	TOTAL REAR =	1114	kg

TOTAL DELIVERED WEIGHT = 2314 kg

% of Total Front of Vehicle Weight = 51.9% of Total Rear Weight = 48.1%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight	= 2314	kg
Rated Cargo/Luggage Weight (RCLW)	= 136.1	kg (136.1 kg maximum)
Weight of 2 p.572 Dummies, 74.4 kg	= 148.8	kg
TARGET TEST WEIGHT	= 2598.9	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 127.2 KG OF CARGO WEIGHT:

Right Front =	674.0	kg	Right Rear =	612.0	kg
Left Front =	673.0	kg	Left Rear =	631.0	kg
TOTAL FRONT =	1347	kg	TOTAL REAR =	1243	kg

TOTAL TEST WEIGHT = 2590 kg

% of Total Front of Vehicle Weight = 52.0% of Total Rear Weight = 48.0%

* Weight of Ballast Secured in Vehicle = 57 kg

Type of Ballast: Lead Shot

Method of Securing Ballast: Secured to Floor

Vehicle Components Removed for Weight Reduction: Right Front Passenger Seat

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	882	LF	888	RR	900	LR	893
AS TESTED:	RF	866	LF	862	RR	880	LR	879

Vehicle's Wheel Base: 2850 mm

Location of Vehicle's C.G.: 1368 millimeters rearward of front wheel center.

DATA SHEET 2 (continued)

VEHICLE DATA

TYPE OF TEST:

Type of Test: Rear Barrier Impact Angle: 0º

Test Date: July 2, 2004 Time: 11:30 Temperature: 21.7 ºC

Vehicle NHTSA No.: C45800 VIN: WVGBC67L64D003224

Required Impact Velocity Range: 46.51 to 48.12 kph

BARRIER IMPACT VELOCITY: (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 47.47 kph; Trap No. 2 = 47.47 kph

Average Impact Speed = 47.47 kph

VEHICLE STATIC CRUSH:

Vehicle Length:

Pre-Test	Left =	4610	; C/L =	4760	Right =	4610
Post-Test	Left =	4450	; C/L =	4660	Right =	4485
Crush	Left =	160	; C/L =	100	Right =	125

AVERAGE = 128 millimeters

DATA SHEET 3

MOVING BARRIER DATA

WEIGHT OF MOVING BARRIER:

Right Front	=	504.9 kg	Right Rear	=	393.7 kg.
Left Front	=	499.9 kg	Left Rear	=	398.3 kg
TOTAL FRONT	=	1004.8 kg	TOTAL REAR	=	792.0 kg

TOTAL BARRIER WEIGHT = 1796.8 kg

MOVING BARRIER DIMENSIONS:

Barrier Face Height: 1524 mm

Barrier Face Width: 1981 mm

Barrier Face Ground Clearance: 127 mm

Tread Width: 1511 mm

Wheel Base: 3048 mm

Location of C.G.: X: 1344 mm rearward of front wheel center.

Y: 0 mm from longitudinal-vertical plane of symmetry.

Z: 414 mm above ground.

MOVING BARRIER TIRES:

Manufacturer: Dunlop

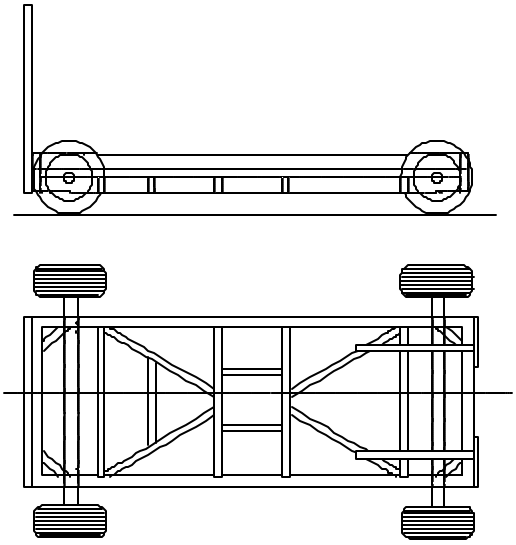
Model: AT Radial Rover

Size: P205/75R15

Recommended Max Pressure: 240 kPa:

MOVING BARRIER ABORT SYSTEM:

Type: Trailing cable



DATA SHEET 4

SEAT DATA

P1 DATA:

HEAD RESTRAINT	YES	NO	DETAILS
Fixed:	-	X	
Vertical Adjustment:	X	-	60 mm of vertical travel
Vertical Locks:	X	-	There were four locking positions
Fore-Aft Adjustment:	X	-	There is an adjustment range of 26º
Fore-Aft Locks:	-	X	

SEATBACK RECLINE TYPE	YES	NO	DETAILS
Fixed:	-	X	
Power:	-	X	
Lever (with detents):	-	X	
Lever (infinite)	-	X	
Lever (ratchet)	-	X	
Rotary Knob:	X	-	
Pivot locks on Both Sides:	X	-	

LUMBAR ADJUSTMENT	YES	NO	DETAILS
Fixed:	X	-	
Adjustable:	-	X	Placed in retracted position for ICBC measurements and test.

BOLSTER ADJUSTMENT	YES	NO	DETAILS
Fixed:	X	-	
Adjustable:	-	X	Placed in full open for ICBC measurements and test.

SEAT CUSHION TYPE	YES	NO	DETAILS
Cushion moves vertically independently of seat back:	-	X	

SEAT CUSHION FORE-AFT	YES	NO	DETAILS
Fixed:	-	X	
Power:	-	X	Travel: - mm
Manual-Detents:	-	-	First Detent: - Last Detent: - Travel: - mm
Manual-Infinite:	X	-	Travel: 250 mm

SEAT CUSHION VERTICAL	YES	NO	DETAILS
Fixed:	X	-	
Power:	-	X	
Manual-Detents	-	X	
Manual-Infinite	-	X	

SEAT TEST POSITION

Seat Cushion Fore-aft:	Mid-position (125 mm)
Seat Cushion Vertical:	Full down while maintaining mid-angle 10.1°
Seat Back:	25 degree torso angle as set with the H-point machine
Head Restraint:	Full up / full forward

DATA SHEET 4 (continued)

SEAT DATA

P3 DATA:

HEAD RESTRAINT	YES	NO	DETAILS
Fixed:		X	
Vertical Adjustment:	X	-	
Vertical Locks:	X	-	
Fore-Aft Adjustment:	X	-	
Fore-Aft Locks:	-	X	

SEATBACK RECLINE TYPE	YES	NO	DETAILS
Fixed:	X	-	
Power:	-	X	
Lever (with detents):	-	X	
Lever (infinite)	-	X	
Lever (ratchet)	-	X	
Rotary Knob:	-	X	
Pivot locks on Both Sides:	X	-	

LUMBAR ADJUSTMENT	YES	NO	DETAILS
Fixed:	X	-	
Adjustable:	-	X	Placed in retracted position for ICBC measurements and test.

BOLSTER ADJUSTMENT	YES	NO	DETAILS
Fixed:	X	-	
Adjustable:	-	X	Placed in full open for ICBC measurements and test.

SEAT CUSHION TYPE	YES	NO	DETAILS
Cushion moves vertically independently of seat back:	-	X	

SEAT CUSHION FORE-AFT	YES	NO	DETAILS
Fixed:	X	-	
Power:	-	X	Travel: - mm
Manual-Detents:	-	X	First Detent: - Last Detent: - Travel: - mm
Manual-Infinite:	-	X	Travel: - mm

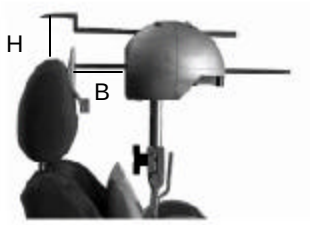
SEAT CUSHION VERTICAL	YES	NO	DETAILS
Fixed:	X	-	
Power:	-	X	
Manual-Detents	-	X	
Manual-Infinite	-	X	

SEAT TEST POSITION

Seat Cushion Fore-aft:	Fixed
Seat Cushion Vertical:	Fixed
Seat Back:	Fixed
Head Restraint:	Full up / full forward

DATA SHEET 5

ICBC MEASUREMENTS



P1 DATA:

ICBC MEASUREMENTS

HEAD RESTRAINT POSITION *(vertical/fore-aft)*	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Full Forward:	27	12	25	833
Full Up / Full Rearward:	50	5	25	848
Full Down / Full Forward:	29	57	25	788
Full Down / Full Rearward:	59	60	25	796

HEAD RESTRAINT POSITION – CONFIGURED FOR TEST *(vertical/fore-aft)*	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Full Rearward:	50	5	25	848

Head restraint positioning details: None

P3 DATA:

ICBC MEASUREMENTS

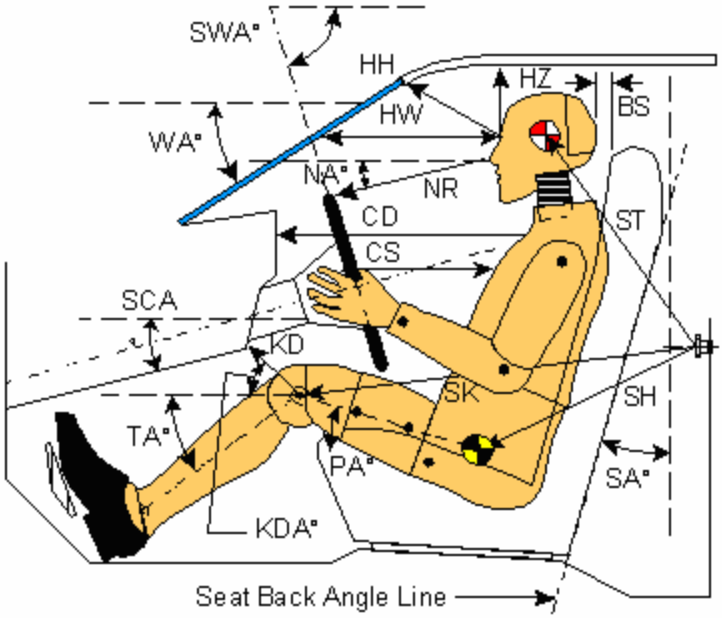
HEAD RESTRAINT POSITION *(vertical/fore-aft)*	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Full Forward:	24	14	22.5	818
Full Up / Full Rearward:	49	5	22.5	834
Full Down / Full Forward:	32	65	22.5	775
Full Down / Full Rearward:	62	60	22.5	790

HEAD RESTRAINT POSITION – CONFIGURED FOR TEST *(vertical/fore-aft)*	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Full Rearward:	49	5	22.5	834

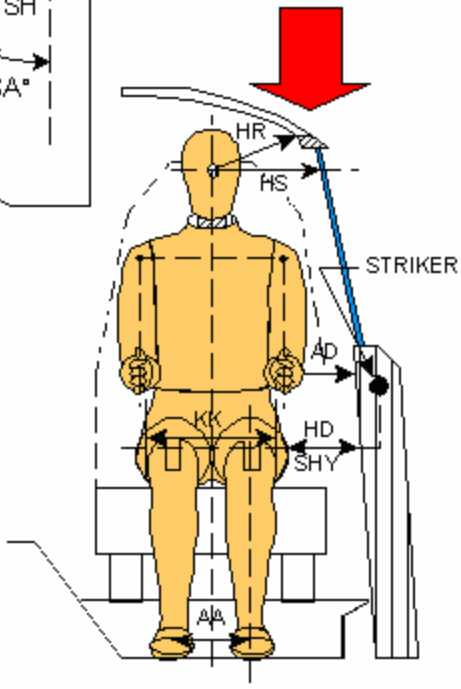
Head restraint positioning details: None

DUMMY MEASUREMENTS

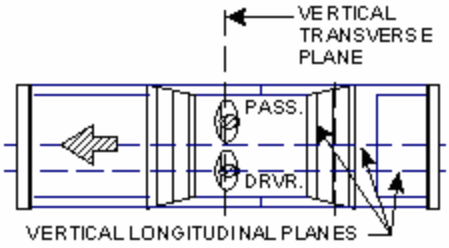
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



AD - Arm to Door
HD - H-Point to Door
HR - Head to Side Header
HS - Head to Side Window
KK - Knee to Knee
AA - Ankle to Ankle
SHY- Striker to H-Point (Y Direction)



CD - Chest to Dash
CS - Steering Wheel to Chest
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
KDA - Knee to Dash Angle
KDL- Left Knee to Dash
KDR - Right Knee to Dash
NA - Nose to Rim Angle
NR - Nose to Rim
PA - Pelvic Angle
RA - Rim to Abdomen
SA - Seat Back Angle
SCA - Steering Column Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
SWA- Steering Wheel Angle
TA - Tibial Angle
WA - Windshield Angle
BS - Backset



DATA SHEET 6 (continued)

DUMMY MEASUREMENTS

	DRIVER (Serial #202)			PASS. (Serial #206)		
WA^{O}	29.0 deg.			N/A		
SWA^{O}	69.0 deg.			N/A		
SCA^{O}	21.0 deg.			N/A		
SA^{O}	25 deg.			22.5 deg.		
HZ	193			182		
HH	438			-		
HW	735			-		
HR	212			210		
NR	457	Angle	-16 deg.	N/A		
CD	543			-		
CS	312			N/A		
RA	221			N/A		
KDL	185	Angle (KDA)	34 deg.	-		
KDR	151			-	Angle (KDA)	- deg.
PA^{O}	24.3 deg.			21.1 deg.		
TA^{O}	45.8 deg.			50.2 deg.		
KK	280			270		
AA	270			205		
ST	465	Angle	94 deg.	494	Angle	41 deg.
SK	605	Angle	98 deg.	564	Angle	96 deg.
SH	255	Angle	131 deg.	265	Angle	126 deg.
SHY	265			262		
HS	358			333		
HD	173			181		
AD	84			82		
BS*	80			80		

*Note: Measured with ATD in final seating position
Dimensions in millimeters

DATA SHEET 7

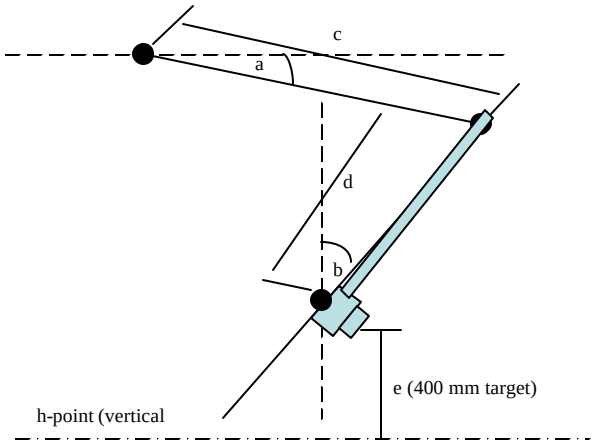
VEHICLE AND SEAT INSTRUMENTATION MEASUREMENTS

VEHICLE INSTRUMENTATION					
LOCATION	TRANSDUCER TYPE	DIRECTION OF MEASURE	PRE-TEST DIMENSIONS (mm) *		
			X	Y	Z
Left Rear Seat Cross Member	Accelerometer	X	1871	-795	-470
Left Rear Seat Cross Member Redundant	Accelerometer	X	1871	-795	-470
Right Rear Seat Cross Member Redundant	Accelerometer	X	1864	788	-474
Right Rear Seat Cross Member	Accelerometer	X	1864	788	-474
Left Front Sill	MHD ARS-06	About Y	1614	-795	-463

* X: From rear bumper, positive forward; Y: From long. centerline, positive right; Z: From ground, positive down.

DATA SHEET 7

VEHICLE AND SEAT INSTRUMENTATION MEASUREMENTS



DIMENSION	P1 LEFT	P1 RIGHT	P3 LEFT	P3 RIGHT
a (deg from horiz.)	40	9	25	22
b (deg from vertical)	13	14	17	30
c (mm)	215	578	386	360
d (mm)	370	370	370	370
e (mm, target=400)	334	340	330	310

SEATBACK ANGLE	P1		P3	
	PRE (deg)	POST (deg)	PRE (deg)	POST (deg)
Left MDH Bracket	13	20	25	25
Right MHD Bracket	14	19	22	22
Front Sill	-0.8	1.1	-0.8	-0.8

POST TEST DETAILS

Seatback Deformation: The driver seatback deformed rearward during the event but remained operational. The rear seat back did not display any visible deformation.

Seat/Floor Attachment Point Deformation: None

Recliner Mechanism Deformation: The driver seatback recline mechanism remained operational after the event. The rear seatback was not adjustable but the release and latch remained operational.

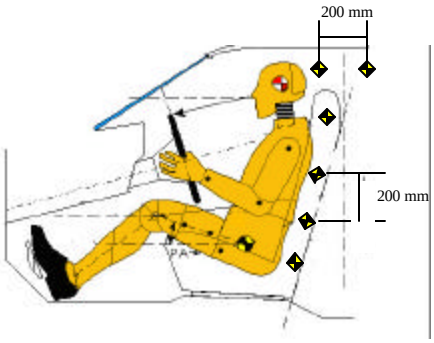
Comments: The outboard seating position safety belt pretensioners deployed during the event.

DATA SHEET 8

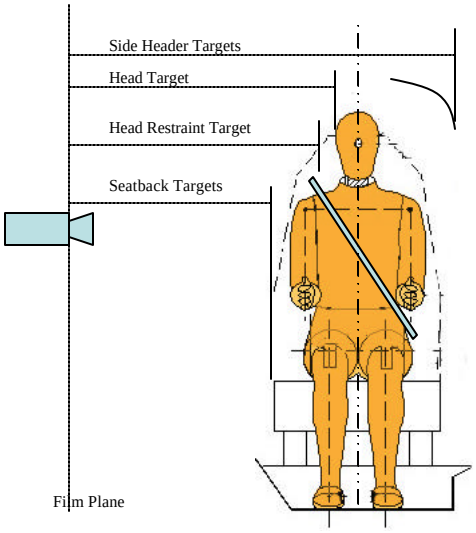
REFERENCE TARGET MEASUREMENTS

NHTSA No. : C45800 Vehicle : 2004 Volkswagen Touareg MPV

Reference Target Locations



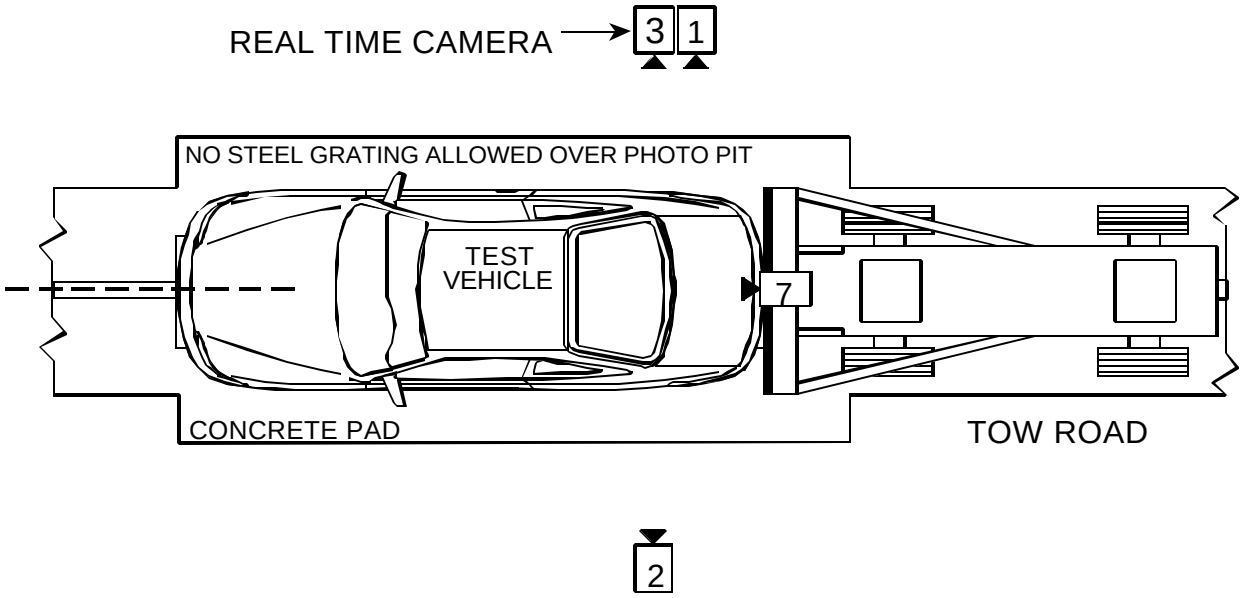
Reference Target Planes



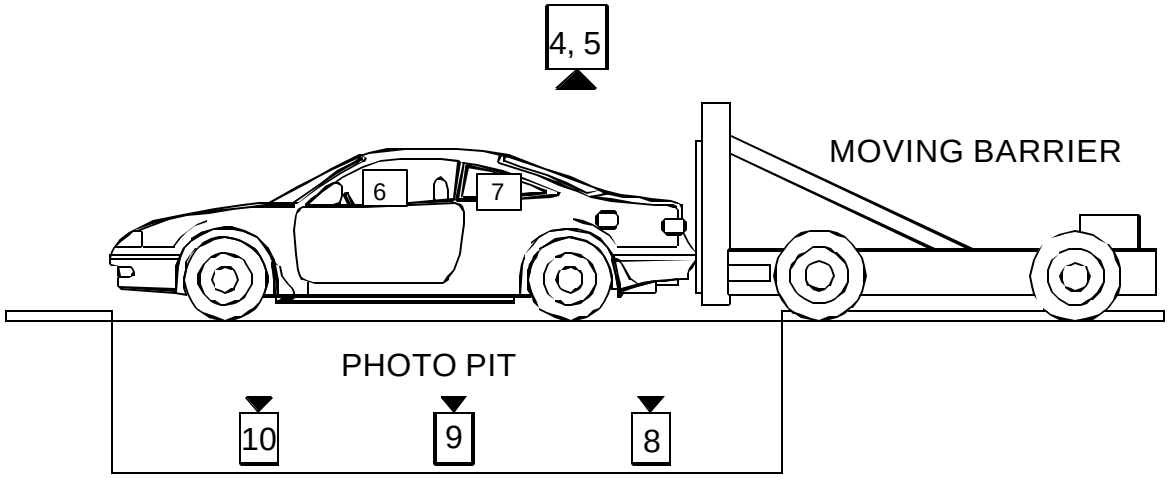
Film Plane to Reference Plane Distance		
Plane	**Front Occupant View (mm)**	**Rear Occupant View (mm)**
Seatback	1199	-
Head Restraint	1308	1223
Head Target	1380	1298
Side Header	1557	1412

DATA SHEET 9

HIGH SPEED CAMERA LOCATIONS



TOP VIEW



LEFT SIDE VIEW

DATA SHEET 9 (continued)

HIGH SPEED CAMERA LOCATIONS

NHTSA No. : C45800 Vehicle : 2004 Volkswagen Touareg MPV

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE** (degrees)	LENS (mm)	SPEED (fps)
		X	Y	Z			
1	Real-Time Camera	-	-	-	-	-	24
2	Left Side View	17953	2695	1130	-1	35	1000
3	Right Side View	17355	1273	1122	0	35	1005
4	Overhead Overall View	-508	0	9804	-90	13	1005
5	Overhead Close View	-508	0	9804	-105	13	1000
6†	Onboard Driver View	1027	2457	1232	-3	8	1010
7†	Onboard Passenger View	965	1590	1275	-8	8	1000
8	Vehicle Rear Underbody View	0	1223	-1956	90	13	1000
9	Vehicle Mid-Section Underbody View	0	2545	-1956	90	13	1000
10	Vehicle Front Underbody View	0	3759	-1956	90	13	1015

* X = film plant to monorail centerline (+ to left of rail)
Y = film plane to impact location (+ ahead of impact location)
Z = film plane to ground (+ above ground)
** = referenced to horizontal plane

† Research cameras – X distance is measured to the reference target plane.

Appendix A

PHOTOGRAPHS

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Figure A-1 DRIVER ICBC BACKSET VIEW

Figure A-2 PASSENGER ICBC BACKSET VIEW

Figure A-3 PRE-TEST DRIVER BACKSET VIEW

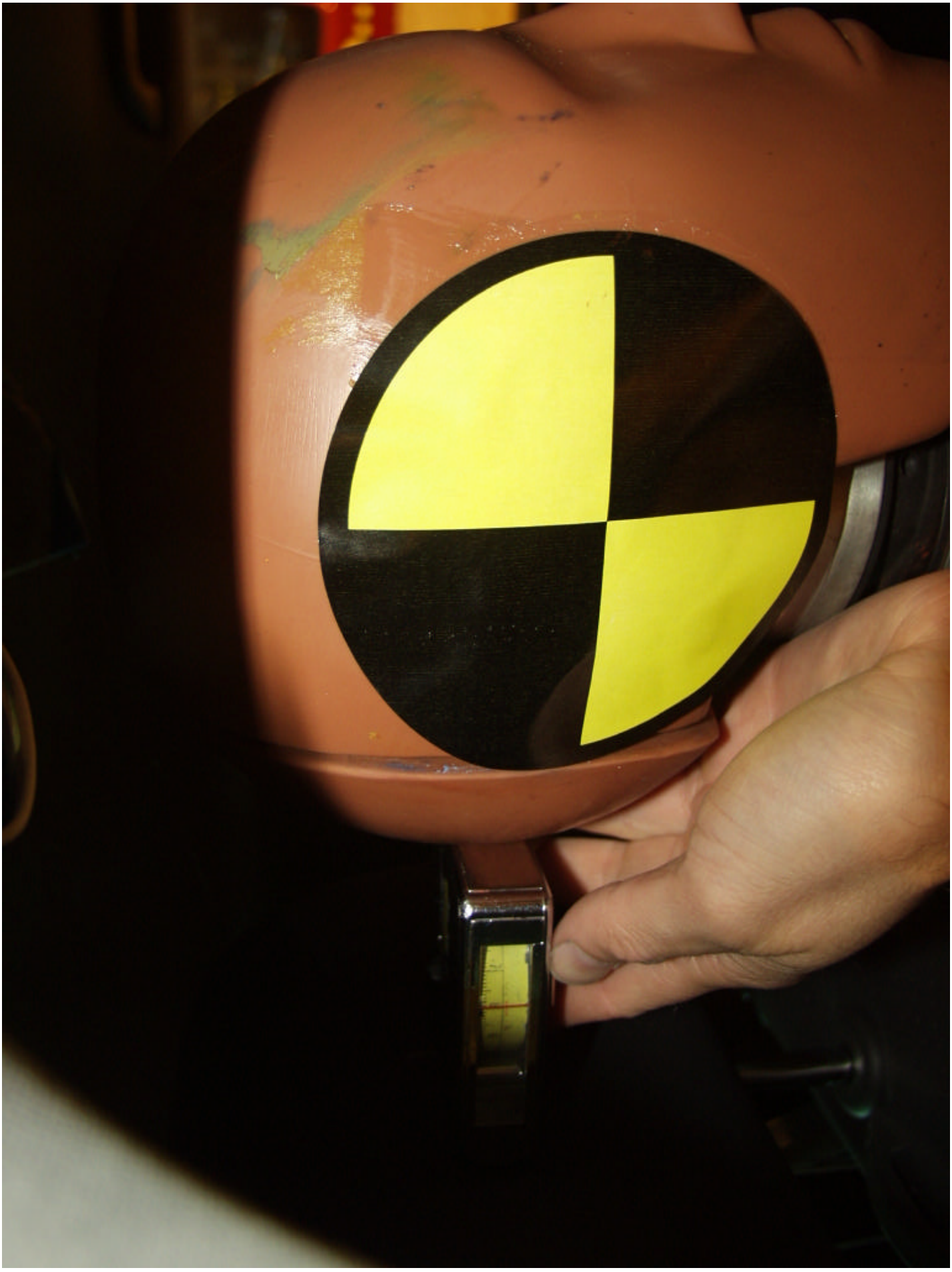

Figure A-4 PRE-TEST PASSENGER BACKSET VIEW

Figure A-5 PRE-TEST DRIVER SEAT CLOSE-UP VIEW

Figure A-6 POST-TEST DRIVER SEAT CLOSE-UP VIEW

Figure A-7 PRE-TEST DRIVER SEAT PERPENDICULAR VIEW

Figure A-8 POST-TEST DRIVER SEAT PERPENDICULAR VIEW

Figure A-9 PRE-TEST PASSENGER SEAT CLOSE-UP VIEW

Figure A-10 POST-TEST PASSENGER SEAT CLOSE-UP VIEW

Figure A-11 PRE-TEST PASSENGER SEAT PERPENDICULAR VIEW

Figure A-12 POST-TEST PASSENGER SEAT PERPENDICULAR VIEW

Figure A-13 PRE-TEST DRIVER LEFT SIDE VIEW

Figure A-14 POST-TEST DRIVER LEFT SIDE VIEW

Figure A-15 PRE-TEST DRIVER RIGHT SIDE VIEW

Figure A-16 POST-TEST DRIVER RIGHT SIDE VIEW

Figure A-17 PRE-TEST DRIVER ISOMETRICAL VIEW

Figure A-18 POST-TEST DRIVER ISOMETRICAL VIEW

Figure A-19 PRE-TEST PASSENGER LEFT SIDE VIEW

Figure A-20 POST-TEST PASSENGER LEFT SIDE VIEW

Figure A-21 PRE-TEST PASSENGER RIGHT SIDE VIEW

Figure A-22 POST-TEST PASSENGER RIGHT SIDE VIEW

Figure A-23 PRE-TEST PASSENGER ISOMETRICAL VIEW

Figure A-24 POST-TEST PASSENGER ISOMETRICAL VIEW

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

DRIVER DUMMY (Pos. 1)	SAE FILTER CHANNEL CLASS
Head Accelerations	1000
Head Angular Velocity	1000
Neck Forces	1000
Neck Moments	600
Chest Accelerations	180
Chest Angular Velocity	600
Chest Rotations	1000
Pelvic Accelerations	1000
Belt Forces	60
Belt Spoolout	180
Vehicle Accelerations	60
Vehicle Angular Velocity	1000

Note: Angular position is measured in degrees of rotation from the initial (design) position.

FACILITY: VERF DATE: July 02, 2004
TEST#: 42057-2005
TITLE: 2004 '301' Test 5 2004 VW Touareg C45800

P1 Head
P1 HIC(15 ms): 73.8
t1: 100.5 msec
t2: 115.5 msec
Duration: 15.0 msec
Average Acceleration: 30.0 g

P1 HIC(36 ms): 119.3
t1: 84.6 msec
t2: 120.6 msec
Duration: 36.0 msec
Average Acceleration: 25.6 g

P1 Upper Neck
P1 UP NECK Fx: Max: 270.7 N 109.4 msec
Min: -184.2 N 202.3 msec

P1 UP NECK Fz: Max: 1226.8 N 105.3 msec
Min: -36.8 N 54.5 msec

P1 UP NECK Mocy (50th Male)
Max: 15.8 N-m 211.3 msec
Min: -24.3 N-m 129.6 msec
Docy: 0.01778

P1 UP NECK Nij (50th Male)
Ntf: 0.16 Nij 93.3 msec CVt: 6806; CVf: 310
Fz: 1020.2 N
Fx: 216.7 N
Mocy: 3.3 N-m

Nte: 0.22 Nij 105.3 msec CVt: 6806; CVe: 135
Fz: 1225.9 N
Fx: 165.4 N
Mocy: -5.5 N-m

Ncf: 0.04 Nij 324.4 msec CVc: 6160; CVf: 310
Fz: -22.6 N
Fx: -137.6 N
Mocy: 11.4 N-m

Nce: 0.02 Nij 491.4 msec CVc: 6160; CVe: 135
Fz: -0.9 N
Fx: 31.9 N
Mocy: -2.2 N-m

P1 Chest
P1 CLIP(3 ms): 14.7 g
t1: 57.6 msec
t2: 60.6 msec
Duration: 3.0 msec
P1 CSI: 36.1

P1 CHEST DISP: Max: 0.0 mm 15.1 msec
Min: -6.2 mm 234.7 msec

P1 Femur
P1 LEFT FEMUR: Max: 568.6 N 70.3 msec
Min: -267.3 N 38.4 msec

P1 RIGHT FEMUR: Max: 426.4 N 64.7 msec
Min: -519.3 N 45.4 msec

FACILITY: VERF DATE: July 02, 2004
TEST#: 42057-2005
TITLE: 2004 '301' Test 5 2004 VW Touareg C45800

P3Head
P3 HIC(15 ms): 77.5
t1: 51.8 msec
t2: 66.8 msec
Duration: 15.0 msec
Average Acceleration: 30.6 g

P3 HIC(36 ms): 121.3
t1: 45.9 msec
t2: 79.3 msec
Duration: 33.4 msec
Average Acceleration: 26.5 g

P3Upper Neck
P3 UP NECK Fx: Max: 346.3 N 55.6 msec
Min: -290.3 N 74.0 msec

P3 UP NECK Fz: Max: 1044.8 N 58.8 msec
Min: -461.4 N 42.6 msec

P3 UP NECK Mocy (50th Male)
Max: 26.9 N-m 50.9 msec
Min: -31.6 N-m 74.6 msec
Docy: 0.01778

P3UP NECK Nij (50th Male)
Ntf: 0.22 Nij 53.6 msec CVt: 6806; CVf: 310
Fz: 972.5 N
Fx: 335.6 N
Mocy: 23.4 N-m
Ncf: 0.13 Nij 43.9 msec CVc: 6160; CVf: 310
Fz: -439.5 N
Fx: 213.3 N
Mocy: 18.5 N-m

Nte: 0.34 Nij 73.7 msec CVt: 6806; CVe: 135
Fz: 732.5 N
Fx: -281.4 N
Mocy: -30.9 N-m
Nce: 0.02 Nij 455.5 msec CVc: 6160; CVe: 135
Fz: -0.5 N
Fx: 34.7 N
Mocy: -2.6 N-m

P3Chest
P3 CLIP(3 ms): 36.9 g
t1: 42.2 msec
t2: 45.2 msec
Duration: 3.0 msec
P3 CSI: 111.4

P3 CHEST DISP: Max: 1.2 mm 60.3 msec
Min: -5.9 mm 113.7 msec

P3Femur
P3 LEFT FEMUR: Max: 322.0 N 99.1 msec
Min: -1134.3 N 44.8 msec

P3 RIGHT FEMUR: Max: 356.2 N 105.7 msec
Min: -1043.2 N 44.0 msec

Maximum and Minimum Data

NAME	Unit	Max	msec	Min	msec	Comment
V2P1 Head x	g	30.6	102.6	-4.9	223.3	
V2P1 Head y	g	1.1	51.9	-1.6	87.6	
V2P1 Head z	g	13.3	105.0	-1.6	54.0	
V2P1 Head Resultant	g	31.8	102.6	0.0	-35.6	
V2P1 Head AVy	deg/s	1402.2	89.7	-1102.8	140.5	
V2P1 Head Comp AVy	deg/s	1465.9	89.8	-1047.1	140.9	f2=0.283 Hz; f4=0.001 Hz
V2P1 Head Comp ADy	deg	56.2	108.5	-29.6	314.0	f2=0.283 Hz; f4=0.001 Hz
V2P1 Upper Neck Fx	N	270.7	109.4	-184.2	202.3	
V2P1 Upper Neck Fy	N	30.2	149.5	-37.2	473.2	
V2P1 Upper Neck Fz	N	1226.8	105.3	-36.8	54.5	
V2P1 Upper Neck F Resultant	N	1238.0	105.3	0.1	4.0	
V2P1 Upper Neck Mx	N-m	4.6	65.3	-5.9	78.6	
V2P1 Upper Neck My	N-m	12.7	211.2	-27.5	129.6	
V2P1 Upper Neck Mz	N-m	2.6	156.0	-2.1	206.6	
V2P1 Upper Neck M Resultant	N-m	27.6	129.6	0.0	-46.2	
V2P1 Lower Neck Fx	N	799.9	87.9	-144.1	252.5	
V2P1 Lower Neck Fy	N	86.3	48.8	-131.3	66.0	
V2P1 Lower Neck Fz	N	915.3	93.1	-47.9	309.8	
V2P1 Lower Neck F Resultant	N	1202.9	93.2	0.1	-88.0	
V2P1 Lower Neck Mx	N-m	9.0	209.4	-8.3	68.7	
V2P1 Lower Neck My	N-m	44.0	314.7	-171.8	105.5	
V2P1 Lower Neck Mz	N-m	14.9	309.8	-80.0	105.4	
V2P1 Lower Neck M Resultant	N-m	189.5	105.5	0.0	-88.9	
V2P1 Lower Neck x	g	17.1	83.6	-3.1	241.4	
V2P1 Chest x	g	15.0	58.8	-2.8	239.9	
V2P1 Chest y	g	1.0	134.1	-1.1	65.3	
V2P1 Chest z	g	5.3	38.2	-2.9	93.4	
V2P1 Chest Resultant	g	15.1	58.8	0.0	-86.3	
V2P1 Chest Displacement	mm	0.0	15.1	-6.2	234.7	
V2P1 Chest AVy	deg/s	456.9	72.0	-297.2	146.9	
V2P1 Chest Comp AVy	deg/s	475.5	74.6	-276.2	151.8	f2=0.298 Hz; f4=0.001 Hz
V2P1 Chest Comp ADy	deg	18.9	116.7	-14.7	299.5	f2=0.298 Hz; f4=0.001 Hz
V2P1 Pelvic x	g	21.3	50.7	-2.9	133.2	
V2P1 Pelvic y	g	3.5	54.6	-5.1	34.6	
V2P1 Pelvic z	g	8.5	62.0	-2.8	93.0	
V2P1 Pelvic Resultant	g	22.4	50.7	0.0	-62.3	
V2P1 Left Femur	N	568.6	70.3	-267.3	38.4	
V2P1 Right Femur	N	426.4	64.7	-519.3	45.4	
V2P1 Head to Chest	deg	17.5	217.7	-37.6	108.3	
V2P1 Lap Belt	N	914.6	133.7	-7.3	11.1	
V2P3 Head x	g	57.9	75.2	-36.4	72.8	
V2P3 Head y	g	3.0	80.4	-2.1	62.2	
V2P3 Head z	g	16.4	73.2	-10.7	42.6	
V2P3 Head Resultant	g	59.8	75.2	0.0	-78.1	
V2P3 Head AVy	deg/s	1538.8	55.1	-1124.1	101.4	
V2P3 Head Comp AVy	deg/s	1570.1	55.3	-1095.2	102.5	f2=0.287 Hz; f4=0.001 Hz
V2P3 Head Comp ADy	deg	39.7	74.9	-32.9	176.8	f2=0.287 Hz; f4=0.001 Hz
V2P3 Upper Neck Fx	N	346.3	55.6	-290.3	74.0	
V2P3 Upper Neck Fy	N	59.4	180.8	-101.5	47.0	

Maximum and Minimum Data (Continued)

NAME	Unit	Max	msec	Min	msec	Comment
V2P3 Upper Neck Fz	N	1044.8	58.8	-461.4	42.6	
V2P3 Upper Neck F Resultant	N	1091.2	58.8	0.3	-57.6	
V2P3 Upper Neck Mx	N-m	4.2	83.9	-5.4	99.7	
V2P3 Upper Neck My	N-m	32.4	51.5	-36.6	74.6	
V2P3 Upper Neck Mz	N-m	8.5	106.6	-5.8	155.7	
V2P3 Upper Neck M Resultant	N-m	36.8	74.5	0.0	-21.4	
V2P3 Lower Neck Fx	N	937.6	53.5	-239.0	160.8	
V2P3 Lower Neck Fy	N	125.0	189.1	-104.5	41.5	
V2P3 Lower Neck Fz	N	793.2	59.2	-627.2	43.3	
V2P3 Lower Neck F Resultant	N	1162.4	53.9	0.1	-18.6	
V2P3 Lower Neck Mx	N-m	17.0	176.1	-14.6	43.9	
V2P3 Lower Neck My	N-m	78.4	165.1	-136.8	53.3	
V2P3 Lower Neck Mz	N-m	11.2	106.3	-4.8	39.3	
V2P3 Lower Neck M Resultant	N-m	137.2	53.3	0.0	-59.9	
V2P3 Lower Neck x	g	40.3	45.2	-4.3	101.0	
V2P3 Chest x	g	37.2	43.2	-4.6	101.1	
V2P3 Chest y	g	2.2	46.2	-2.5	35.5	
V2P3 Chest z	g	6.8	78.2	-4.1	41.4	
V2P3 Chest Resultant	g	37.3	43.1	0.0	-74.8	
V2P3 Chest Compression	mm	1.2	60.3	-5.9	113.7	
V2P3 Chest AVy	deg/s	139.3	42.5	-136.7	109.6	
V2P3 Chest Comp AVy	deg/s	143.9	42.6	-135.8	138.3	f2=0.308 Hz; f4=0.001 Hz
V2P3 Chest Comp ADy	deg	5.0	80.2	-8.1	221.3	f2=0.308 Hz; f4=0.001 Hz
V2P3 Pelvic x	g	35.1	43.4	-7.0	88.5	
V2P3 Pelvic y	g	2.3	59.4	-2.0	147.0	
V2P3 Pelvic z	g	8.8	50.3	-2.1	167.7	
V2P3 Pelvic Resultant	g	35.6	43.4	0.0	-99.7	
V2P3 Left Femur	N	322.0	99.1	-1134.3	44.8	
V2P3 Right Femur	N	356.2	105.7	-1043.2	44.0	
V2P3 Head to Chest	deg	27.5	170.8	-34.9	74.7	
V2P3 Lap Belt	N	2059.2	86.1	-10.7	8.3	
V2 Left X Member x	g	26.0	5.3	-6.4	47.4	
V2 Left X Member RED x	g	28.9	21.2	-5.9	46.4	
V2 Right X Member x	g	27.1	20.2	-7.3	45.9	
V2 Right X Member RED x	g	26.2	20.1	-5.0	45.9	
V2 Left Front Sill AVy	deg/s	423.5	30.7	-538.4	33.4	
V2 Left Front Sill Comp AVy	deg/s	423.9	30.7	-538.3	33.4	f2=0.283 Hz; f4=0.001 Hz
V2 Left Front Sill Comp ADy	deg	0.8	237.3	-1.0	76.0	f2=0.283 Hz; f4=0.001 Hz
V2P1 Left Seat Avy	deg/s	797.8	63.6	-398.6	147.1	
V2P1 Left Seat Comp Avy	deg/s	822.0	63.6	-385.2	147.3	f2=0.337 Hz; f4=0.001 Hz
V2P1 Left Seat Comp ADy	deg	18.3	77.9	0.0	8.0	f2=0.337 Hz; f4=0.001 Hz
V2P1 Right Seat Avy	deg/s	531.1	61.1	-337.0	101.8	
V2P1 Right Seat Comp Avy	deg/s	551.9	61.1	-313.8	106.1	f2=0.374 Hz; f4=0.001 Hz
V2P1 Right Seat Comp ADy	deg	14.8	79.2	0.0	7.4	f2=0.374 Hz; f4=0.001 Hz
V2P1 Left Link Ady	deg	22.7	76.4	-1.5	11.3	
V2P1 Right Link Ady	deg	9.1	93.9	-3.0	45.9	
V2P1 Left Span Bar Displacement	mm	282.8	81.3	0.0	5.9	
V2P1 Right Span Bar Displacement	mm	244.2	84.2	-1.0	12.9	
V2P3 Left Seat Avy	deg/s	654.2	24.3	-519.5	53.7	

Maximum and Minimum Data (Continued)

NAME	Unit	Max	msec	Min	msec	Comment
V2P3 Left Seat Comp Avy	deg/s	662.1	24.3	-514.1	53.8	f2=0.3 Hz; f4=0.001 Hz
V2P3 Left Seat Comp ADy	deg	9.2	38.7	-5.4	108.8	f2=0.3 Hz; f4=0.001 Hz
V2P3 Right Seat Avy	deg/s	598.9	22.7	-357.5	40.3	
V2P3 Right Seat Comp Avy	deg/s	608.0	22.7	-349.4	40.3	f2=0.396 Hz; f4=0.001 Hz
V2P3 Right Seat Comp ADy	deg	6.0	30.2	-5.5	499.9	f2=0.396 Hz; f4=0.001 Hz
V2P3 Left Link Ady	deg	8.0	41.0	-5.6	112.0	
V2P3 Right Link Ady	deg	6.3	38.2	-8.6	30.7	
V2P3 Left Span Bar Displacement	mm	544.6	128.9	-2.2	26.6	Meaningless Data
V2P3 Right Span Bar Displacement	mm	44.6	30.3	-5.0	108.5	
P1 Left Change in Seat Back Angle	deg	19.3	76.6	-0.2	6.7	
P1 Left Change in String Angle	deg	4.4	148.5	-5.0	39.3	
P1 Left Seat X Displacement	mm	121.5	93.8	-3.5	17.5	
P1 Right Change in Seat Back Angle	W deg	15.7	77.0	-0.2	6.7	
P1 Right Change in String Angle	deg	1.1	19.0	-12.0	84.6	
P1 Right Seat X Displacement	mm	131.5	93.5	-7.2	13.9	
P3 Left Change in Seat Back Angle	R deg	9.5	38.7	-5.3	108.8	
P3 Left Change in String Angle	deg	547.0	209.4	-7.7	26.6	Meaningless Data
P3 Left Seat X Displacement	mm	59.2	118.8	-769.6	26.9	Meaningless Data
P3 Right Change in Seat Back Angle	W deg	6.1	29.3	-5.2	499.9	
P3 Right Change in String Angle	deg	38.7	30.3	-4.2	108.5	
P3 Right Seat X Displacement	mm	52.3	499.9	-25.3	30.2	

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10	V2P1 Upper Neck Fz [N, CFC_1000]	B-20
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12	V2P1 Upper Neck Mx [N-m, CFC_600]	B-22
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17	V2P1 Lower Neck Fy [N, CFC_1000]	B-27
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19	V2P1 Lower Neck F Resultant [N, CFC_1000]	B-29
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21	V2P1 Lower Neck My [N-m, CFC_600]	B-31
22	V2P1 Lower Neck Mz [N-m, CFC_600]	B-32
23	V2P1 Lower Neck M Resultant [N-m, CFC_600]	B-33
24	V2P1 Lower Neck x [g, CFC_1000]	B-34
25	V2P1 Chest x [g, CFC_180]	B-35
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28	V2P1 Chest Resultant [g, CFC_180]	B-38
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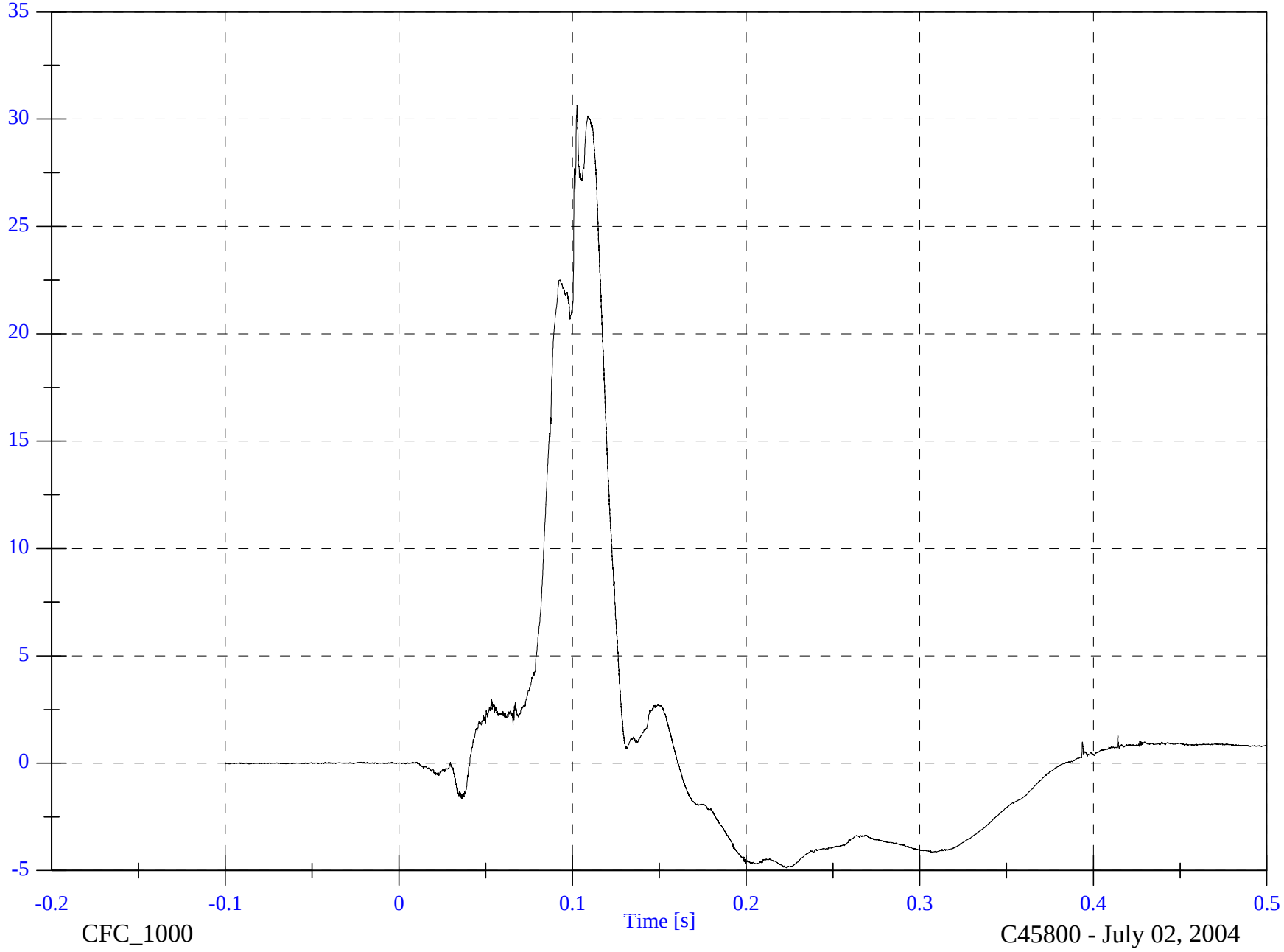
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head x

Max: 30.6 [g] at 0.103 [s]

Min: -4.9 [g] at 0.223 [s]



CFC_1000

C45800 - July 02, 2004

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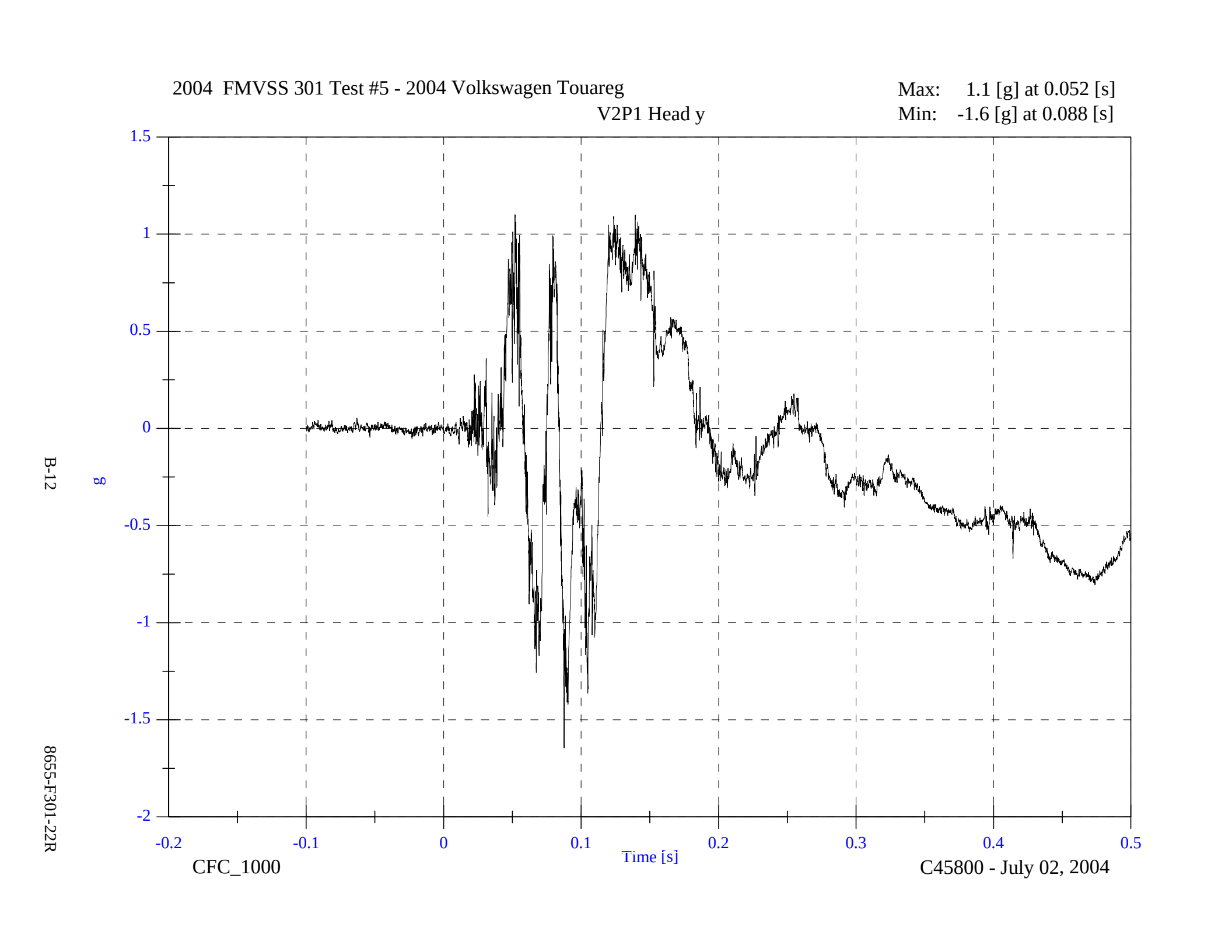
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Head y
Max: 1.1 [g] at 0.052 [s]
Min: -1.6 [g] at 0.088 [s]
1.5
1
0.5
0
-0.5
-1
-1.5
-2
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
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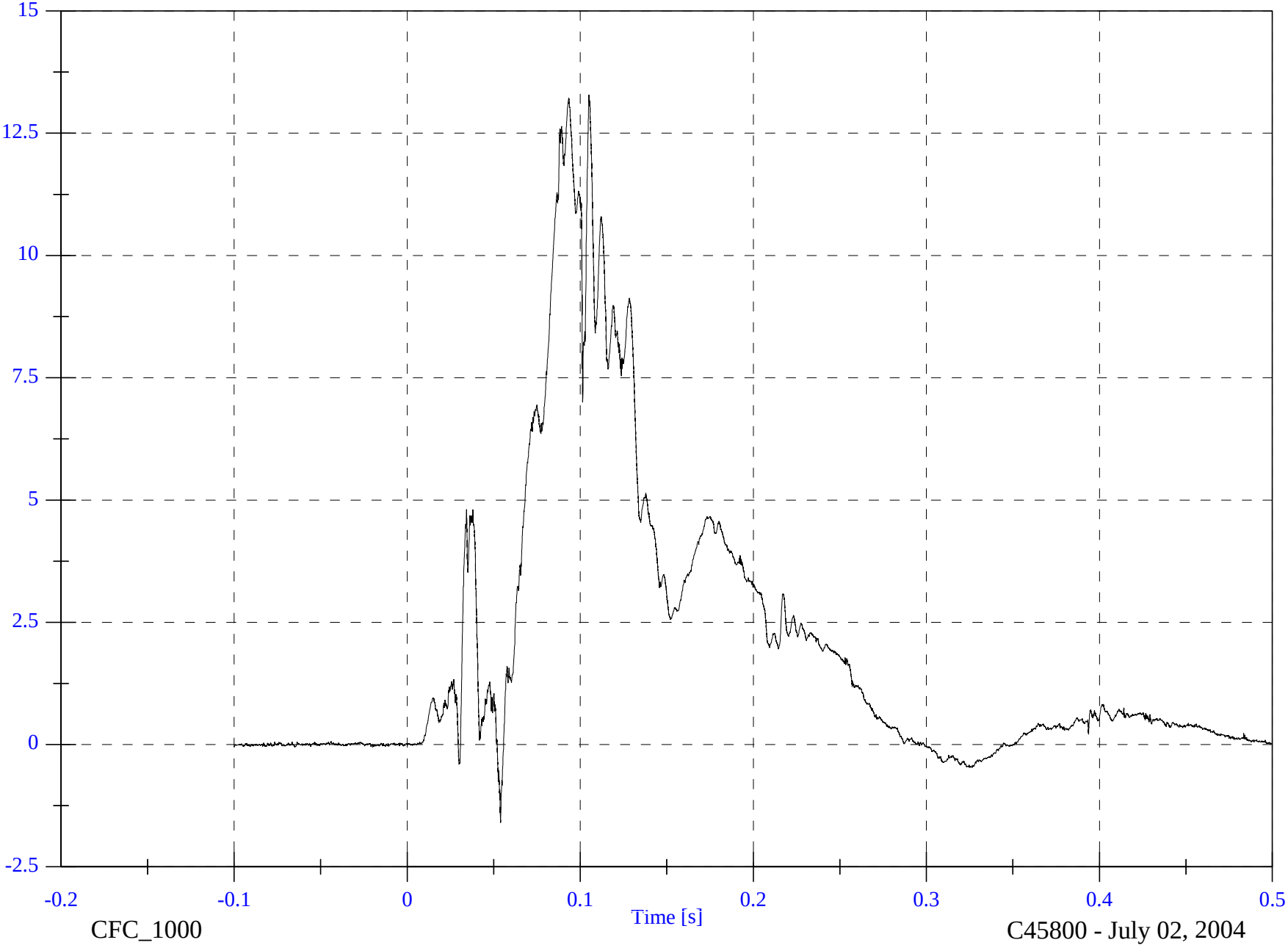
CFC_1000
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head z

Max: 13.3 [g] at 0.105 [s]

Min: -1.6 [g] at 0.054 [s]



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CFC_1000

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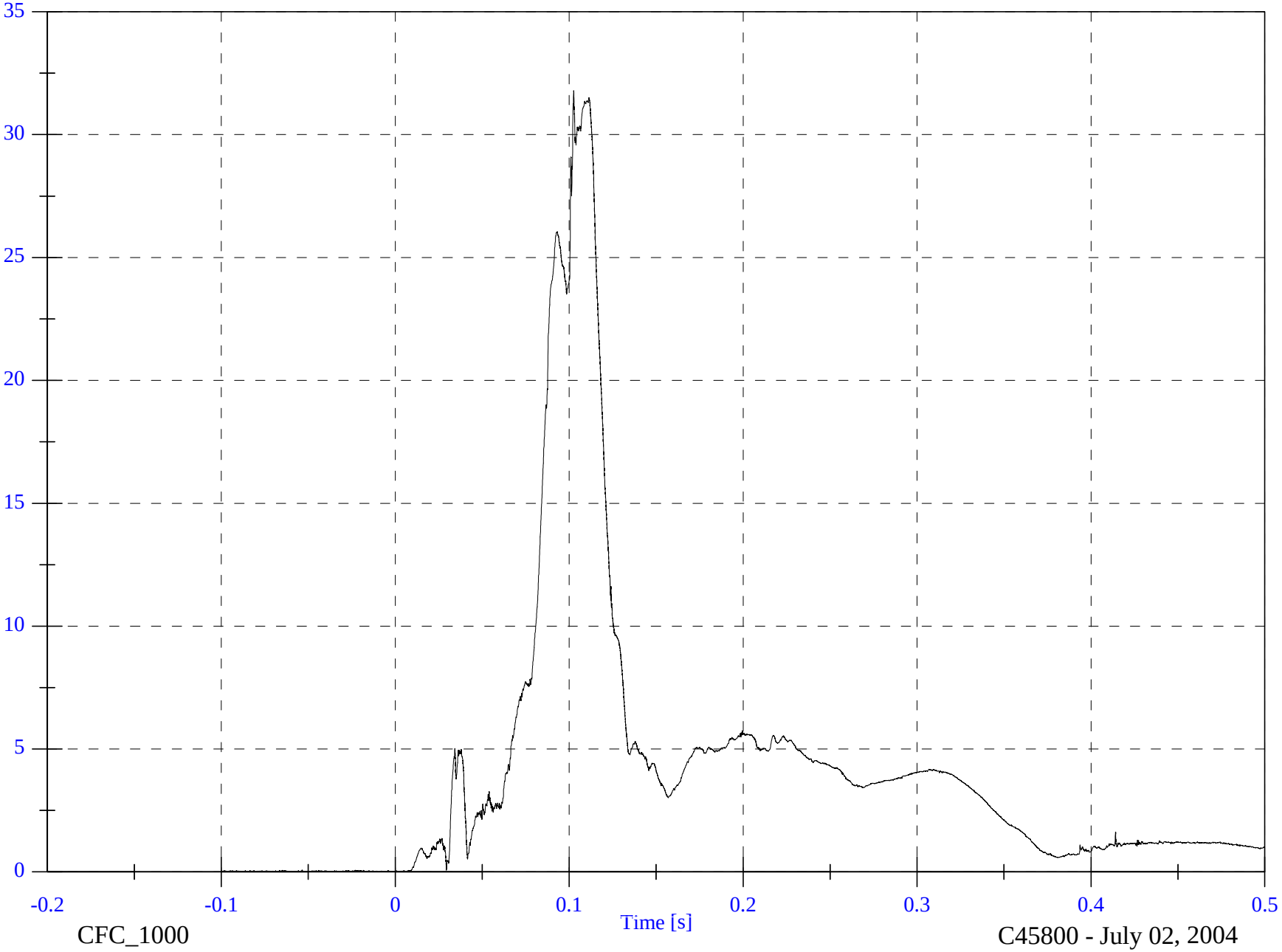
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head Resultant

Max: 31.8 [g] at 0.103 [s]

Min: 0.0 [g] at -0.036 [s]



CFC_1000

C45800 - July 02, 2004

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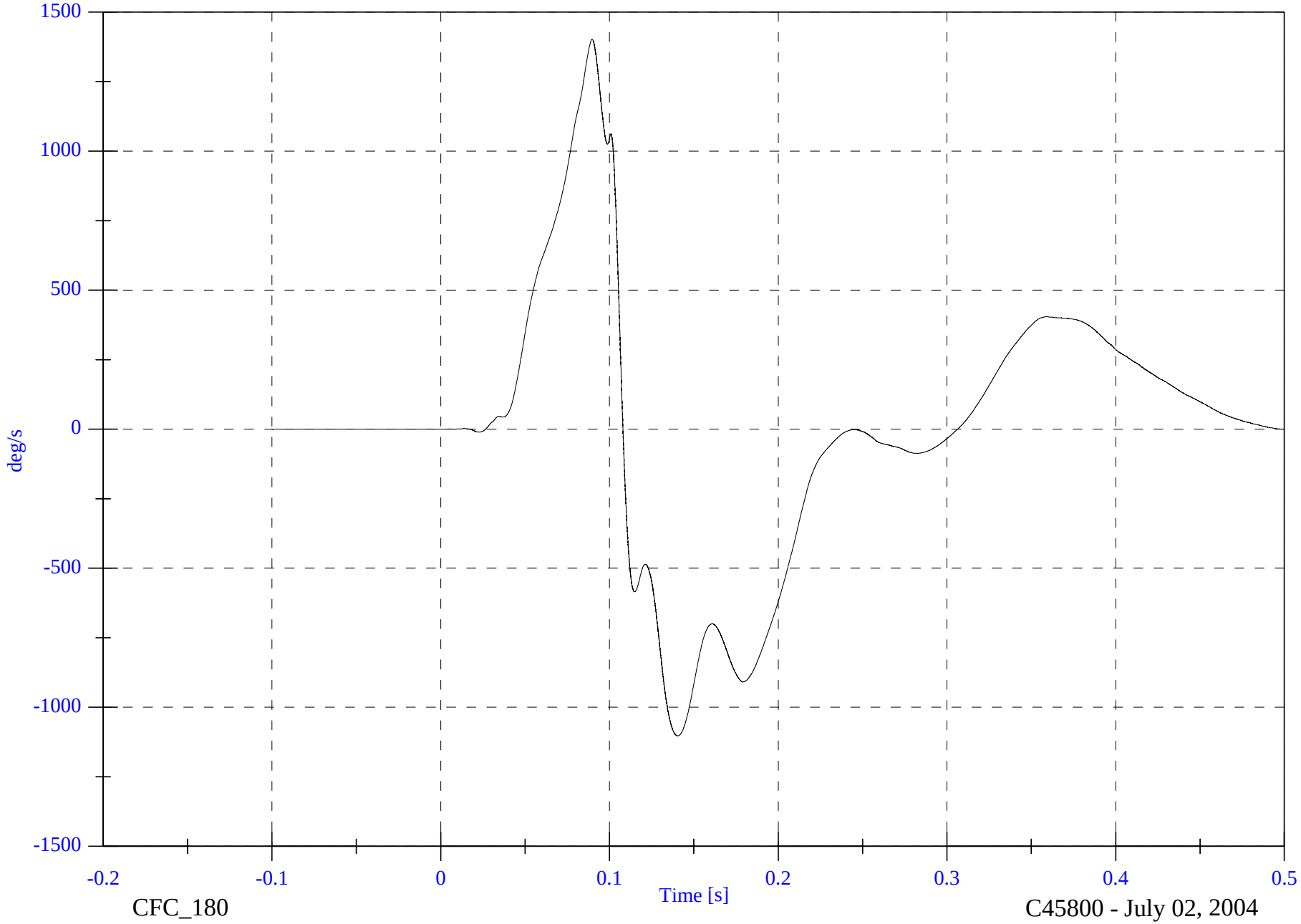
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head AVy

Max: 1402.2 [deg/s] at 0.090 [s]

Min: -1102.8 [deg/s] at 0.141 [s]



CFC_180

C45800 - July 02, 2004

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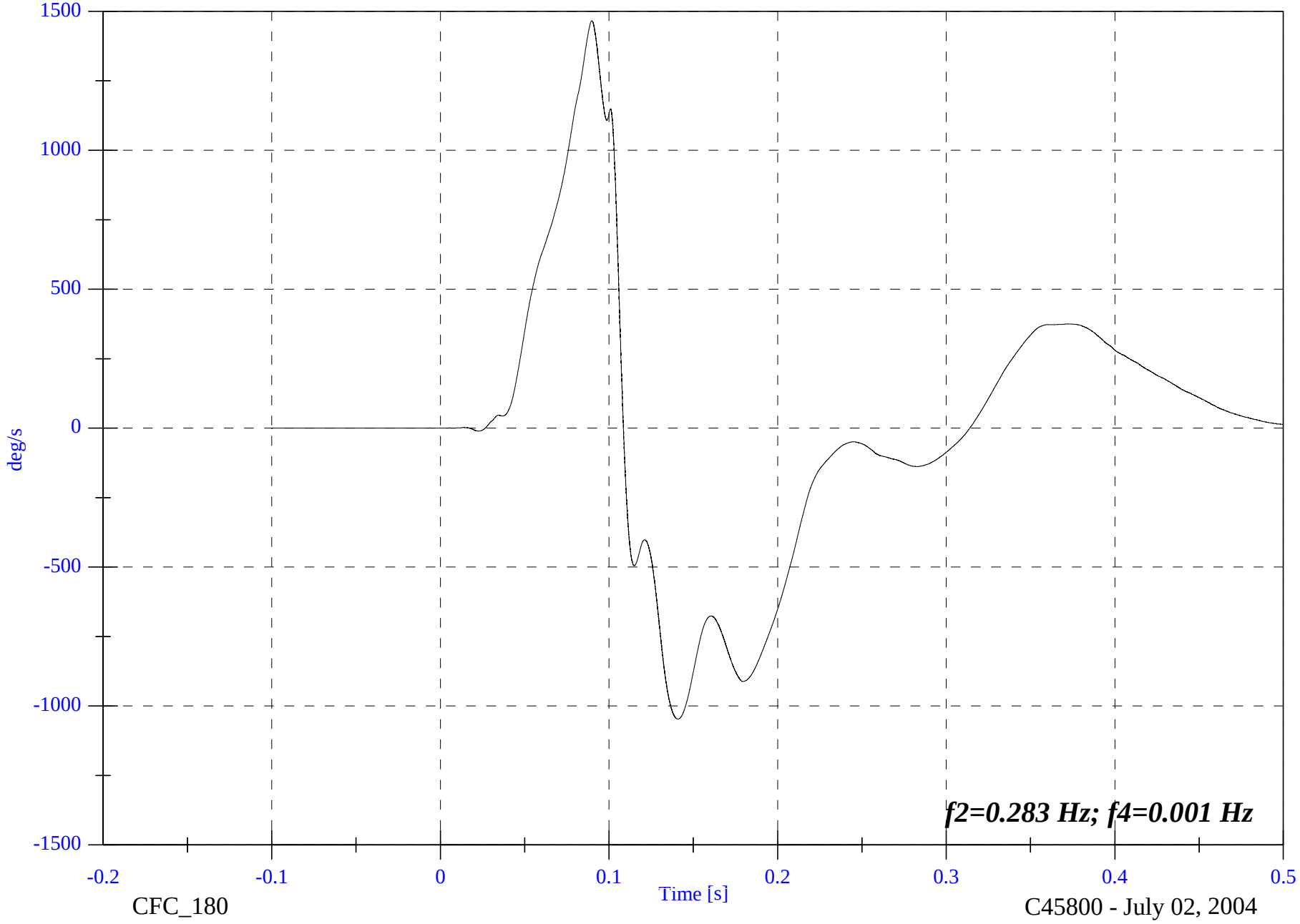
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head Comp AVy

Max: 1465.9 [deg/s] at 0.090 [s]

Min: -1047.1 [deg/s] at 0.141 [s]



CFC_180

C45800 - July 02, 2004

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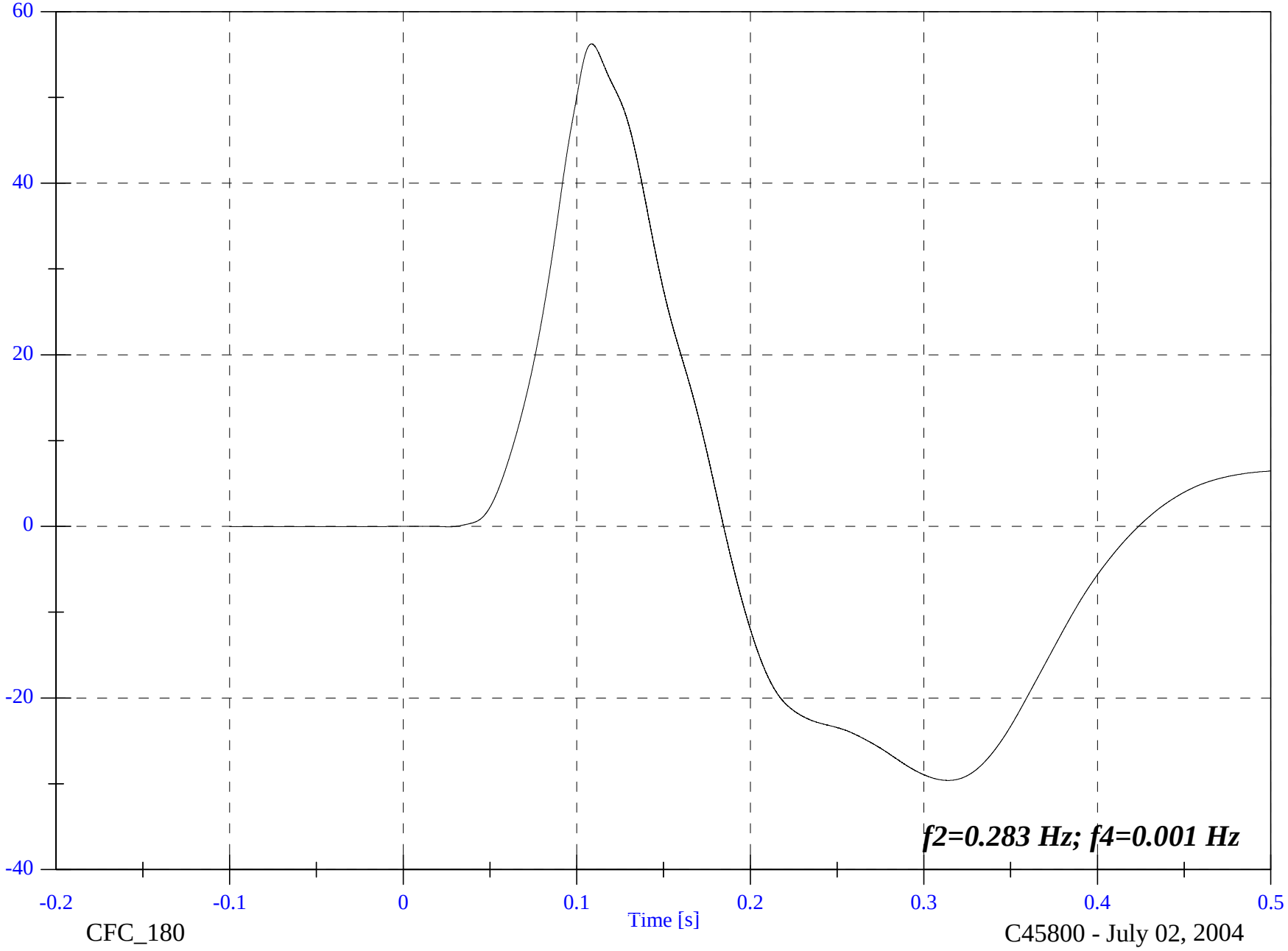
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head Comp ADy

Max: 56.2 [deg] at 0.109 [s]

Min: -29.6 [deg] at 0.314 [s]



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8655-F301-22R

CFC_180

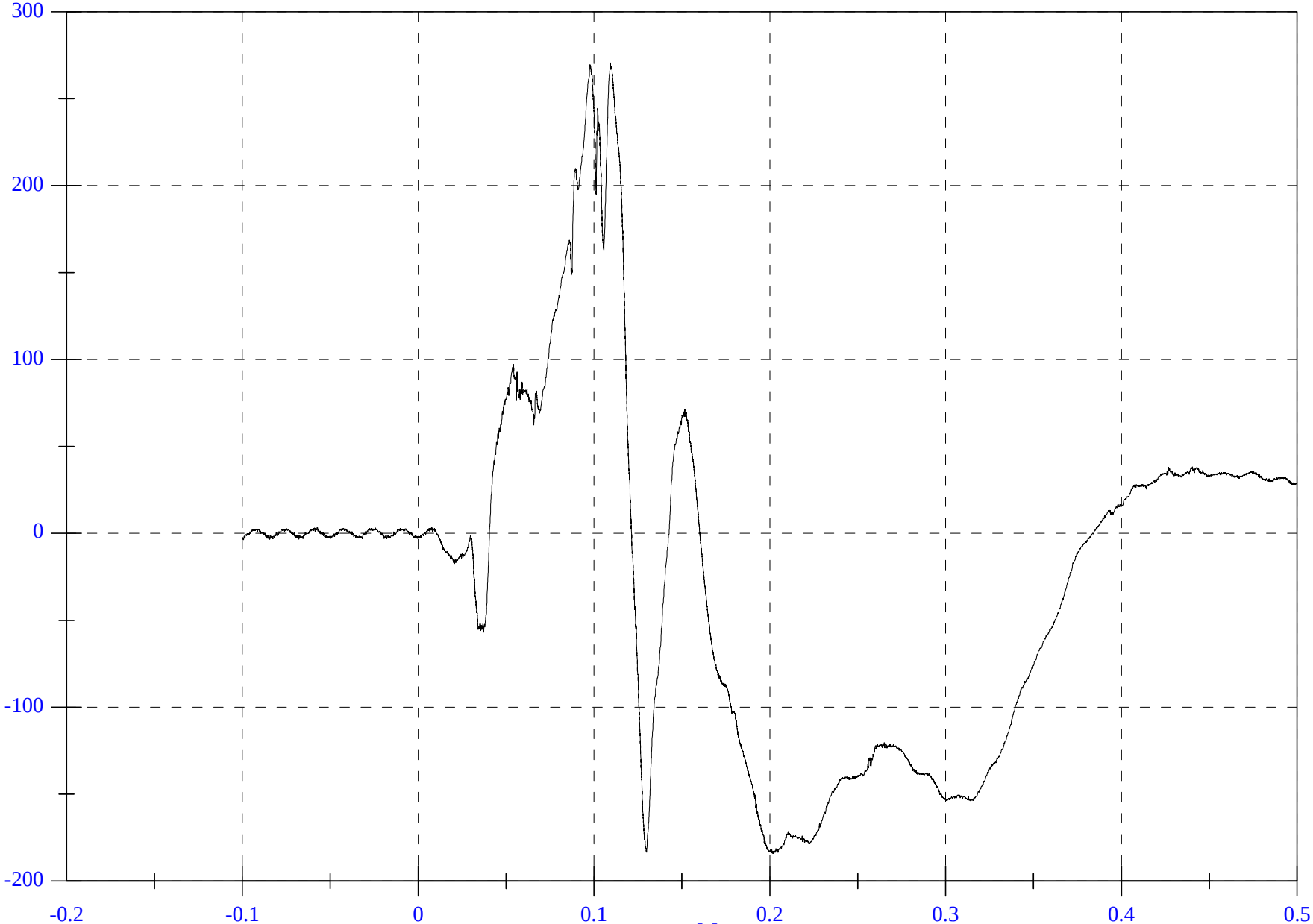
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck Fx

Max: 270.7 [N] at 0.109 [s]

Min: -184.2 [N] at 0.202 [s]



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8655-F301-22R

CFC_1000

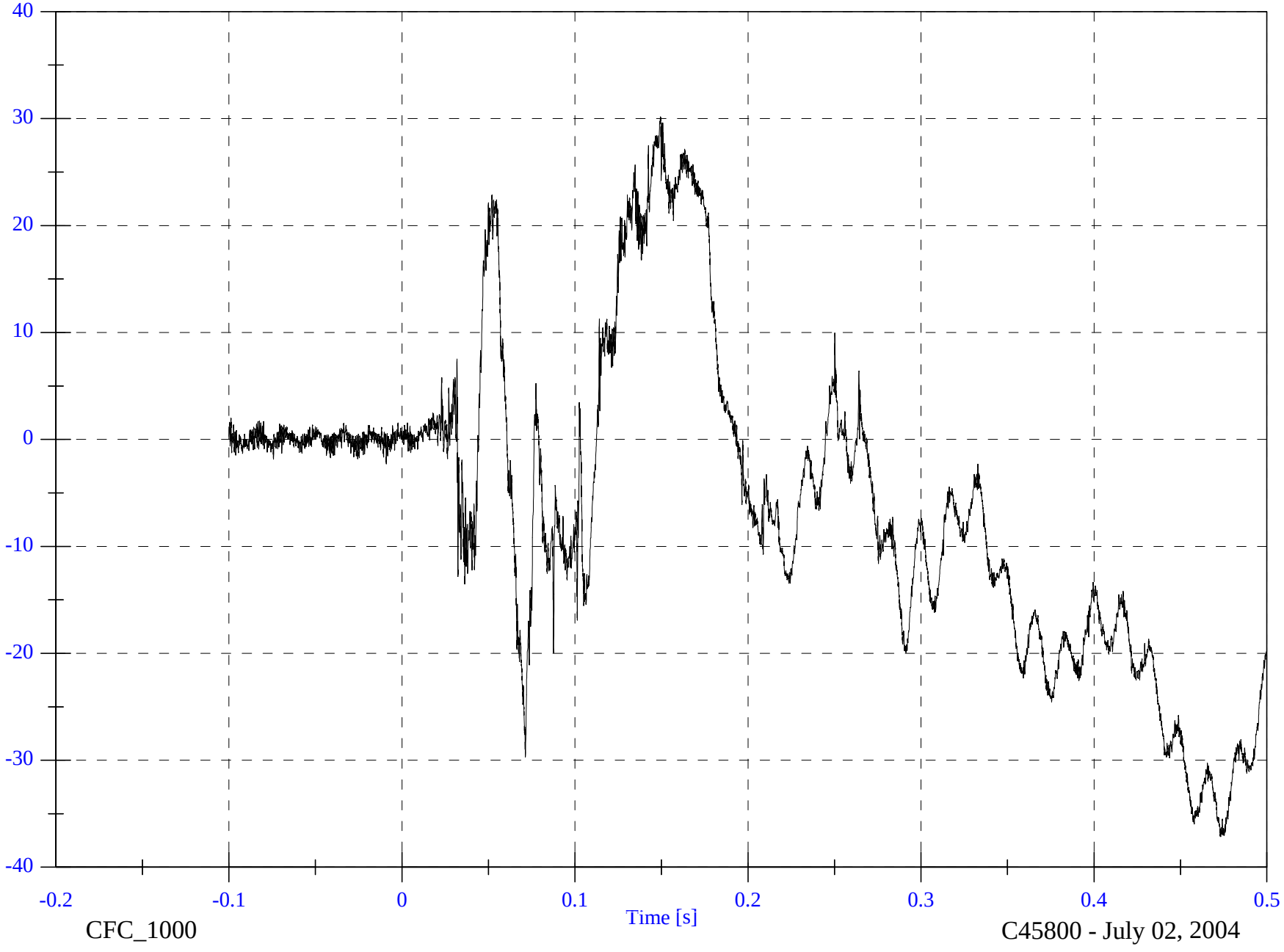
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck Fy

Max: 30.2 [N] at 0.150 [s]

Min: -37.2 [N] at 0.473 [s]



CFC_1000

C45800 - July 02, 2004

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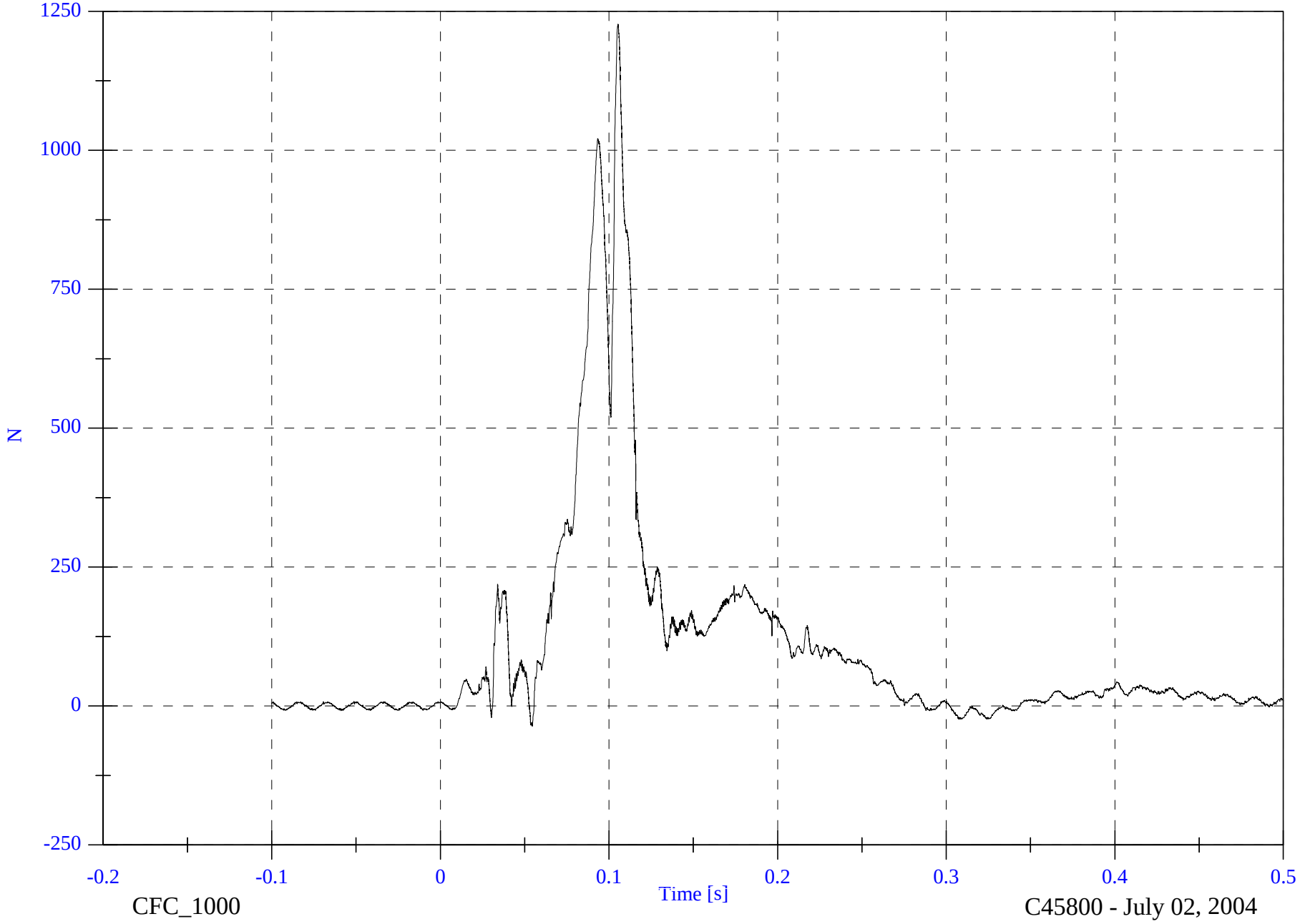
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck Fz

Max: 1226.8 [N] at 0.105 [s]

Min: -36.8 [N] at 0.055 [s]



CFC_1000

C45800 - July 02, 2004

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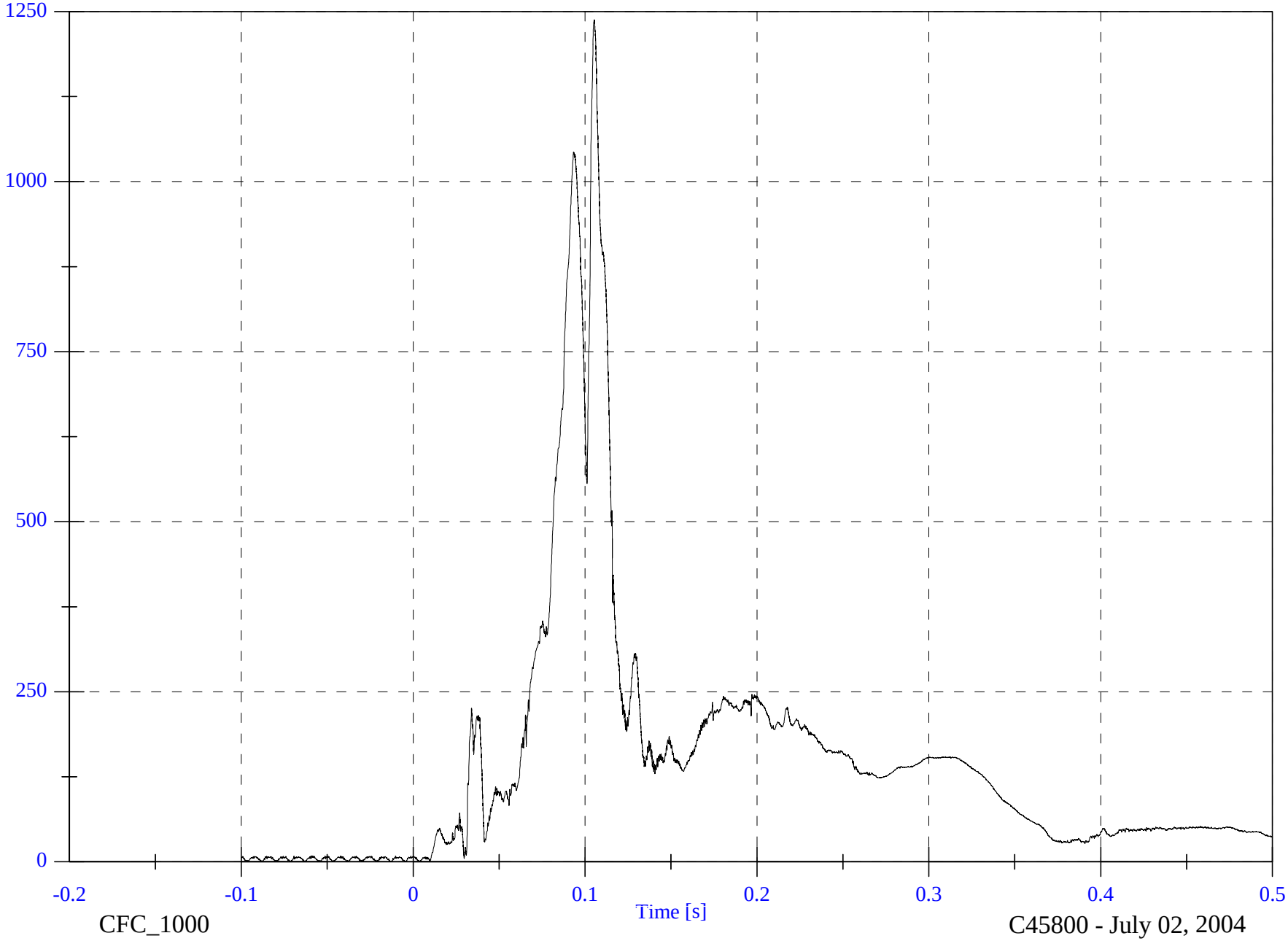
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck F Resultant

Max: 1238.0 [N] at 0.105 [s]

Min: 0.1 [N] at 0.004 [s]



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8655-F301-22R

CFC_1000

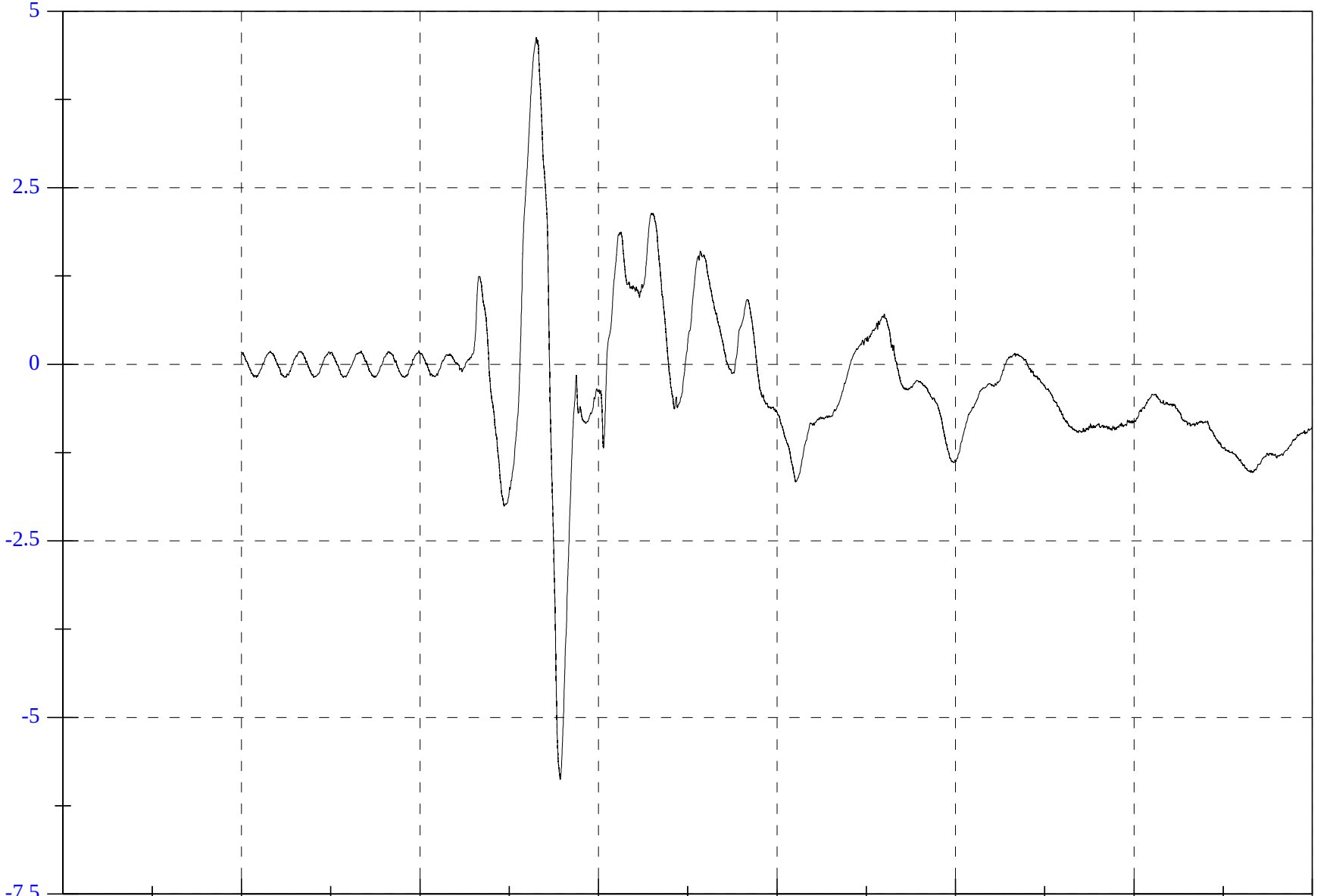
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck Mx

Max: 4.6 [N-m] at 0.065 [s]

Min: -5.9 [N-m] at 0.079 [s]



CFC_600

C45800 - July 02, 2004

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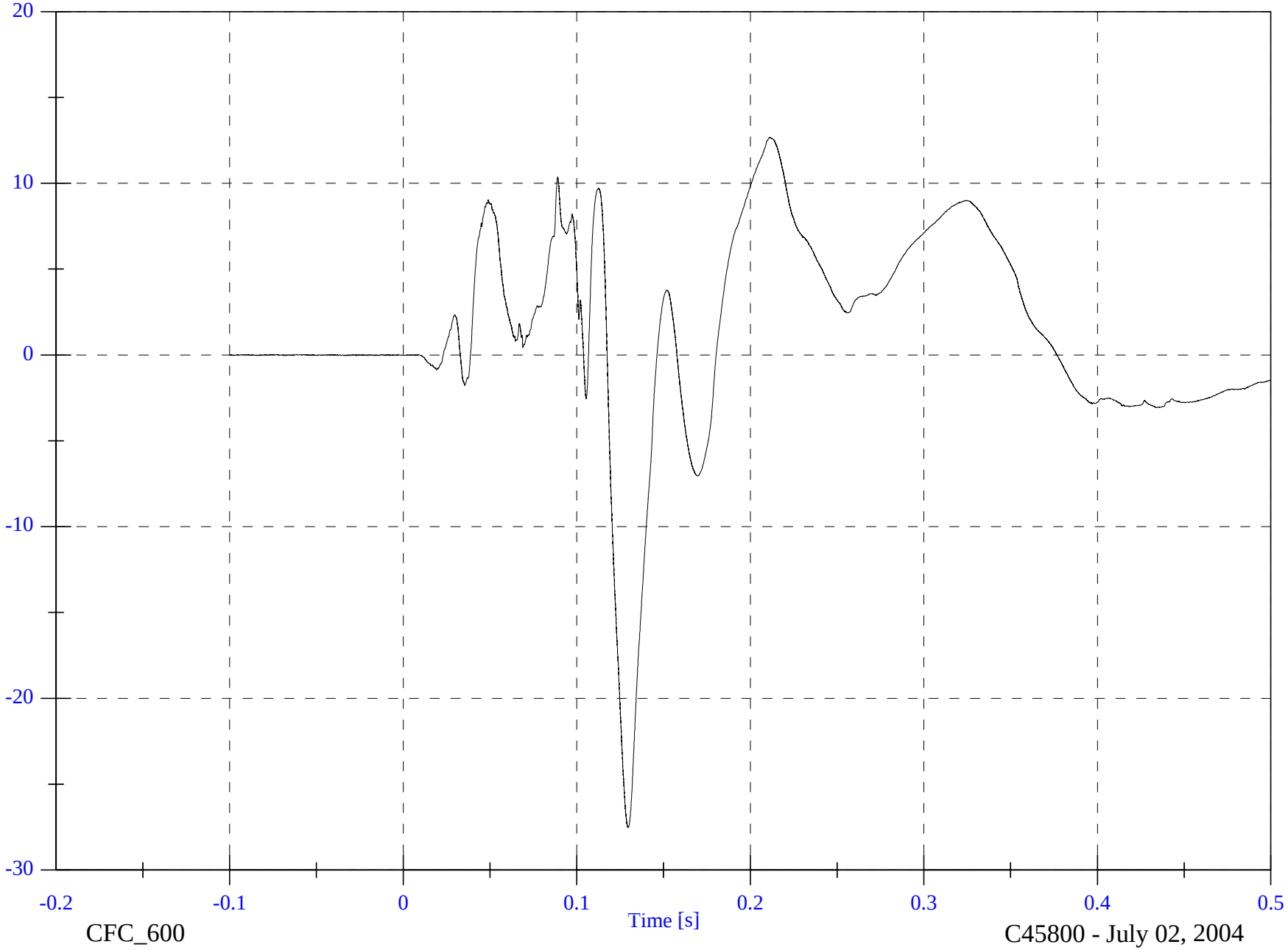
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck My

Max: 12.7 [N-m] at 0.211 [s]

Min: -27.5 [N-m] at 0.130 [s]



CFC_600

C45800 - July 02, 2004

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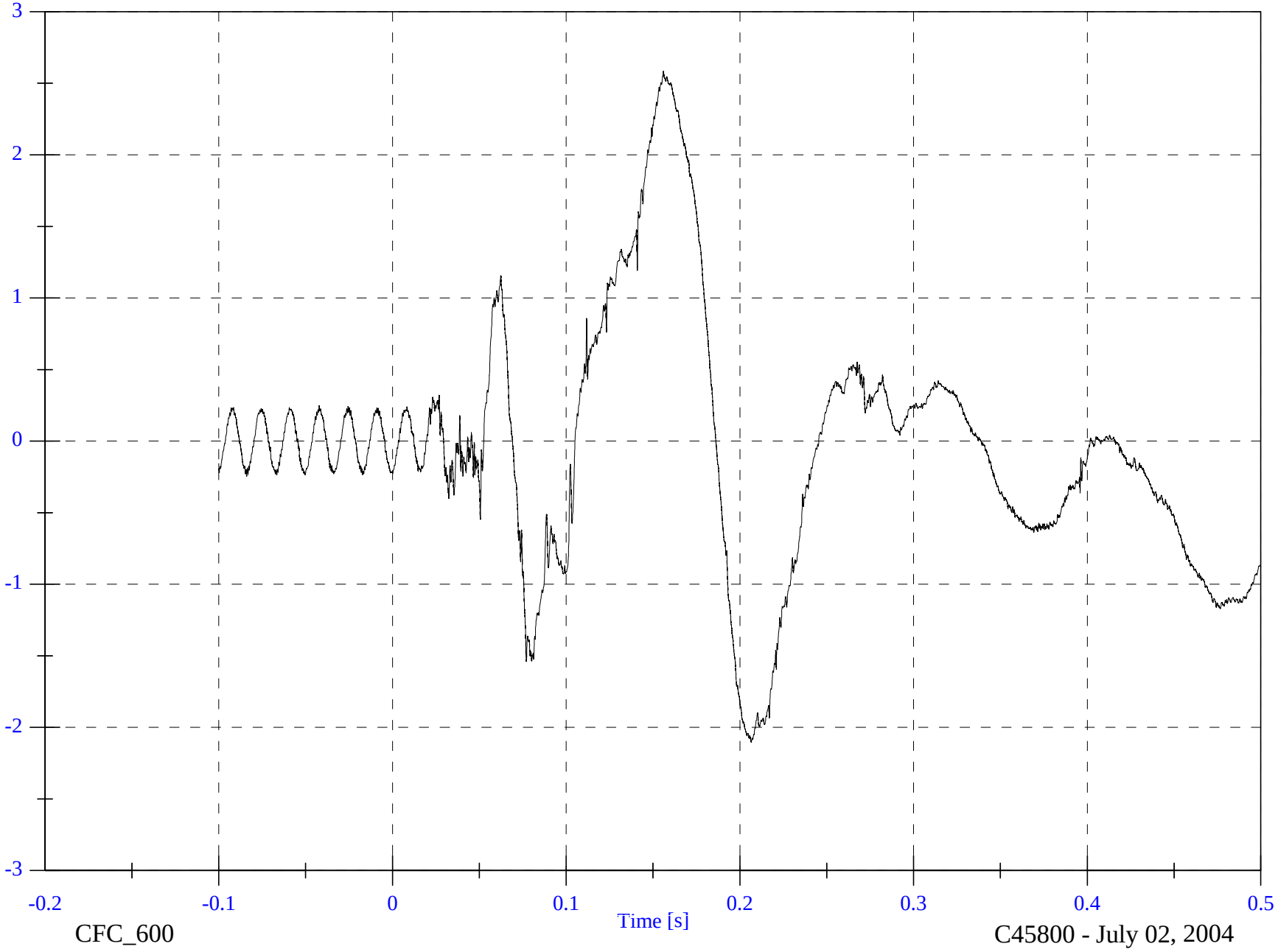
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck Mz

Max: 2.6 [N-m] at 0.156 [s]

Min: -2.1 [N-m] at 0.207 [s]



CFC_600

C45800 - July 02, 2004

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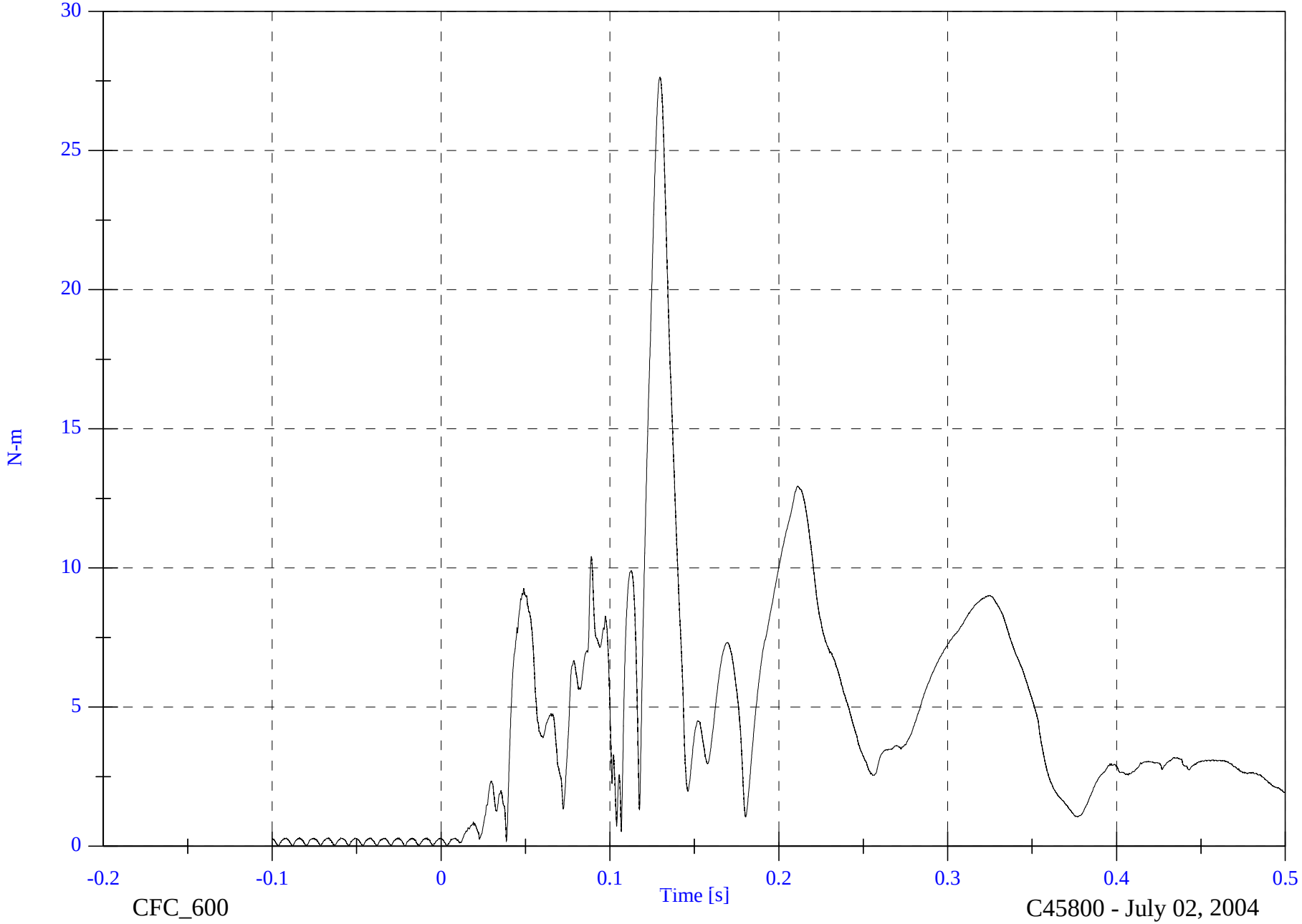
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Upper Neck M Resultant

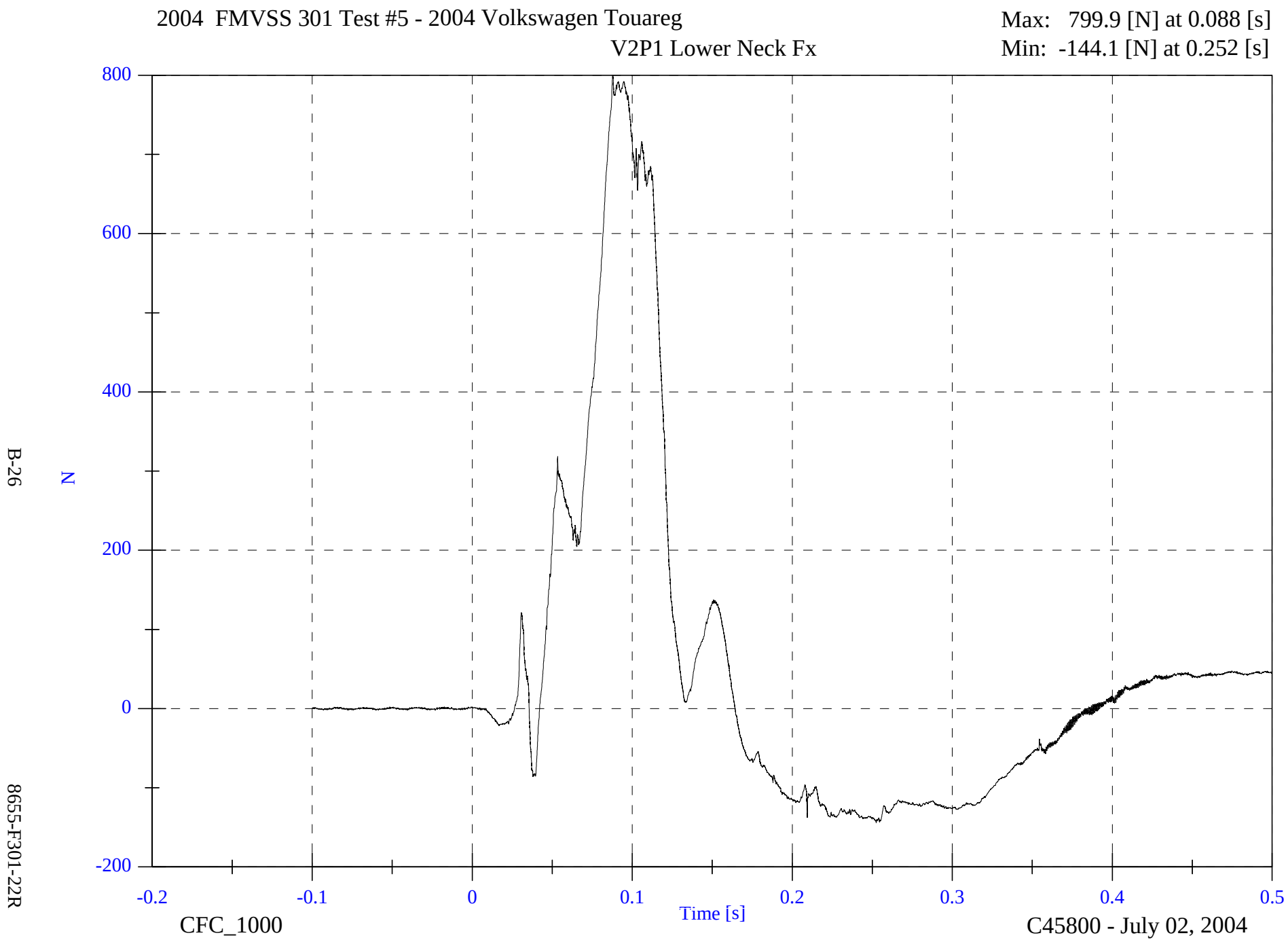
Max: 27.6 [N-m] at 0.130 [s]

Min: 0.0 [N-m] at -0.046 [s]



CFC_600

C45800 - July 02, 2004


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Lower Neck Fx
Max: 799.9 [N] at 0.088 [s]
Min: -144.1 [N] at 0.252 [s]
800
600
400
200
0
-200
N
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_1000
C45800 - July 02, 2004
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8655-F301-22R

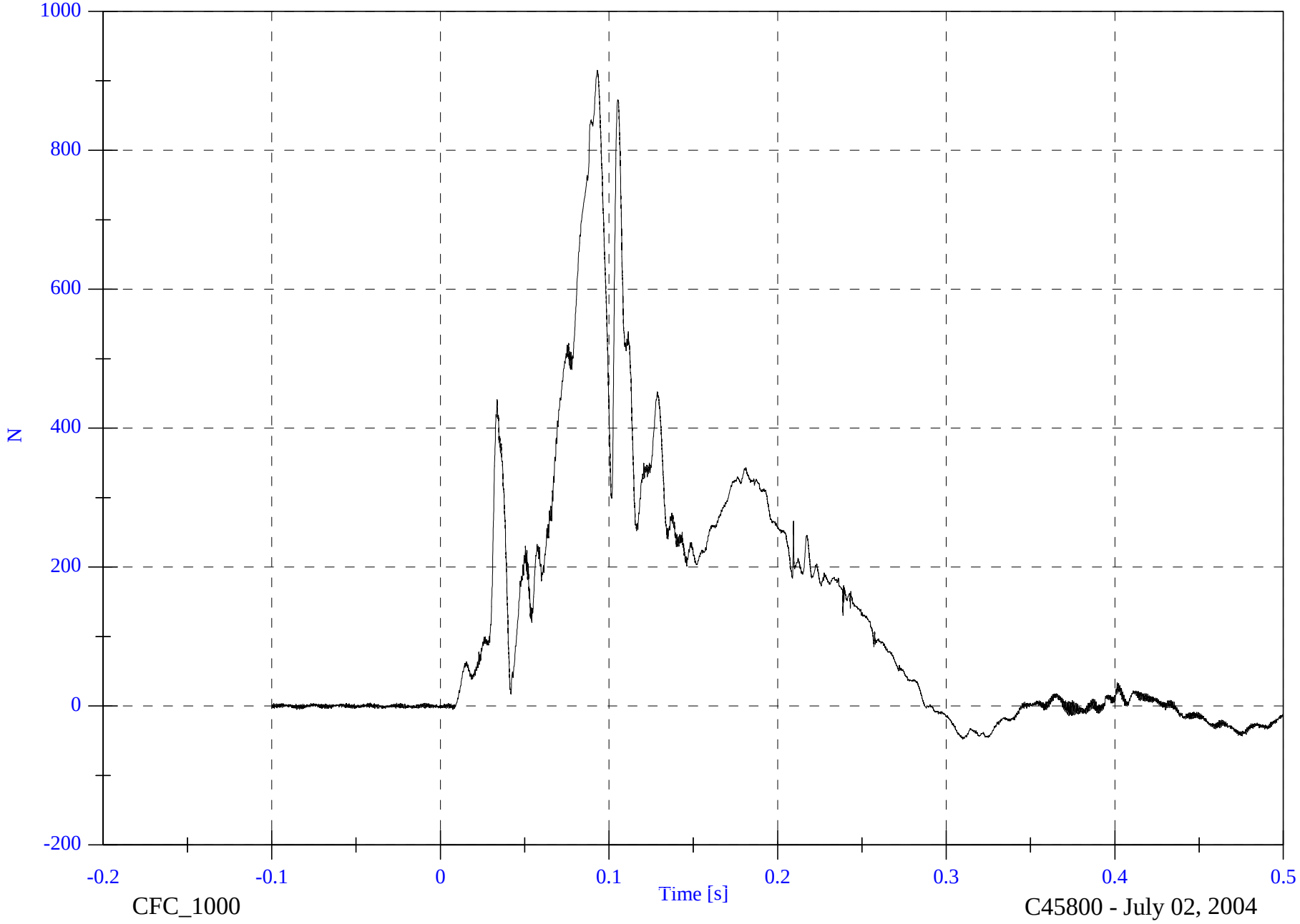
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Lower Neck Fy
Max: 86.3 [N] at 0.049 [s]
Min: -131.3 [N] at 0.066 [s]
100
50
0
-50
-100
-150
N
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_1000
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck Fz

Max: 915.3 [N] at 0.093 [s]

Min: -47.9 [N] at 0.310 [s]



CFC_1000

C45800 - July 02, 2004

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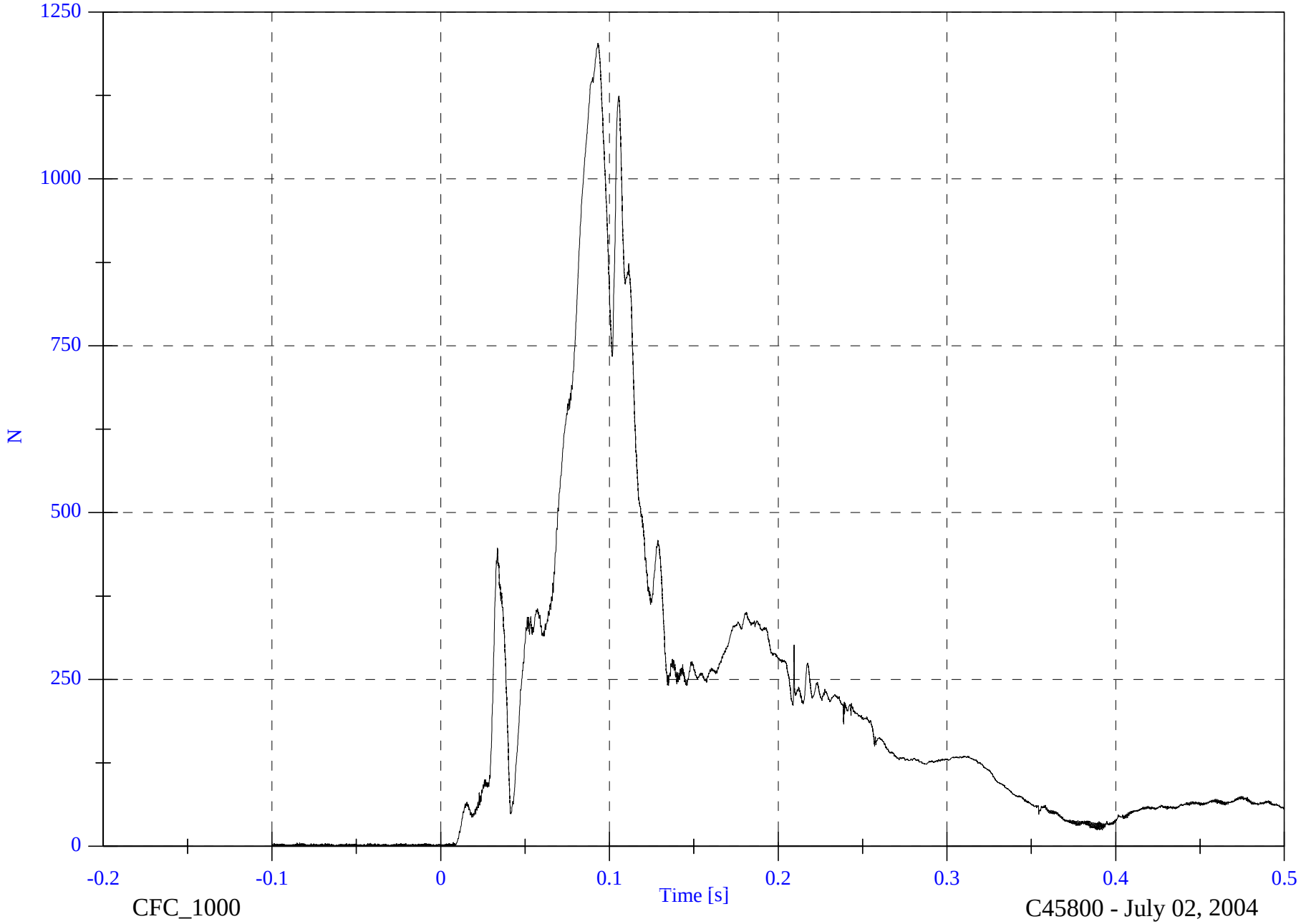
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck F Resultant

Max: 1202.9 [N] at 0.093 [s]

Min: 0.1 [N] at -0.088 [s]



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8655-F301-22R

CFC_1000

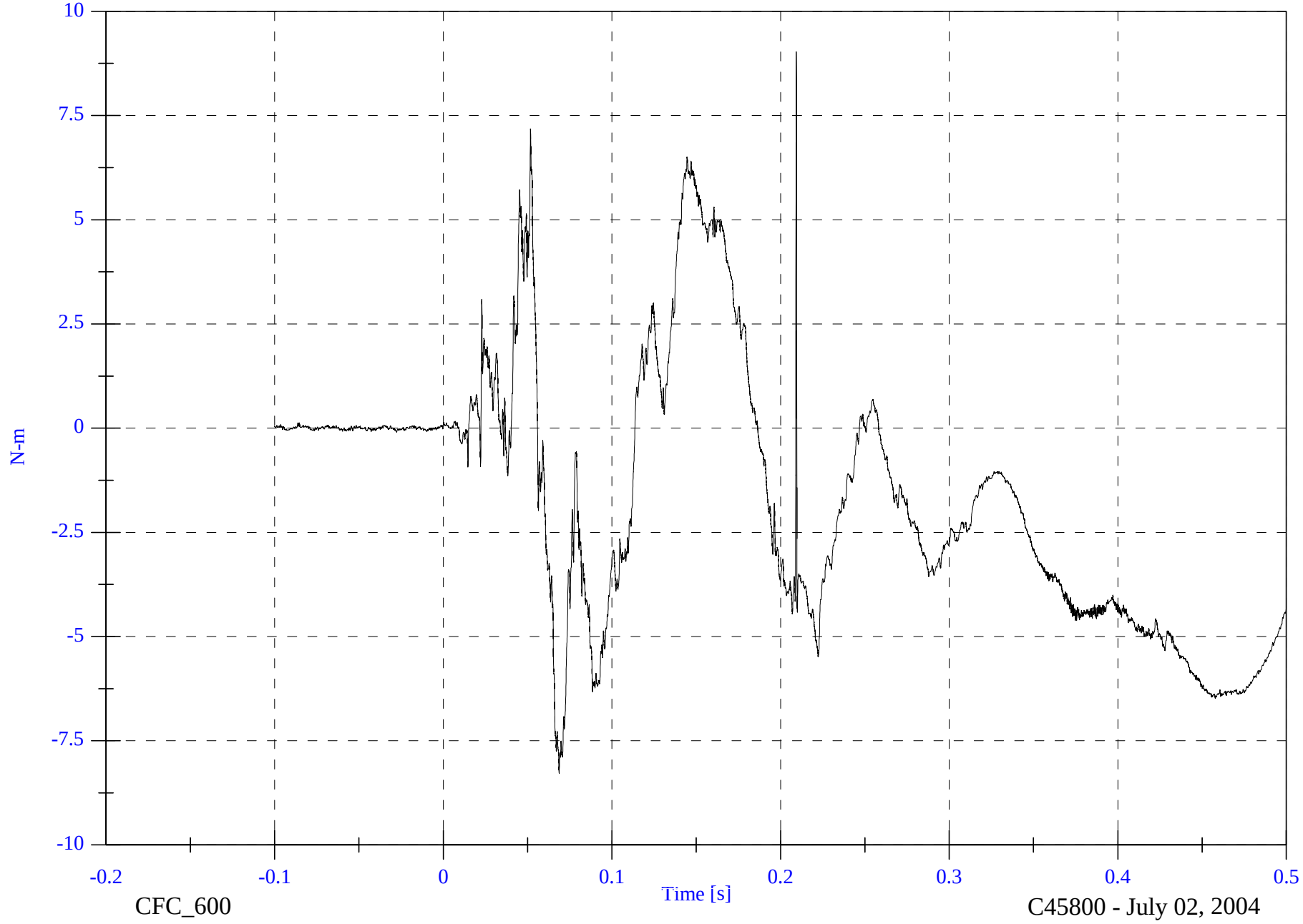
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck Mx

Max: 9.0 [N-m] at 0.209 [s]

Min: -8.3 [N-m] at 0.069 [s]



CFC_600

C45800 - July 02, 2004

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8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck My

Max: 44.0 [N-m] at 0.315 [s]

Min: -171.8 [N-m] at 0.105 [s]

CFC_600

C45800 - July 02, 2004

B-31

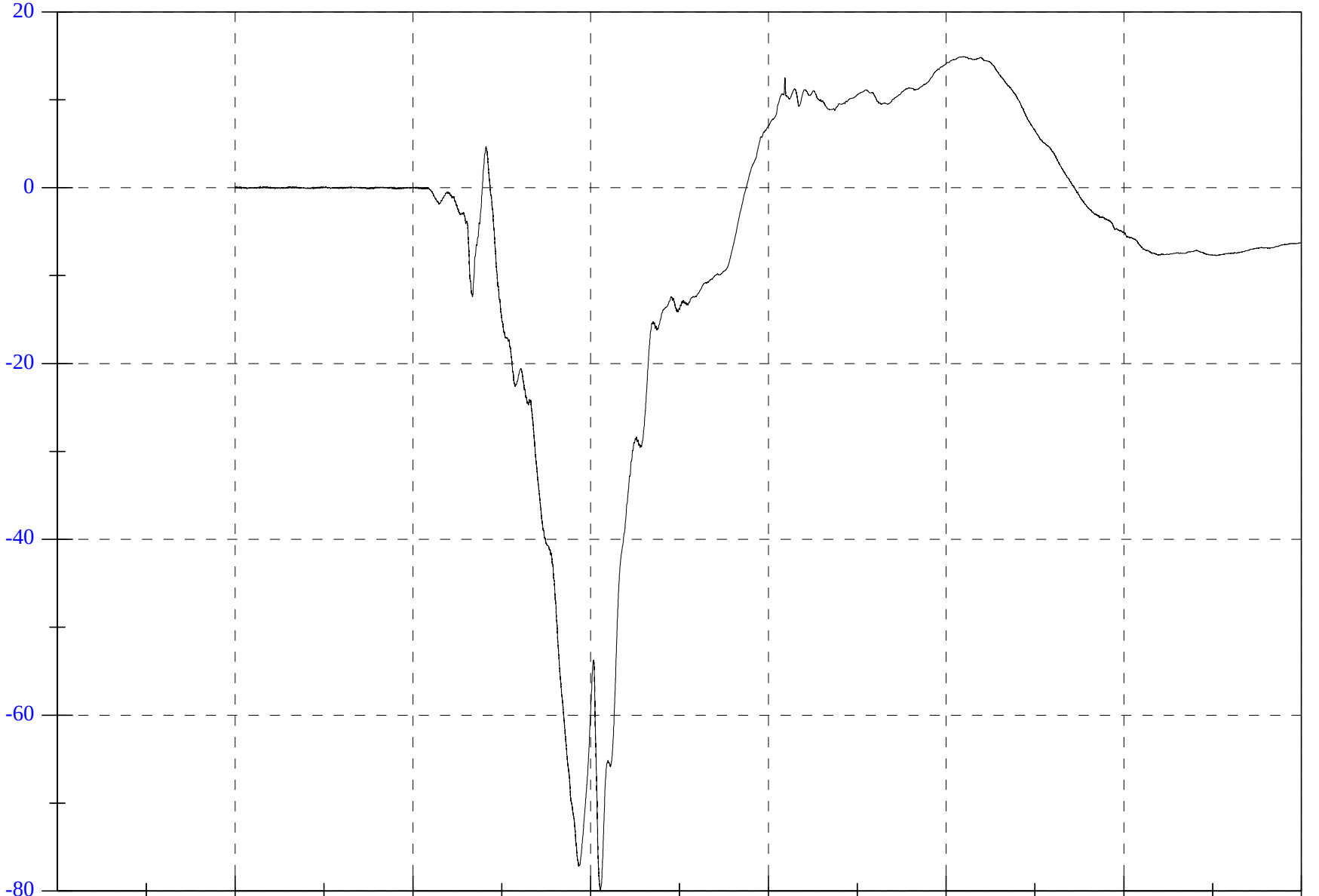
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck Mz

Max: 14.9 [N-m] at 0.310 [s]

Min: -80.0 [N-m] at 0.105 [s]



CFC_600

C45800 - July 02, 2004

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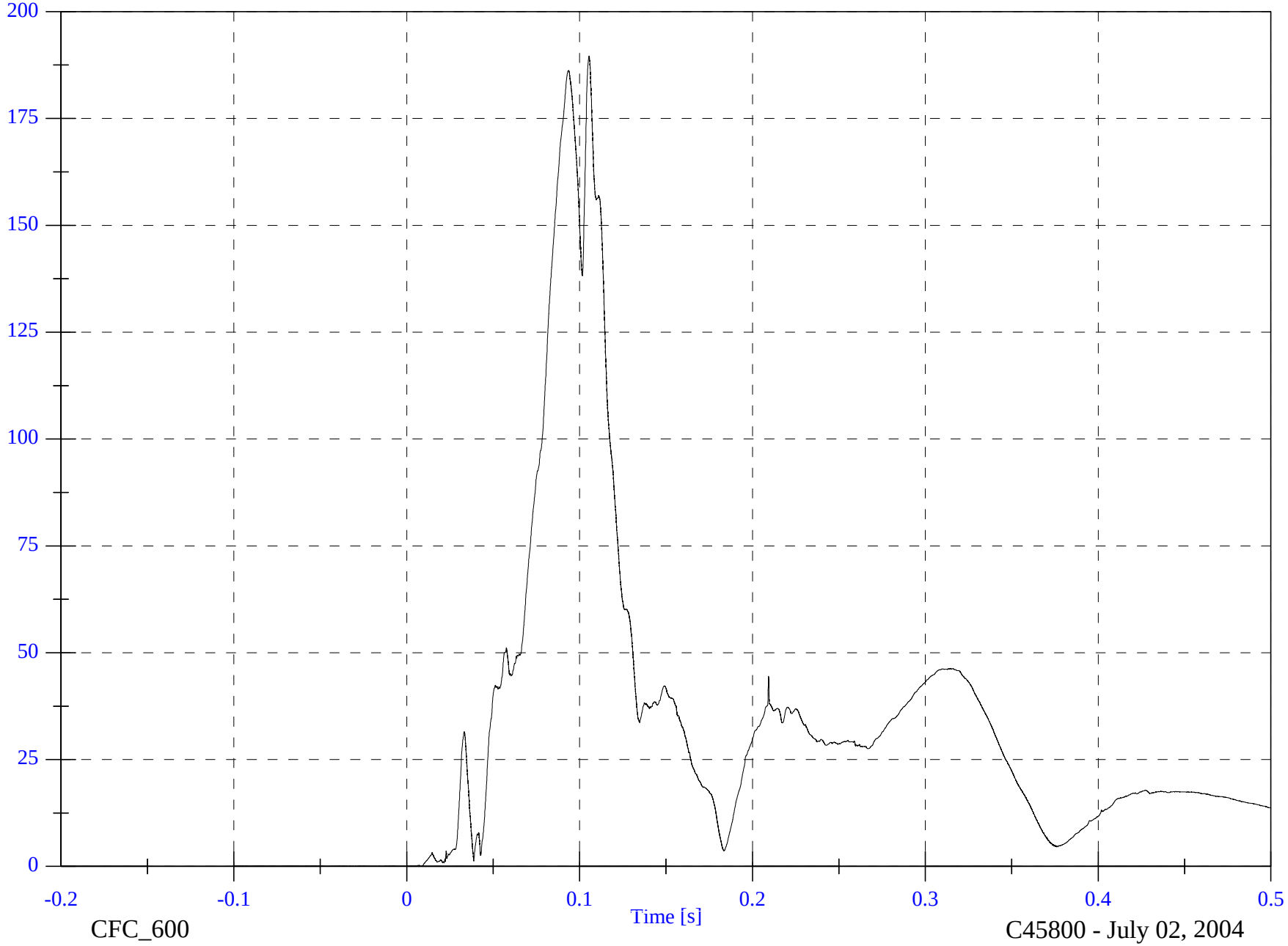
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lower Neck M Resultant

Max: 189.5 [N-m] at 0.105 [s]

Min: 0.0 [N-m] at -0.089 [s]



CFC_600

C45800 - July 02, 2004

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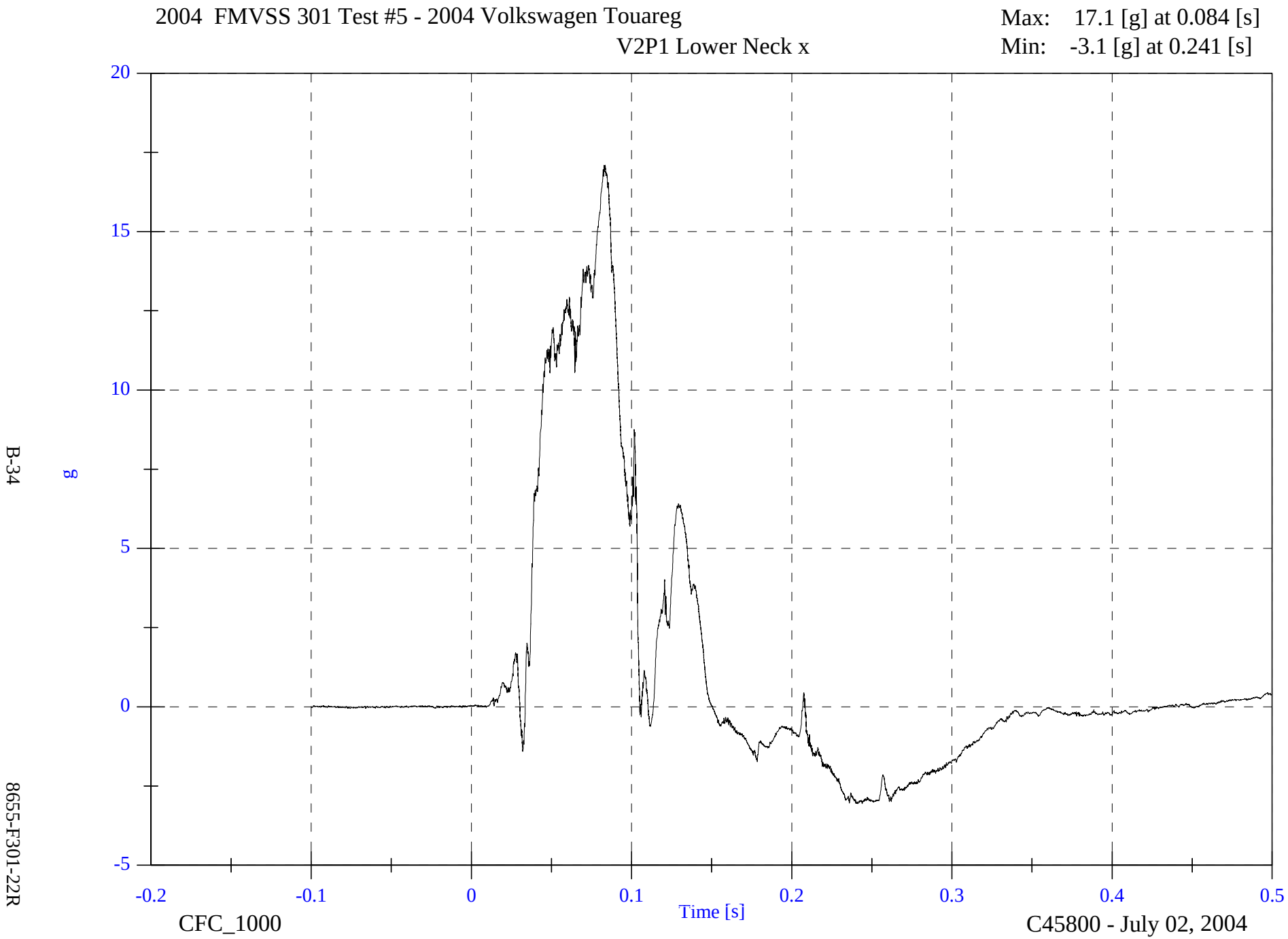
8655-F301-22R


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Lower Neck x
Max: 17.1 [g] at 0.084 [s]
Min: -3.1 [g] at 0.241 [s]
20
15
10
5
0
-5
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_1000
C45800 - July 02, 2004
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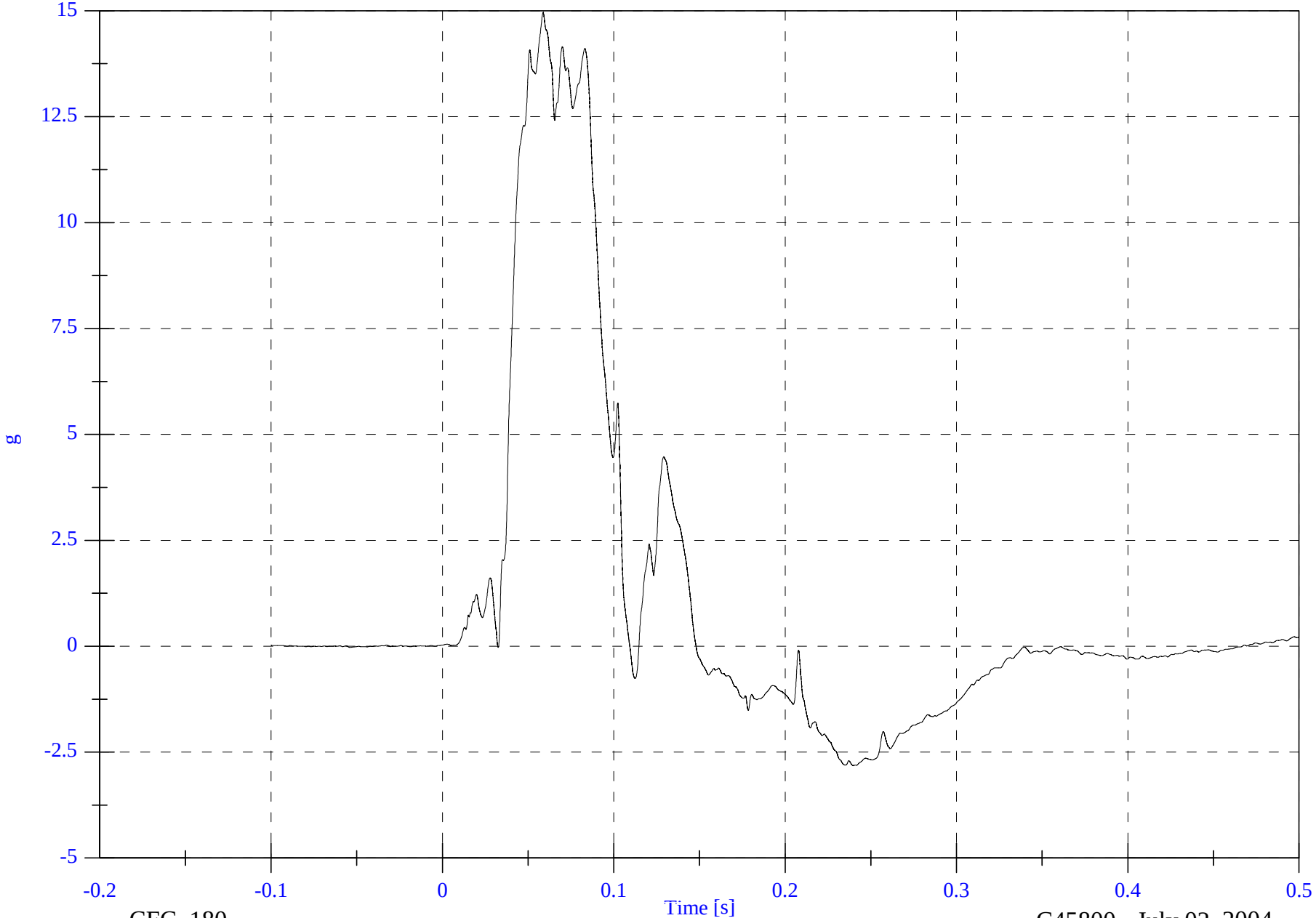
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Chest x

Max: 15.0 [g] at 0.059 [s]

Min: -2.8 [g] at 0.240 [s]



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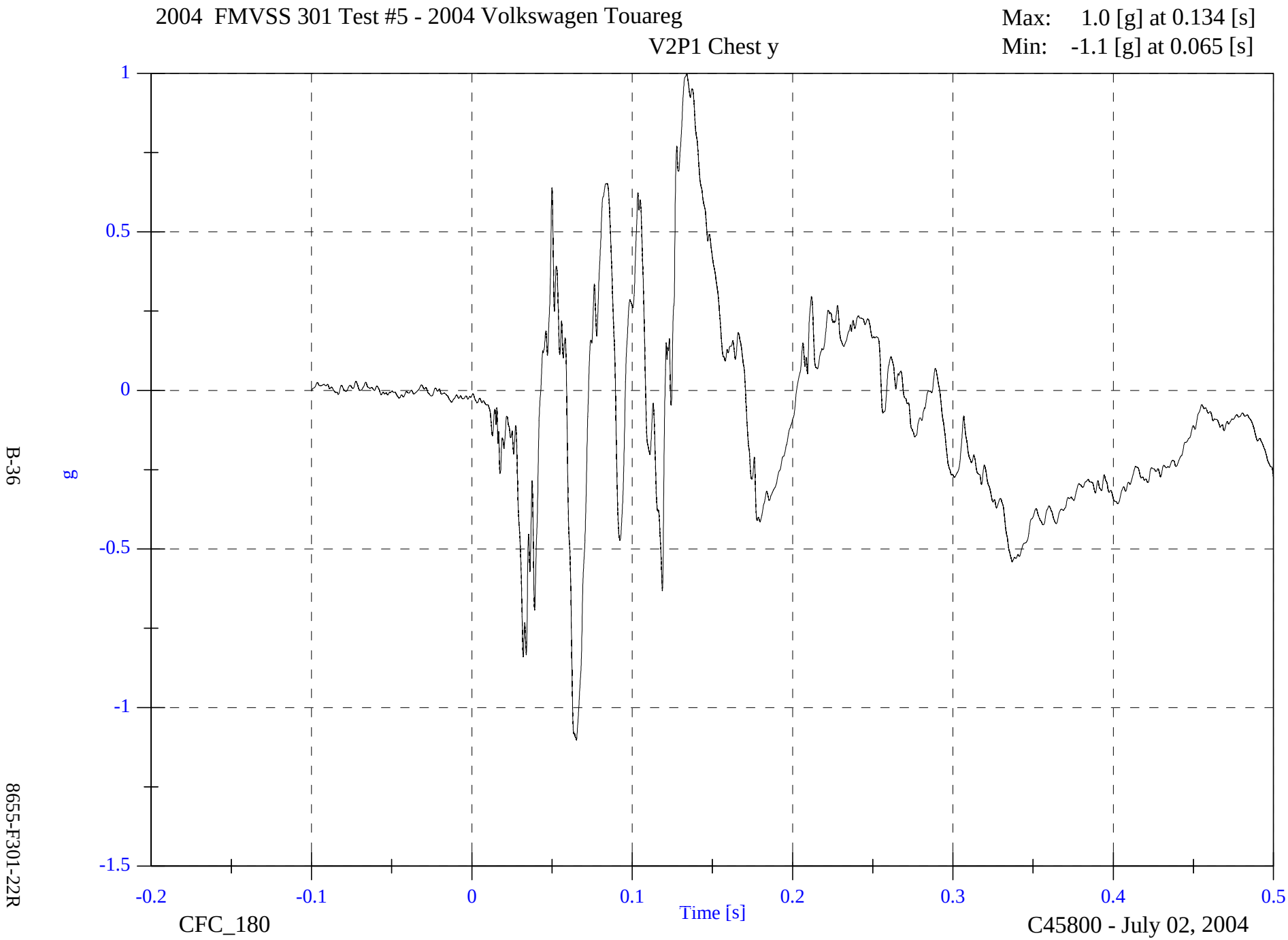
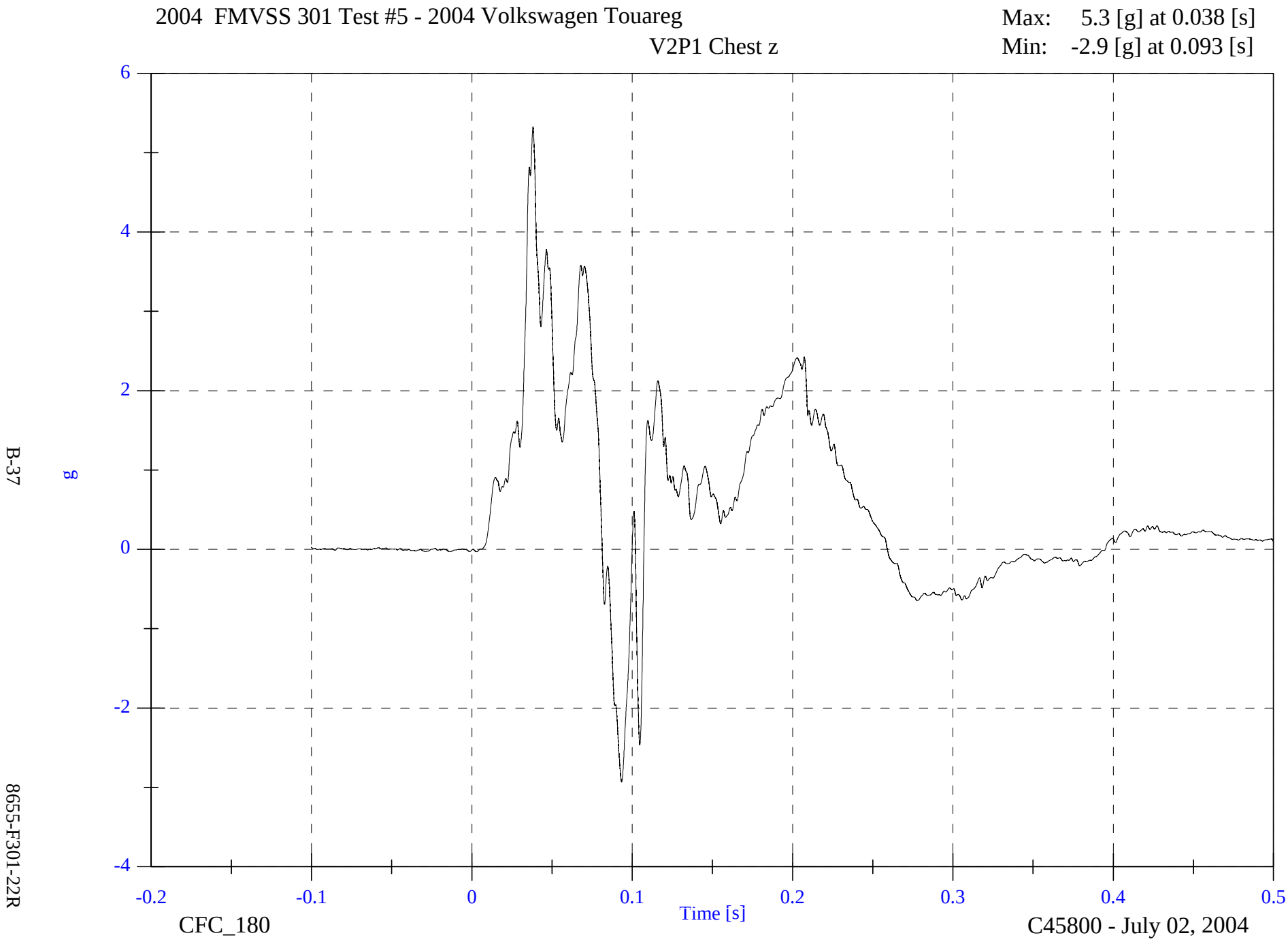
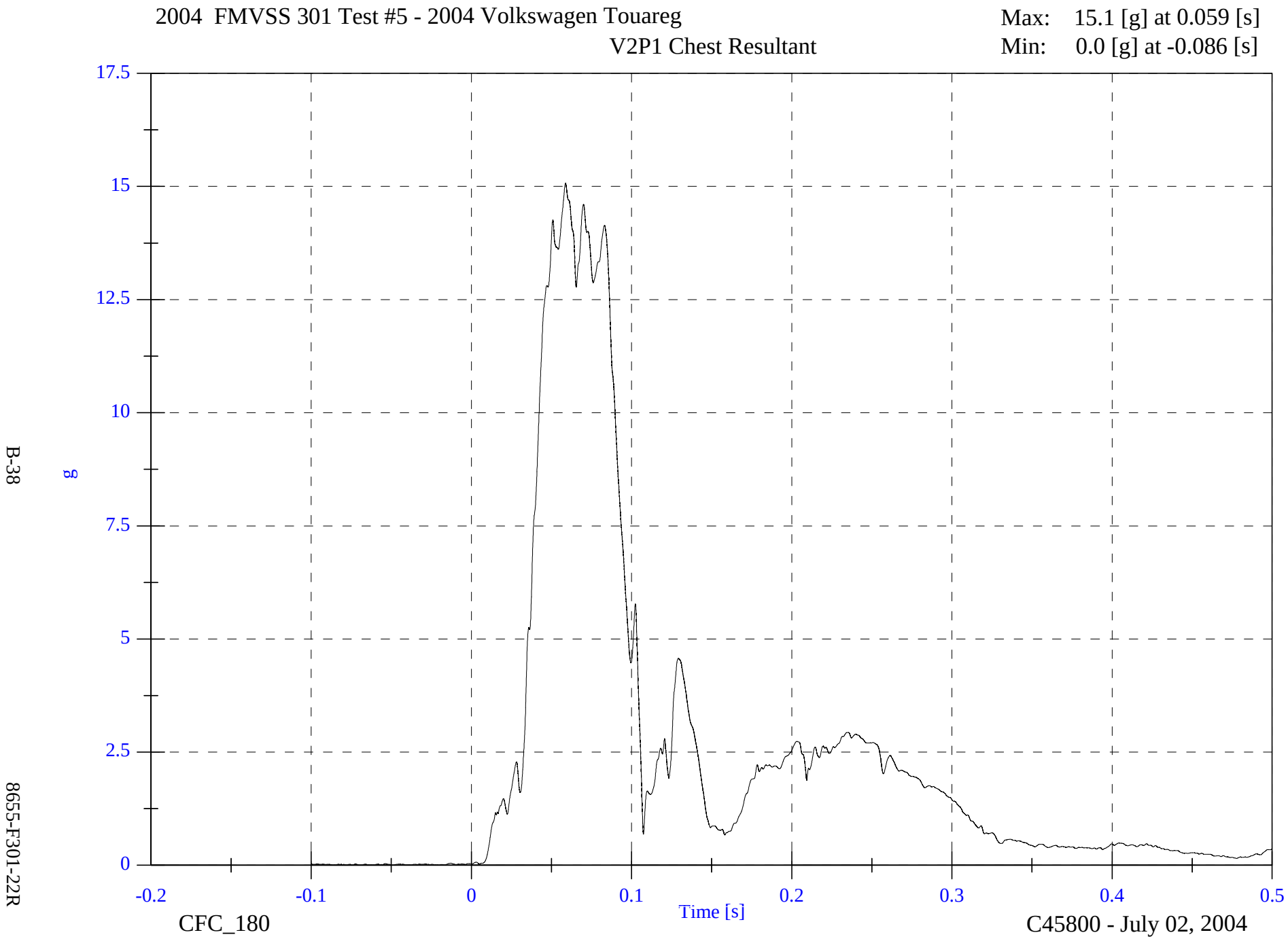
8655-F301-22R

CFC_180

C45800 - July 02, 2004


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Chest y
Max: 1.0 [g] at 0.134 [s]
Min: -1.1 [g] at 0.065 [s]
1
0.5
0
-0.5
-1
-1.5
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_180
C45800 - July 02, 2004
B-36
8655-F301-22R


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Chest z
Max: 5.3 [g] at 0.038 [s]
Min: -2.9 [g] at 0.093 [s]
6
4
2
0
-2
-4
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_180
C45800 - July 02, 2004

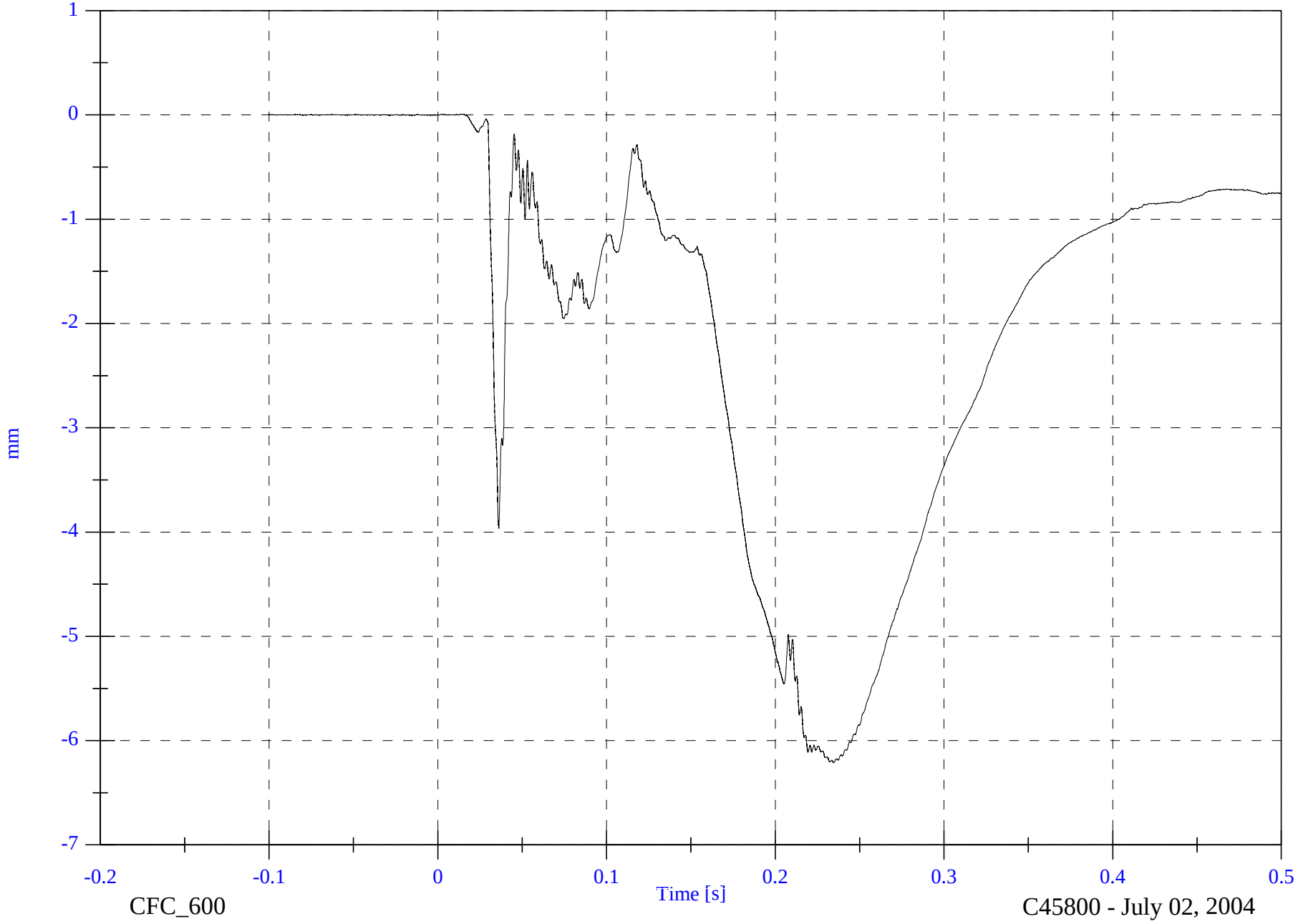

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Chest Resultant
Max: 15.1 [g] at 0.059 [s]
Min: 0.0 [g] at -0.086 [s]
17.5
15
12.5
10
7.5
5
2.5
0
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
B-38
8655-F301-22R
CFC_180
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Chest Displacement

Max: 0.0 [mm] at 0.015 [s]

Min: -6.2 [mm] at 0.235 [s]



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8655-F301-22R

CFC_600

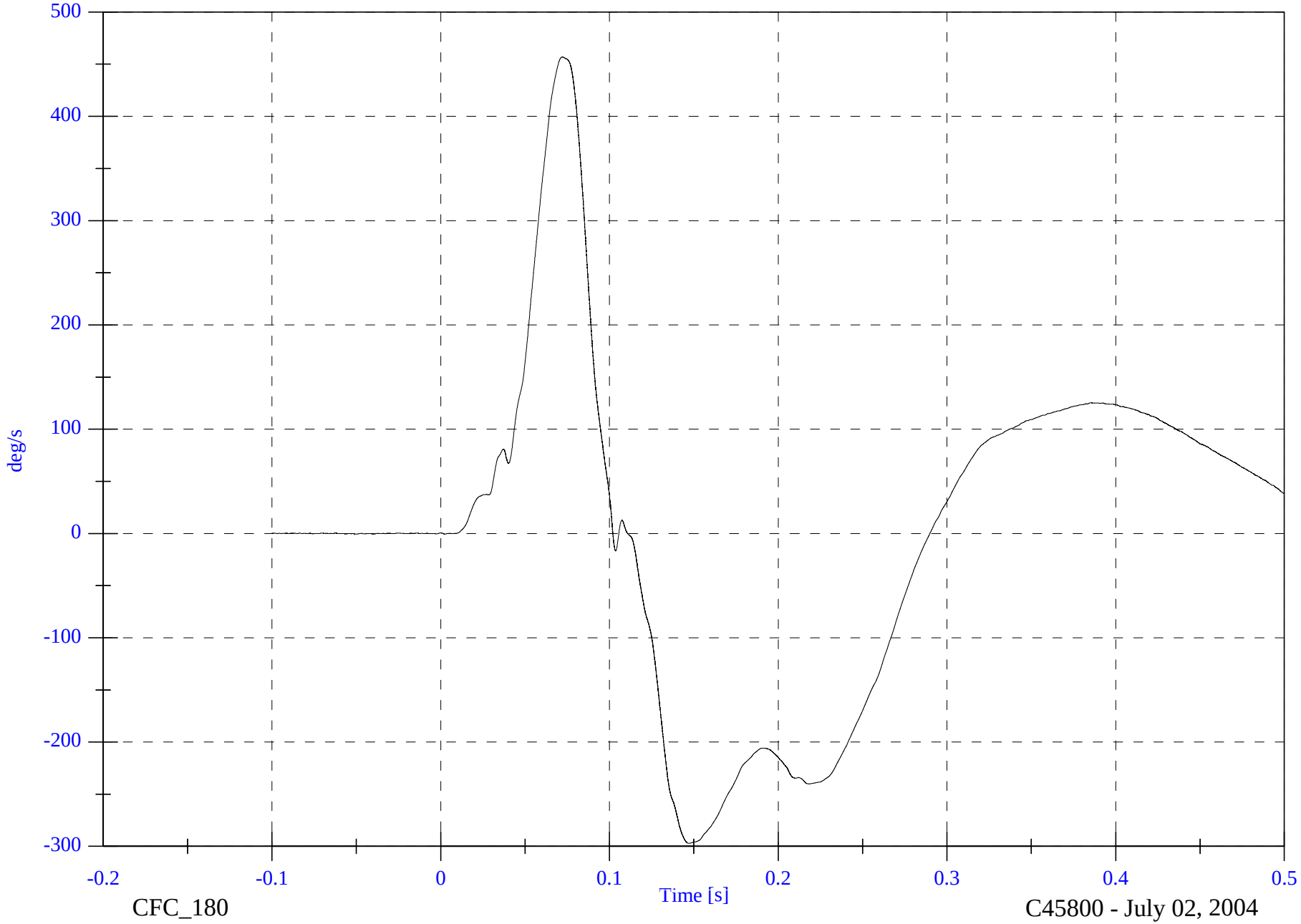
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Chest AVy

Max: 456.9 [deg/s] at 0.072 [s]

Min: -297.2 [deg/s] at 0.147 [s]



CFC_180

C45800 - July 02, 2004

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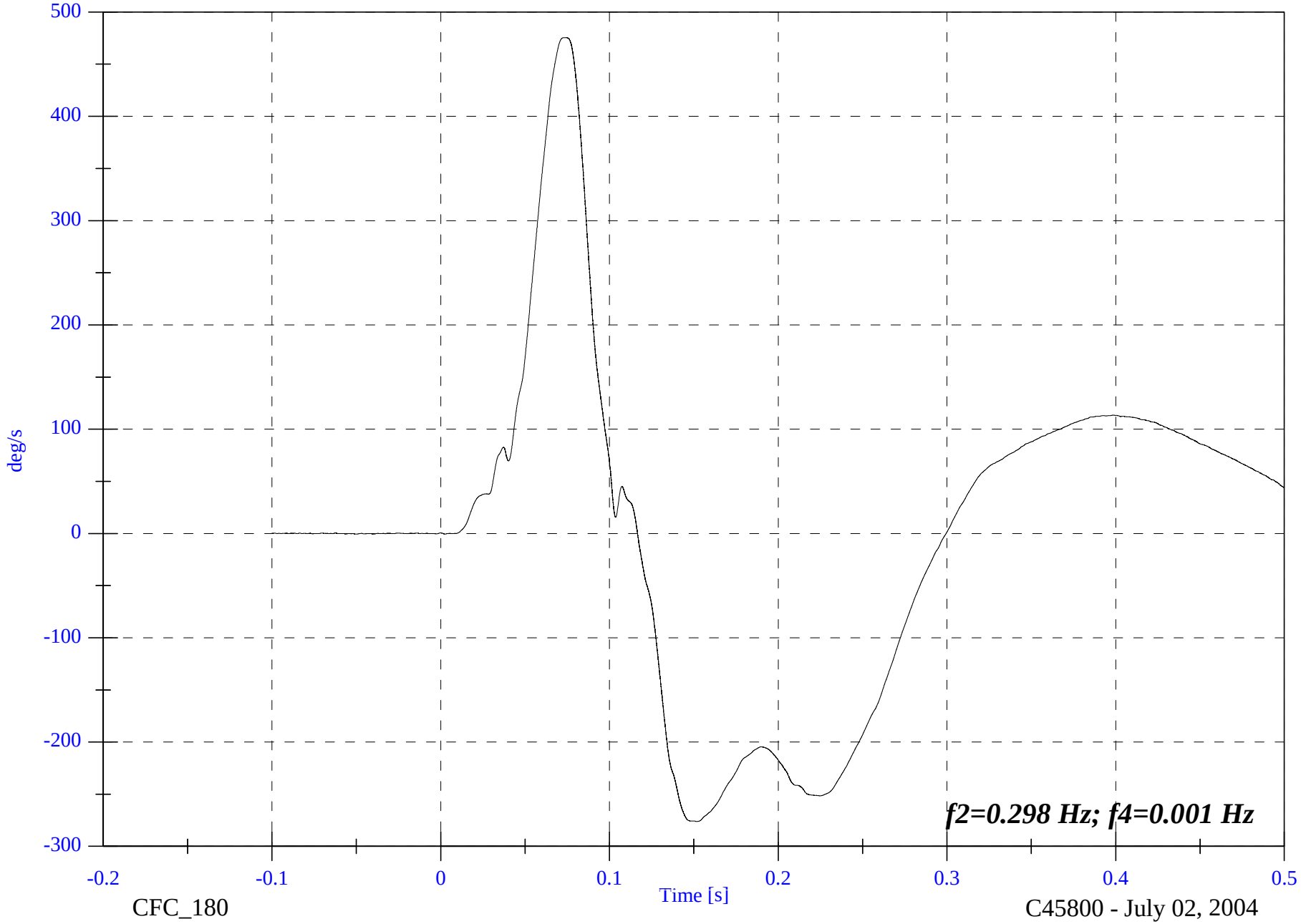
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Chest Comp AVy

Max: 475.5 [deg/s] at 0.075 [s]

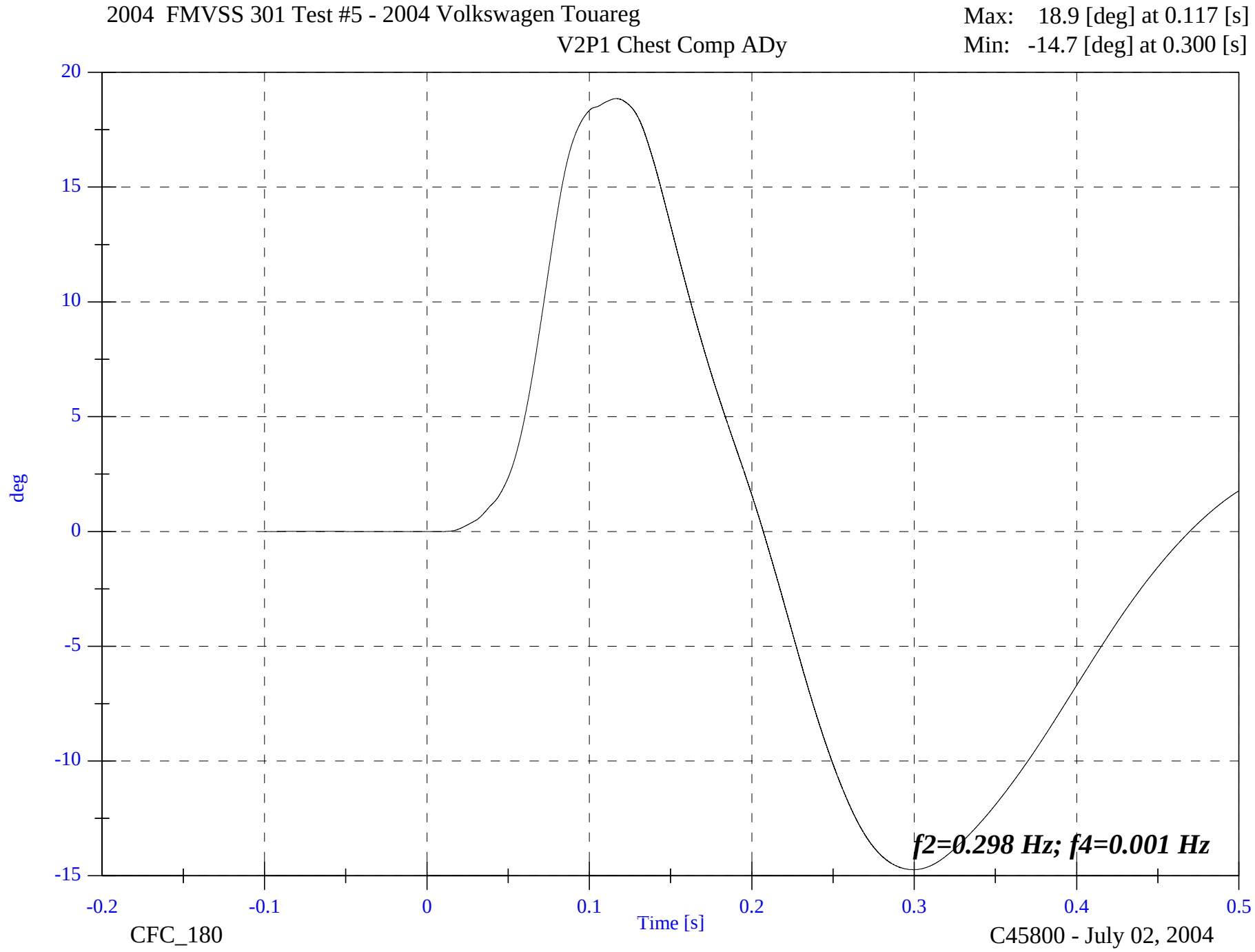
Min: -276.2 [deg/s] at 0.152 [s]



CFC_180

C45800 - July 02, 2004

8655-F301-22R

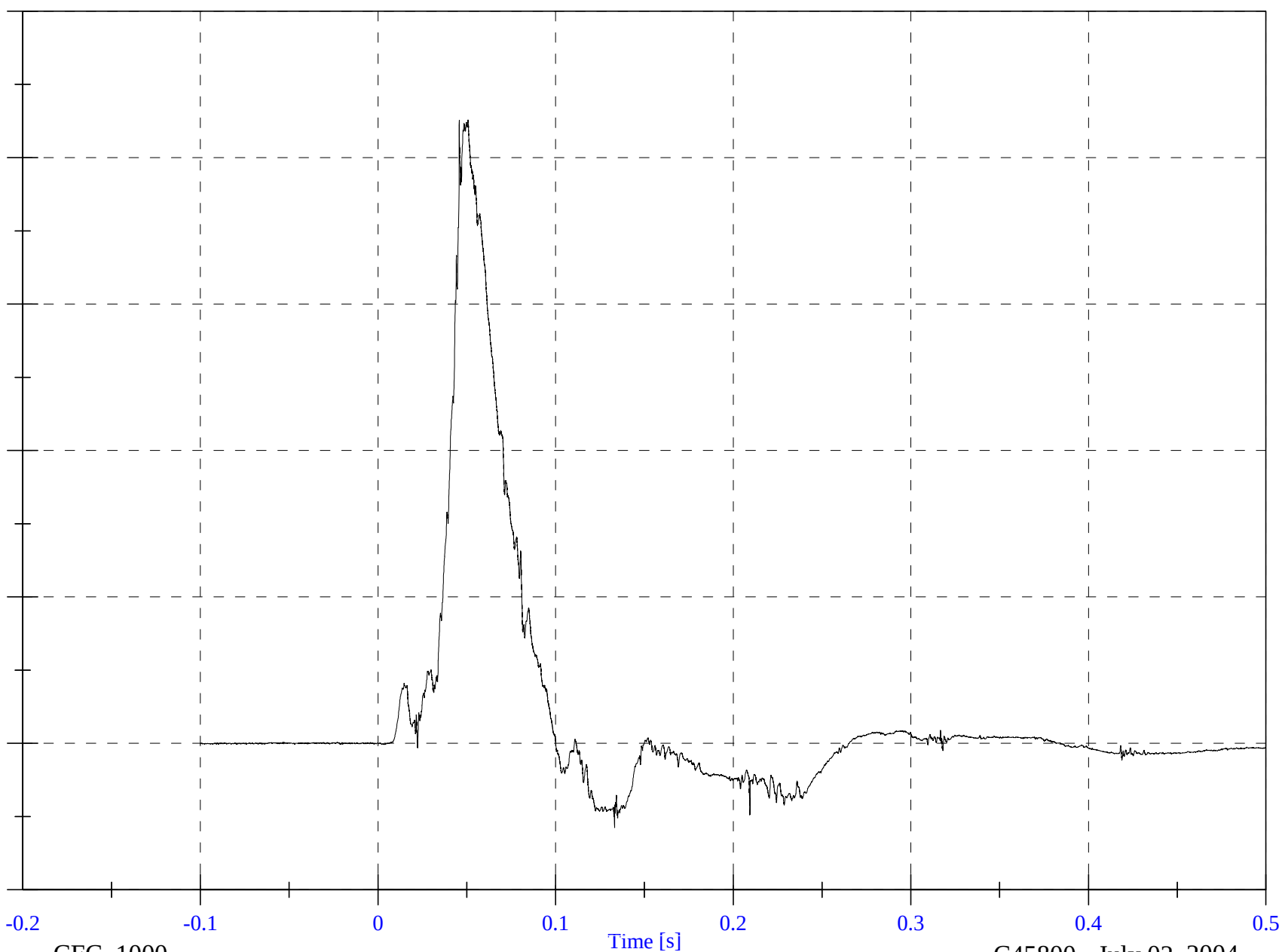

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Chest Comp ADy
Max: 18.9 [deg] at 0.117 [s]
Min: -14.7 [deg] at 0.300 [s]
20
15
10
5
0
-5
-10
-15
deg
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
f2=0.298 Hz; f4=0.001 Hz
CFC_180
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Pelvic x

Max: 21.3 [g] at 0.051 [s]

Min: -2.9 [g] at 0.133 [s]



CFC_1000

C45800 - July 02, 2004

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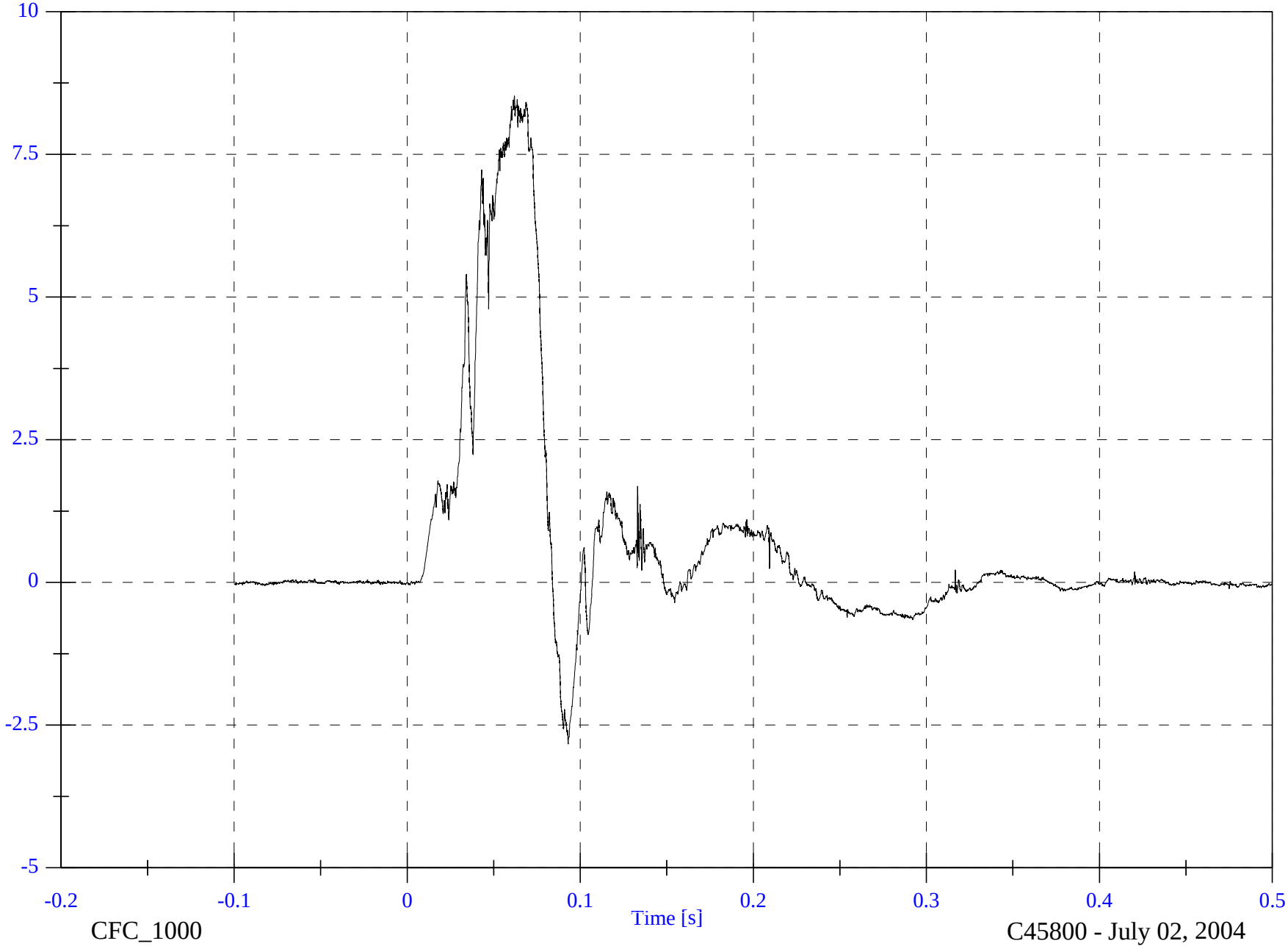
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Pelvic z

Max: 8.5 [g] at 0.062 [s]

Min: -2.8 [g] at 0.093 [s]



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8655-F301-22R

CFC_1000

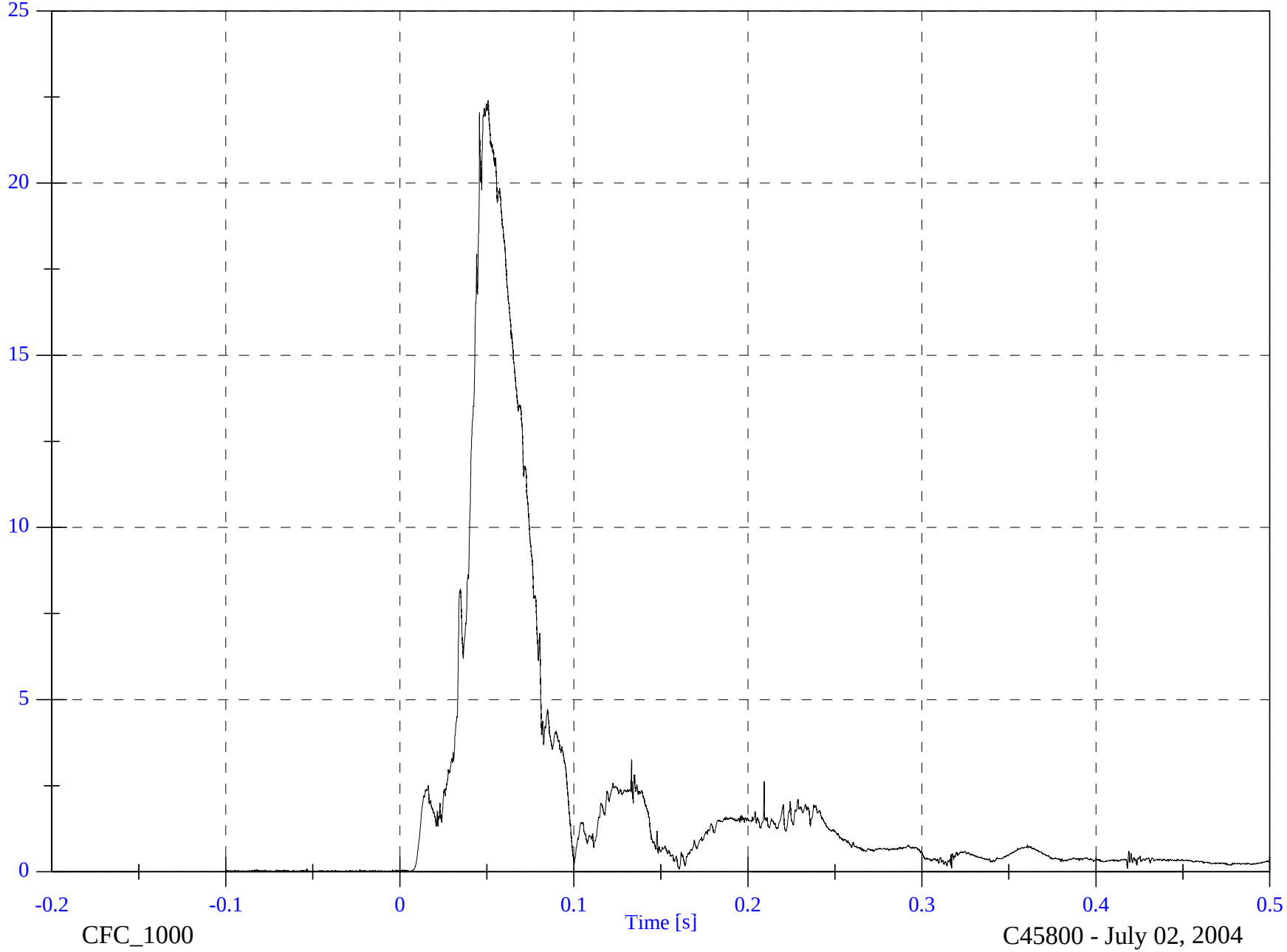
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Pelvic Resultant

Max: 22.4 [g] at 0.051 [s]

Min: 0.0 [g] at -0.062 [s]



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8655-F301-22R

CFC_1000

C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P1 Left Femur
Max: 568.6 [N] at 0.070 [s]
Min: -267.3 [N] at 0.038 [s]
600
400
200
0
-200
-400
N
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_600
C45800 - July 02, 2004
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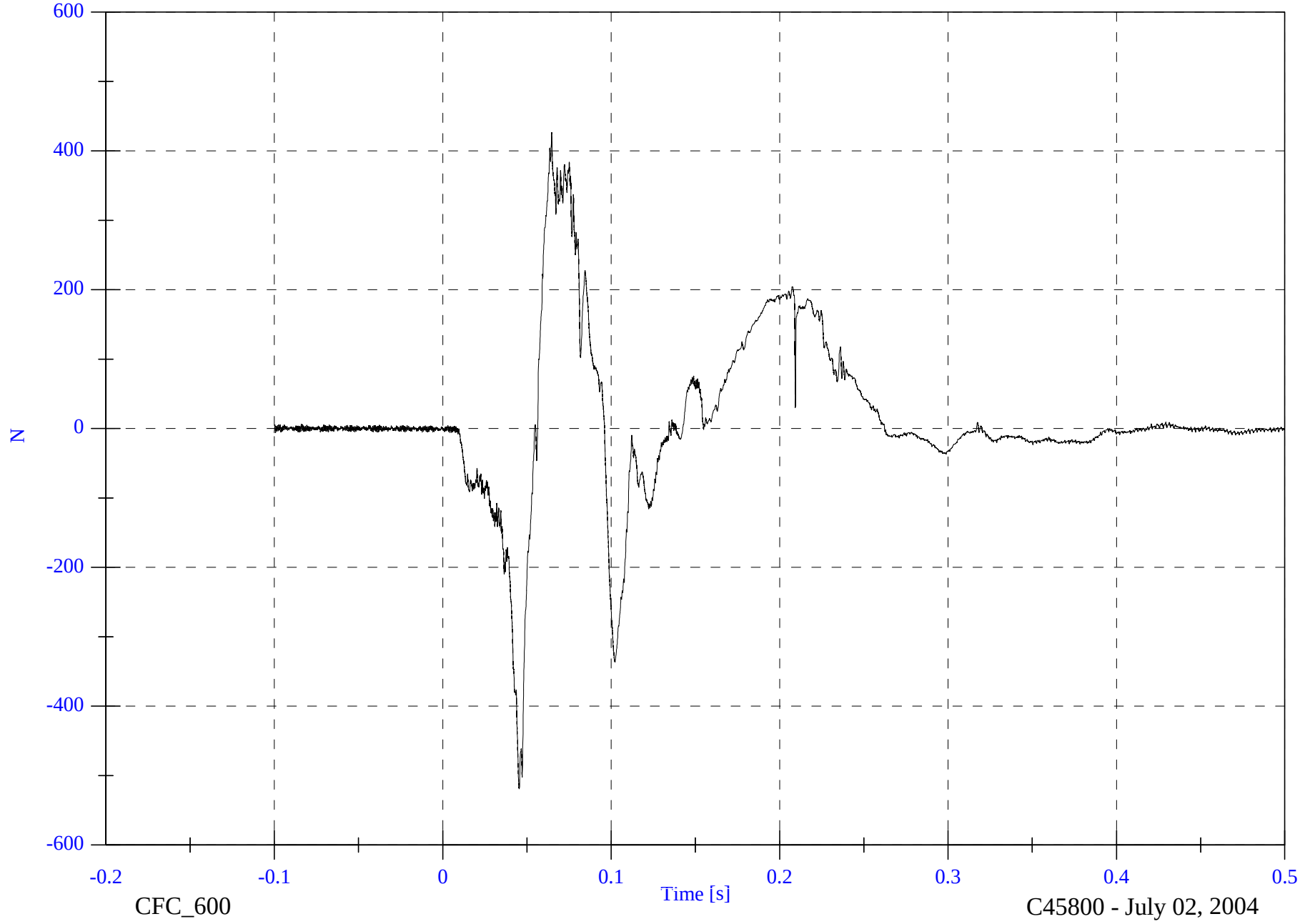
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Femur

Max: 426.4 [N] at 0.065 [s]

Min: -519.3 [N] at 0.045 [s]



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8655-F301-22R

CFC_600

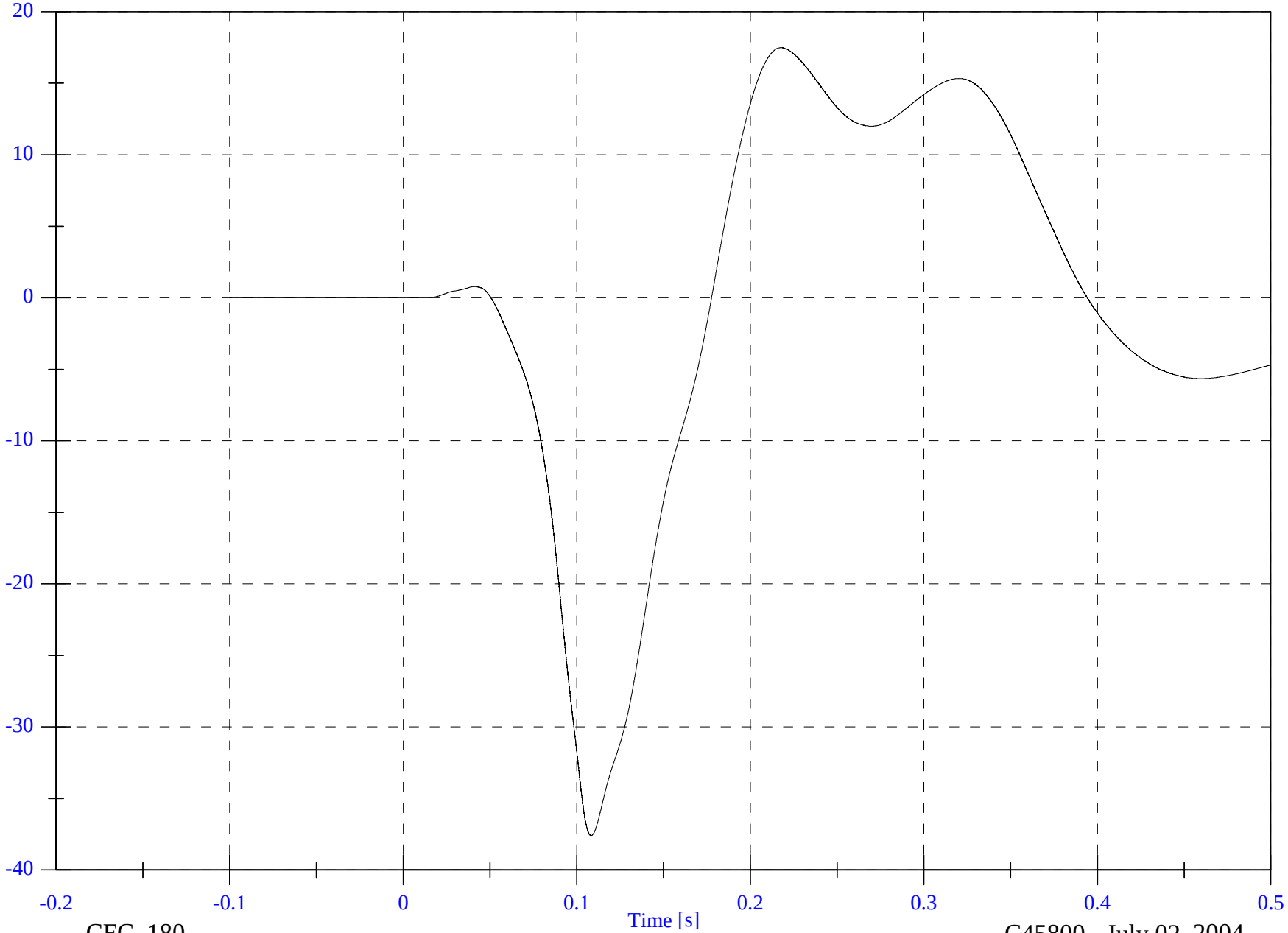
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Head to Chest

Max: 17.5 [deg] at 0.218 [s]

Min: -37.6 [deg] at 0.108 [s]



CFC_180

C45800 - July 02, 2004

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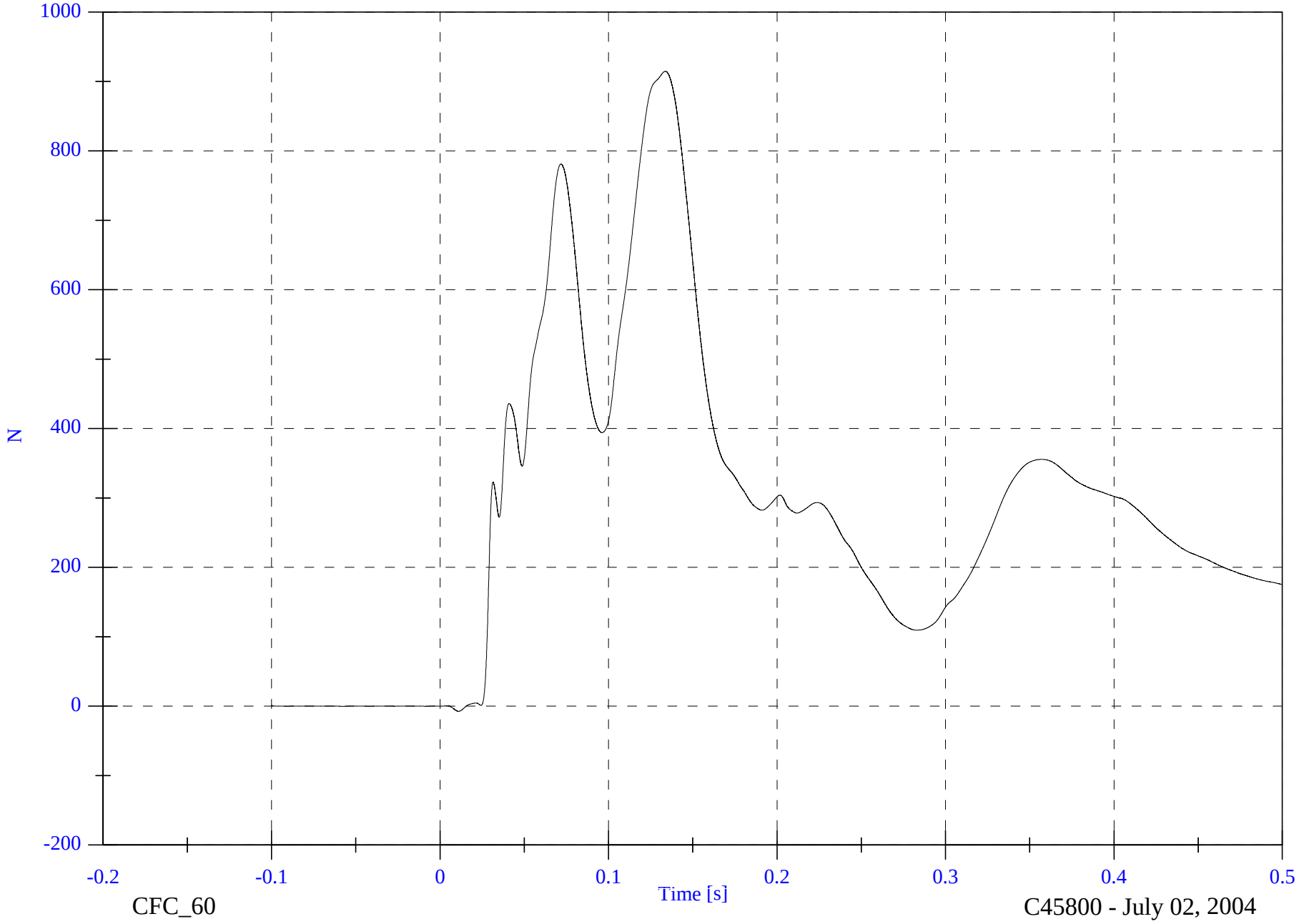
2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Lap Belt

Max: 914.6 [N] at 0.134 [s]

Min: -7.3 [N] at 0.011 [s]



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8655-F301-22R

CFC_60

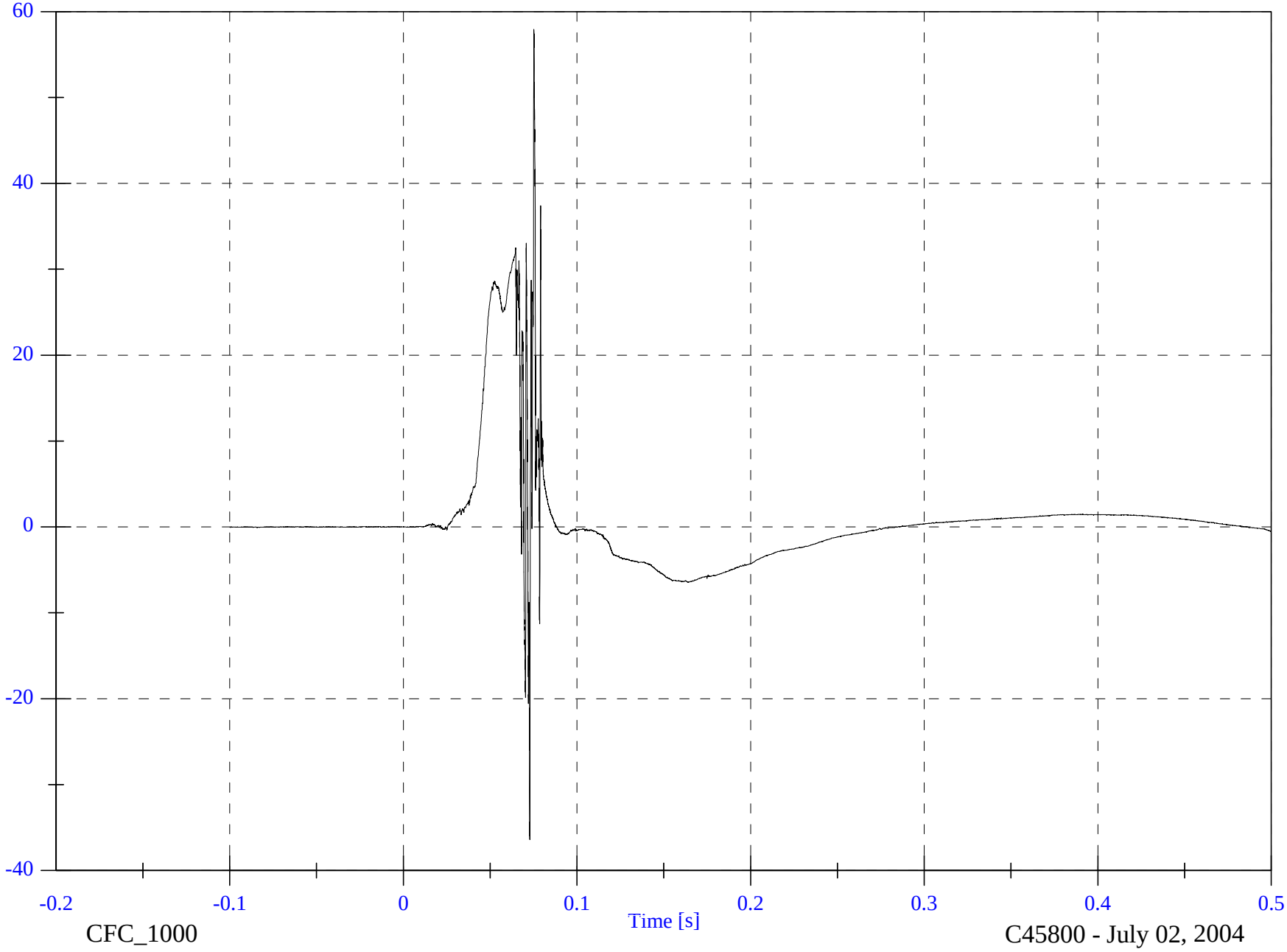
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head x

Max: 57.9 [g] at 0.075 [s]

Min: -36.4 [g] at 0.073 [s]



B-51

8655-F301-22R

CFC_1000

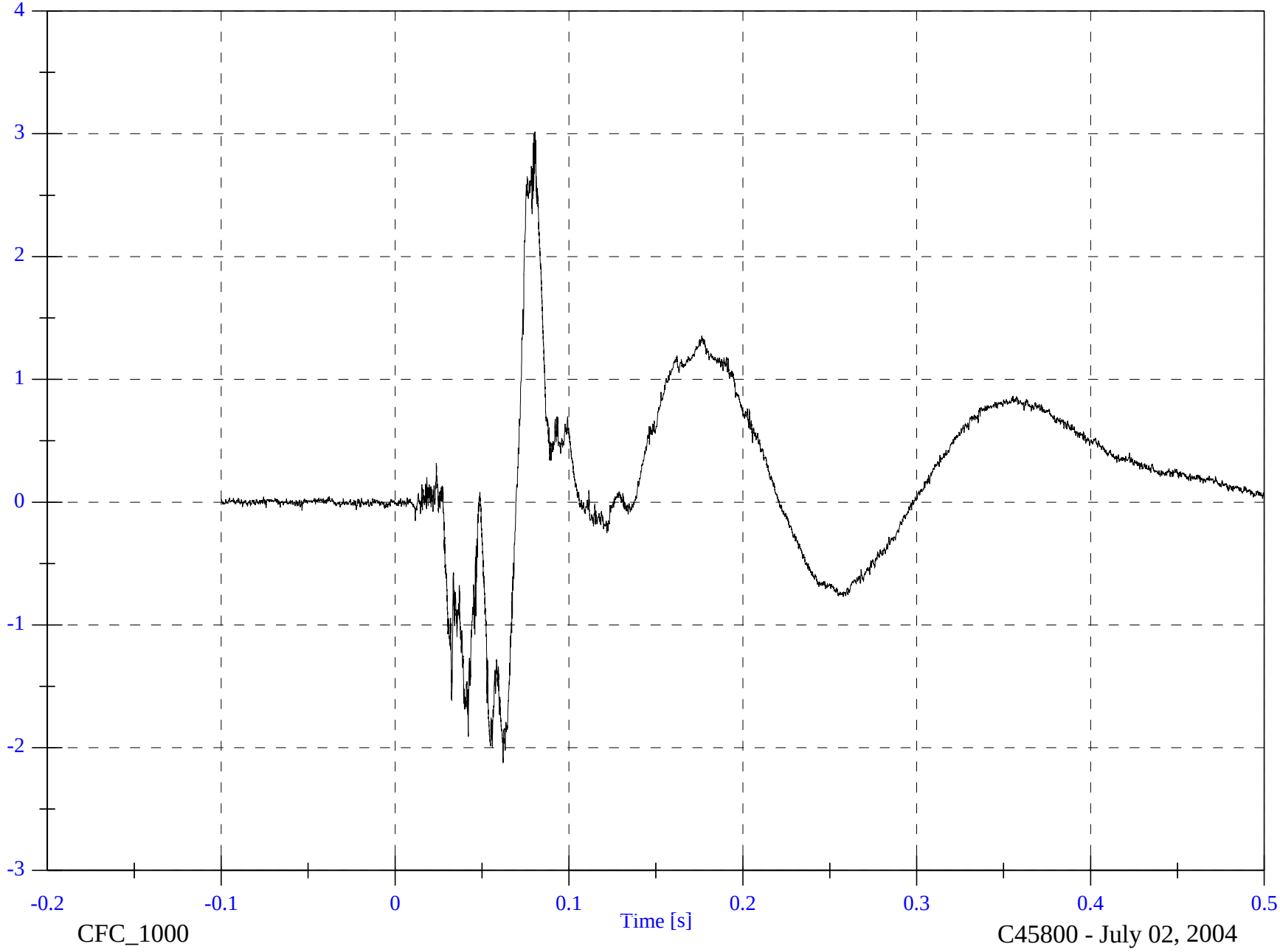
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head y

Max: 3.0 [g] at 0.080 [s]

Min: -2.1 [g] at 0.062 [s]



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8655-F301-22R

CFC_1000

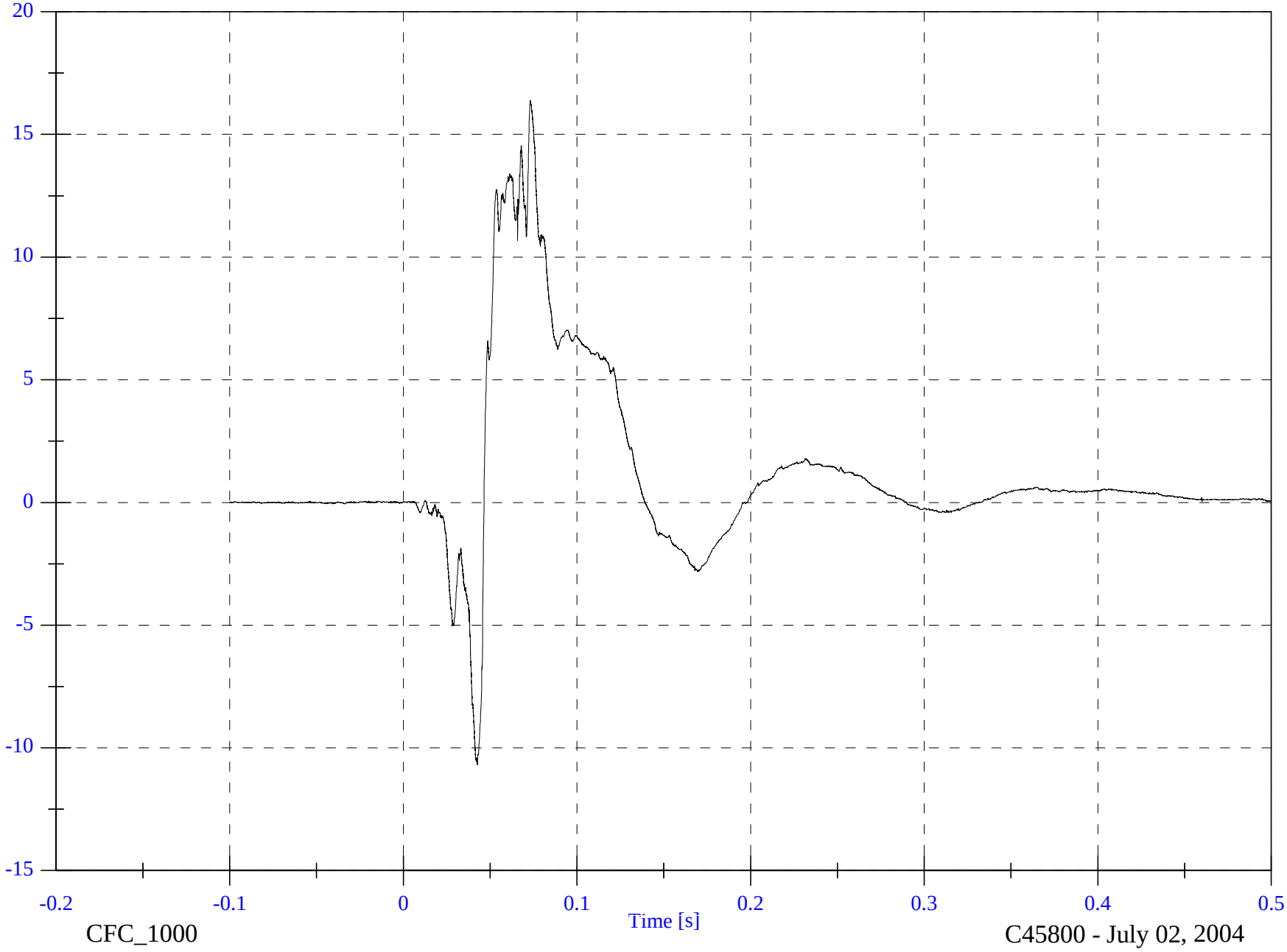
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head z

Max: 16.4 [g] at 0.073 [s]

Min: -10.7 [g] at 0.043 [s]



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8655-F301-22R

CFC_1000

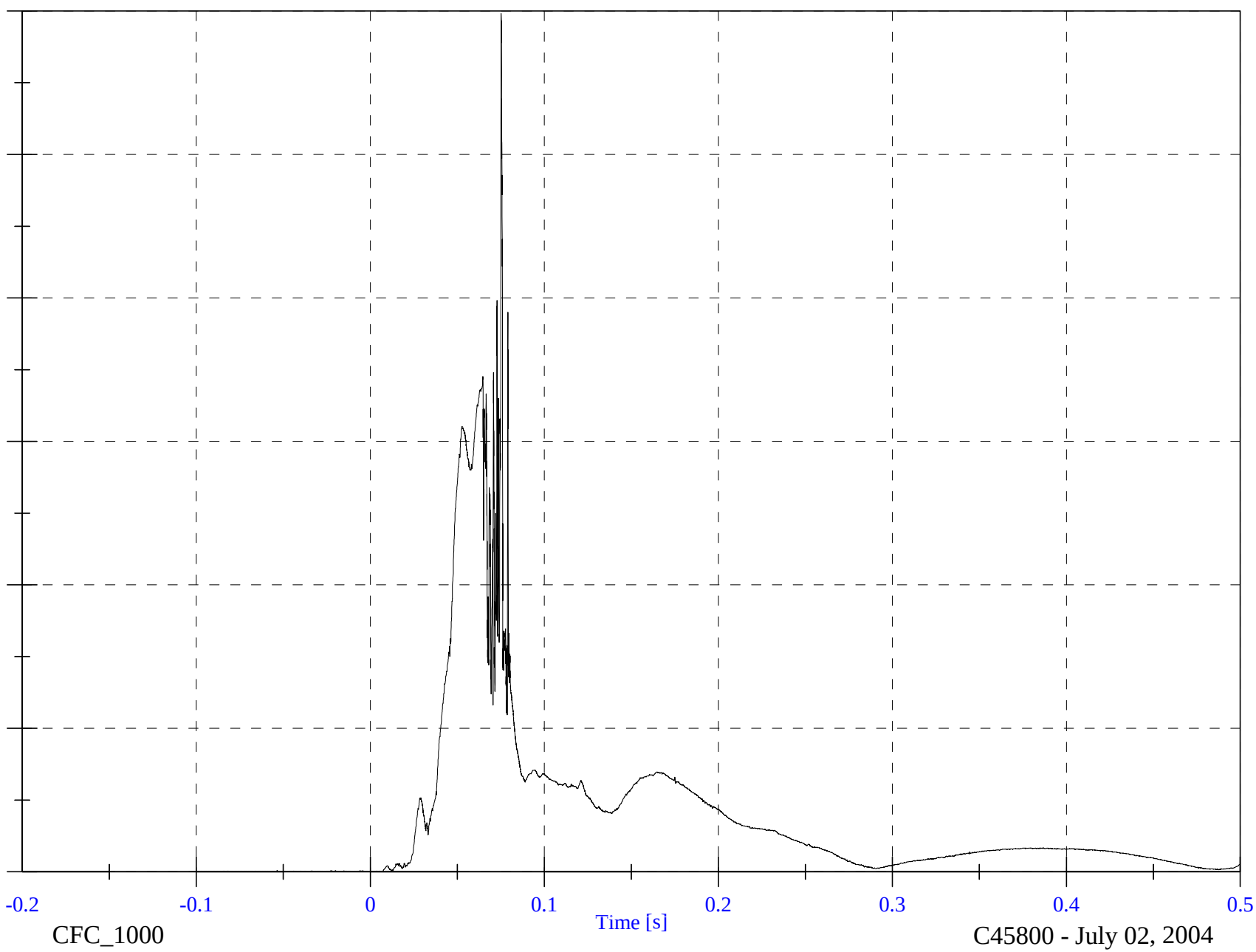
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head Resultant

Max: 59.8 [g] at 0.075 [s]

Min: 0.0 [g] at -0.078 [s]



CFC_1000

C45800 - July 02, 2004

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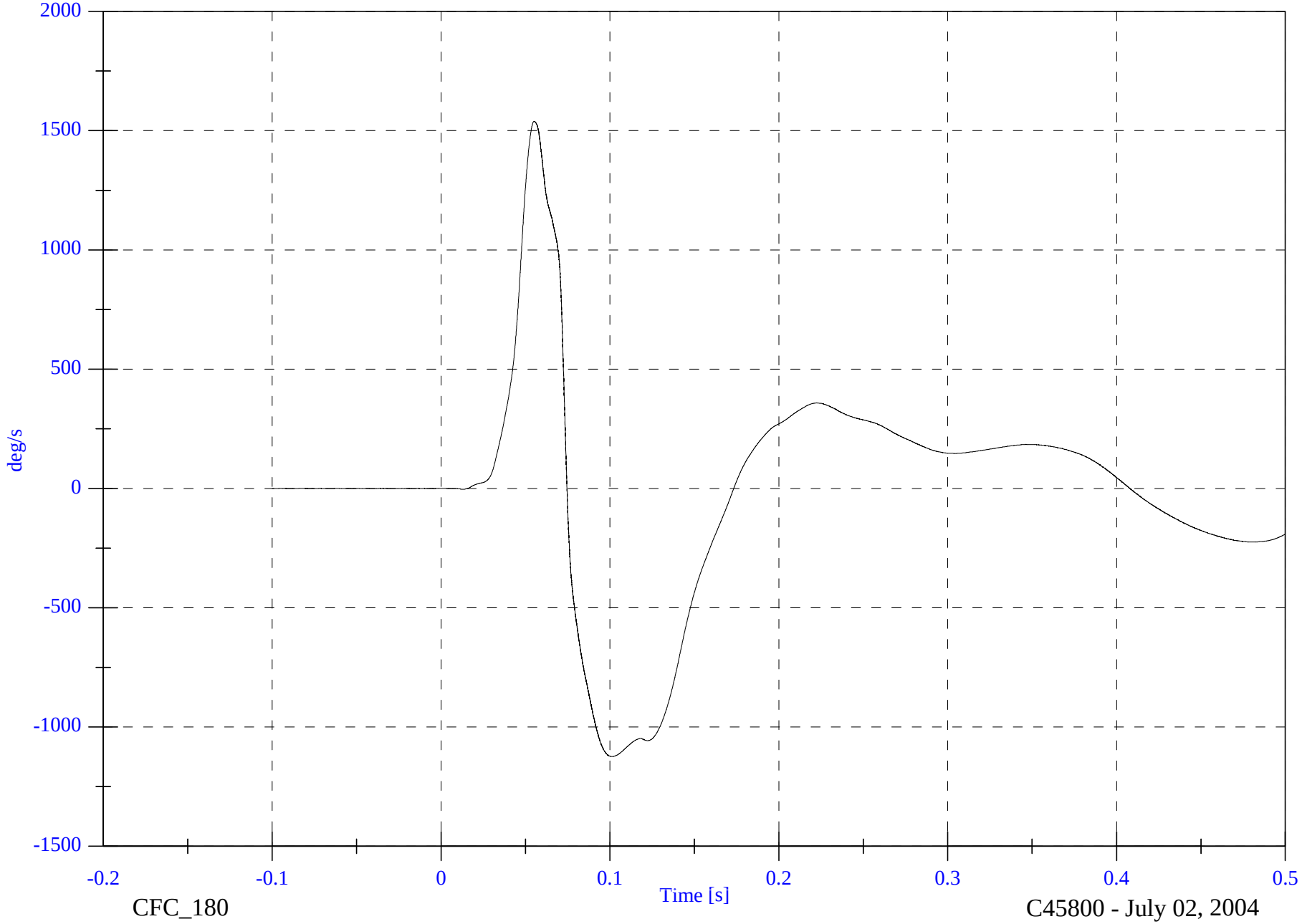
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head AVy

Max: 1538.8 [deg/s] at 0.055 [s]

Min: -1124.1 [deg/s] at 0.101 [s]



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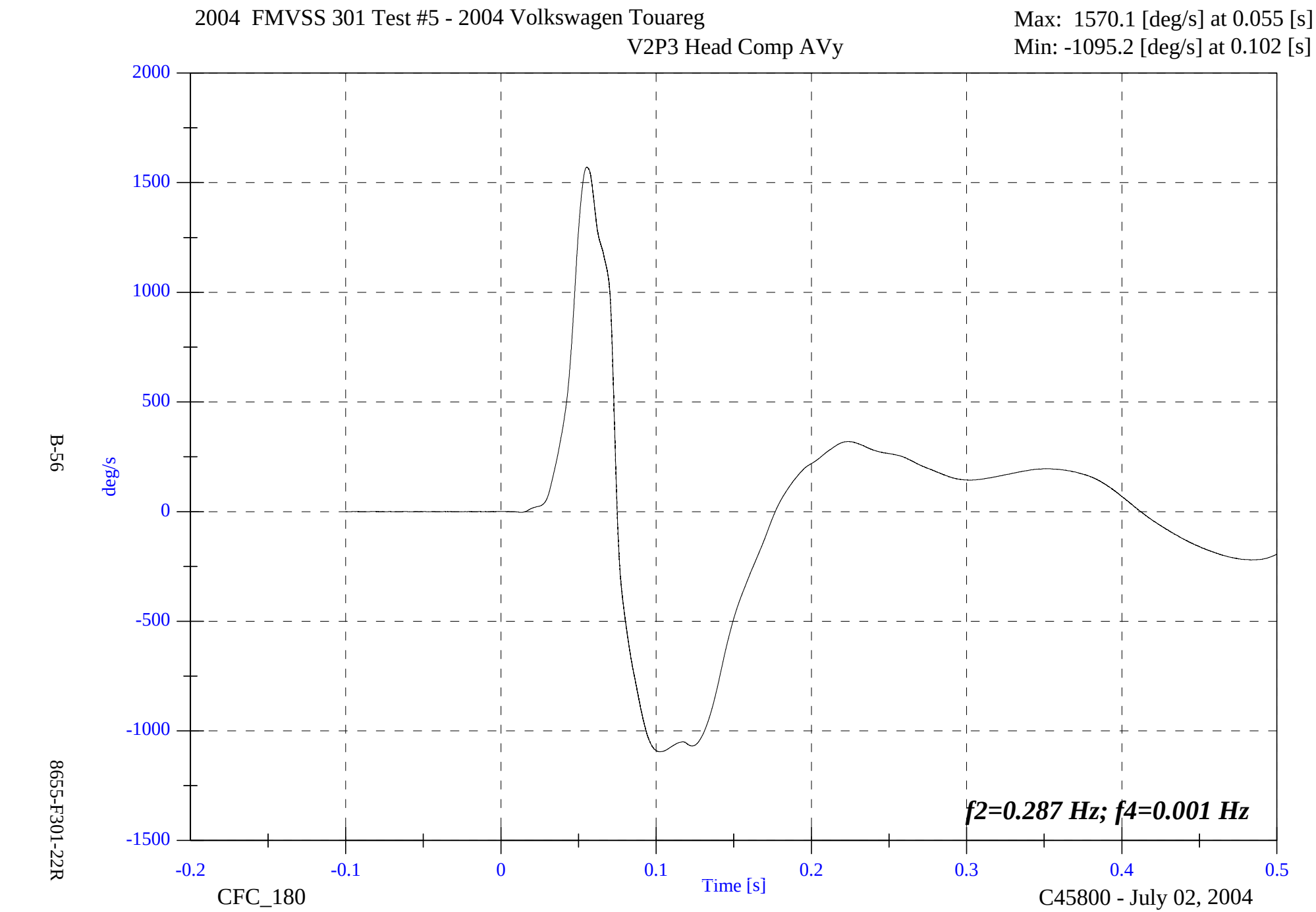
8655-F301-22R

CFC_180

C45800 - July 02, 2004

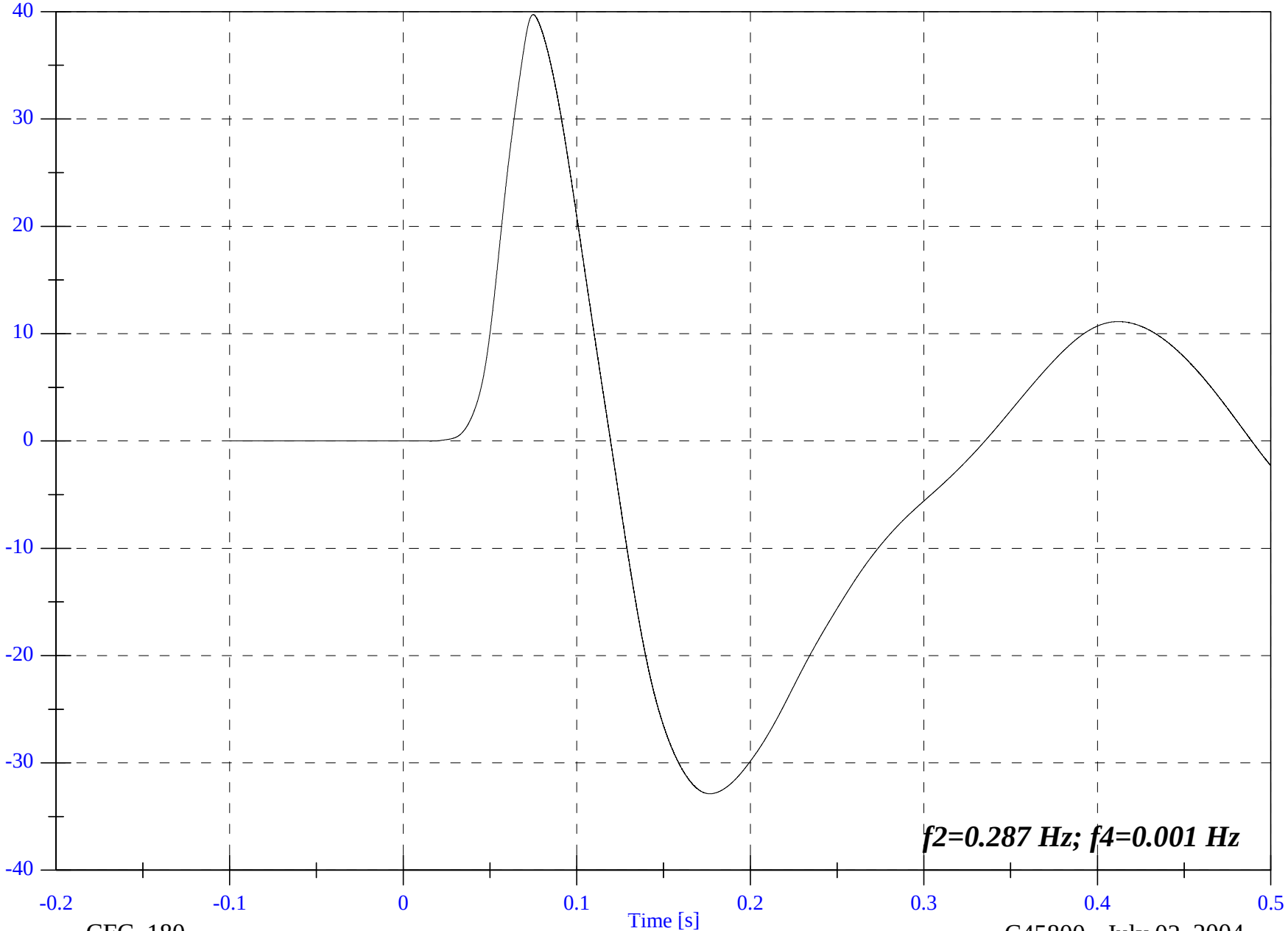

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P3 Head Comp AVy
Max: 1570.1 [deg/s] at 0.055 [s]
Min: -1095.2 [deg/s] at 0.102 [s]
2000
1500
1000
500
0
-500
-1000
-1500
deg/s
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
f2=0.287 Hz; f4=0.001 Hz
CFC_180
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head Comp ADy

Max: 39.7 [deg] at 0.075 [s]

Min: -32.9 [deg] at 0.177 [s]



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8655-F301-22R

CFC_180

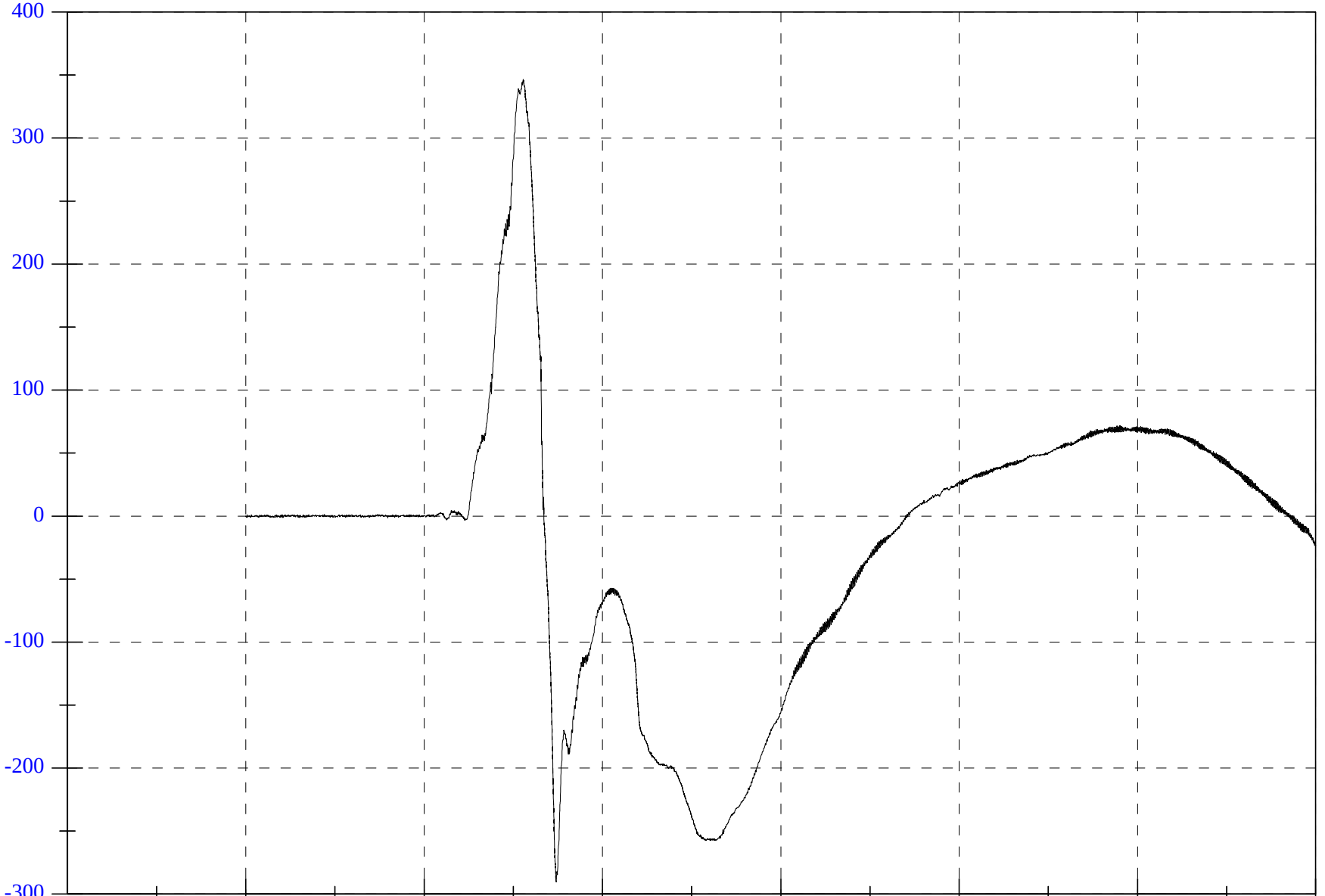
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck Fx

Max: 346.3 [N] at 0.056 [s]

Min: -290.3 [N] at 0.074 [s]



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8655-F301-22R

CFC_1000

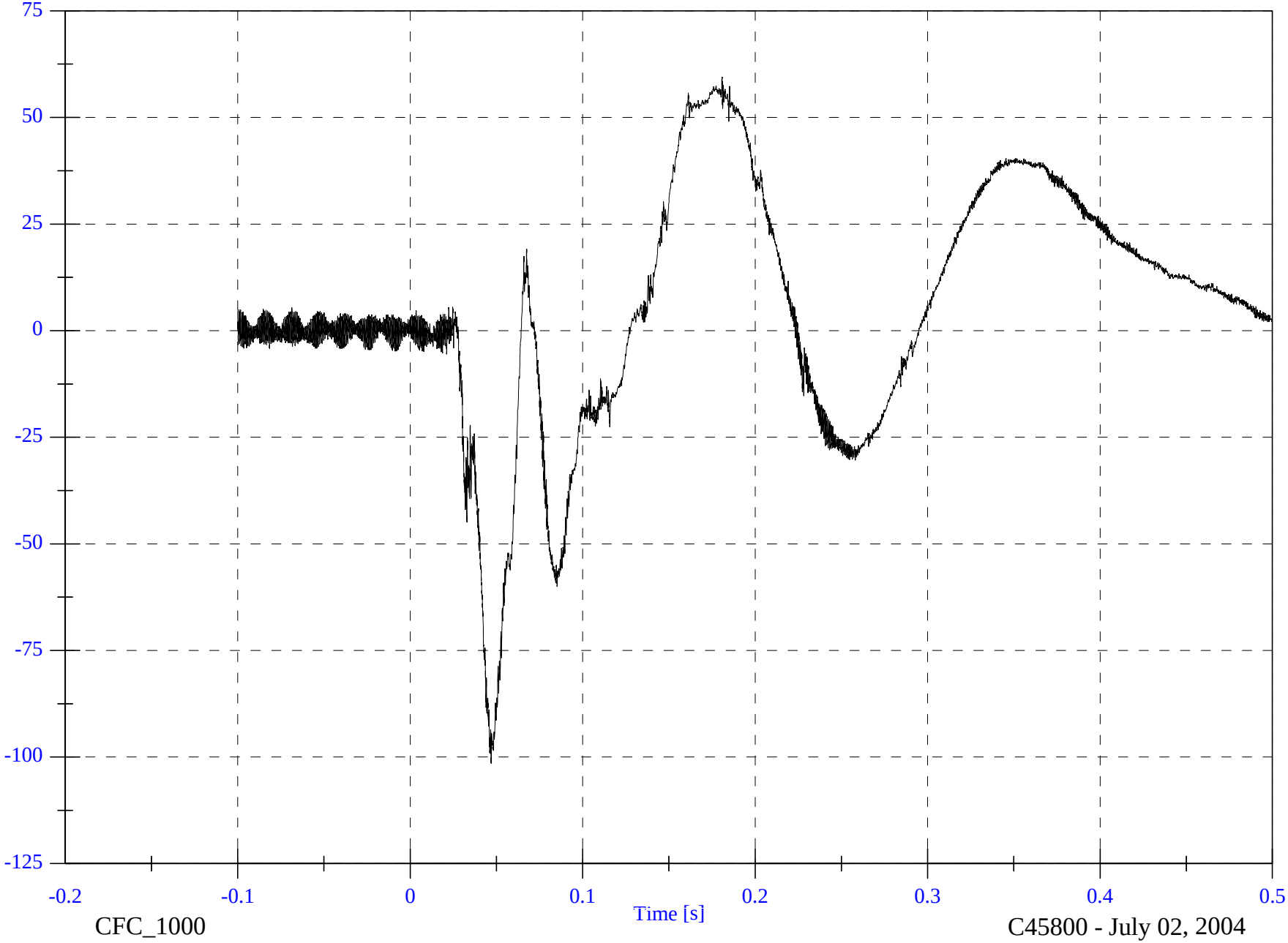
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck Fy

Max: 59.4 [N] at 0.181 [s]

Min: -101.5 [N] at 0.047 [s]



CFC_1000

C45800 - July 02, 2004

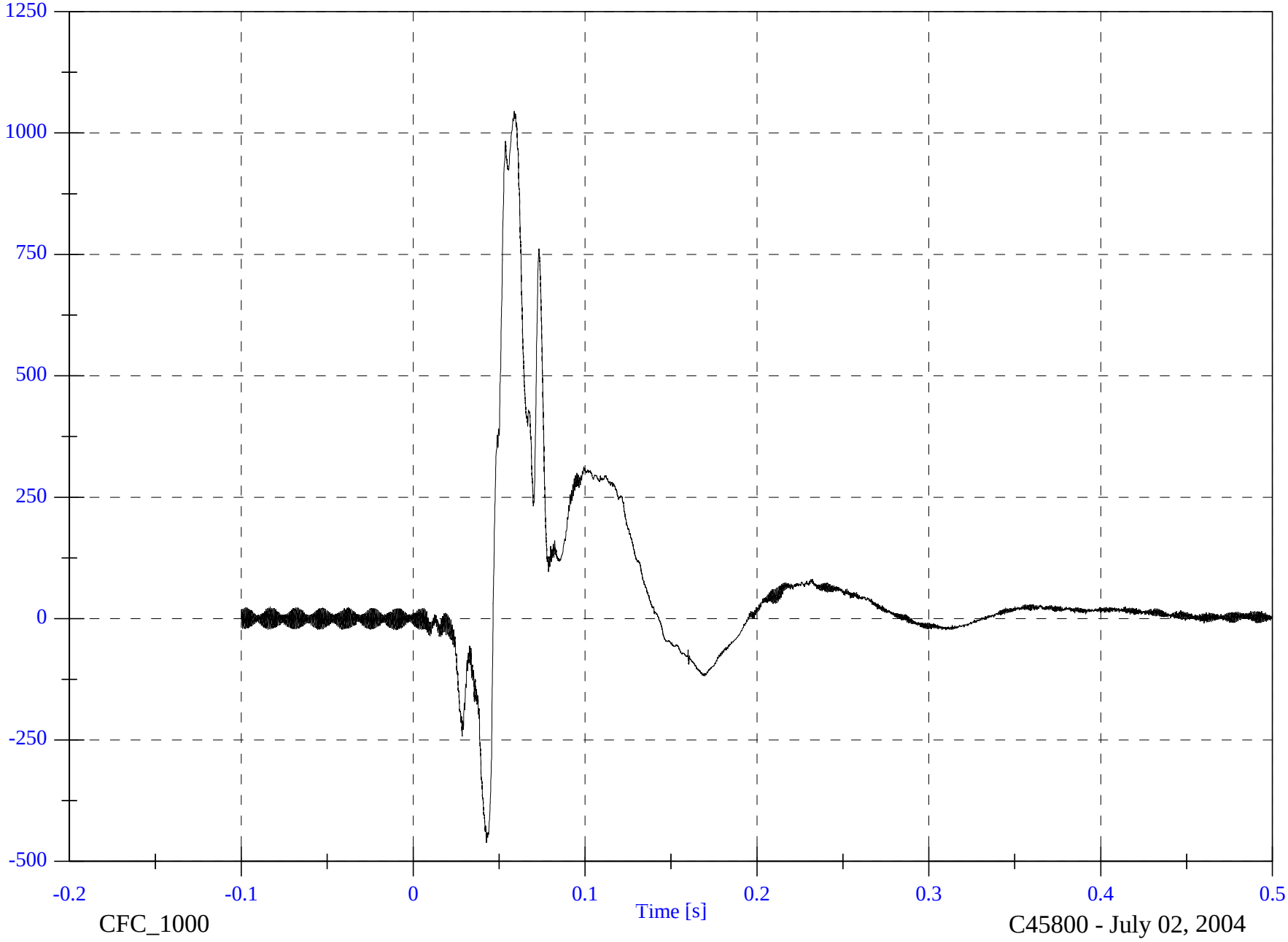
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck Fz

Max: 1044.8 [N] at 0.059 [s]

Min: -461.4 [N] at 0.043 [s]



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8655-F301-22R

CFC_1000

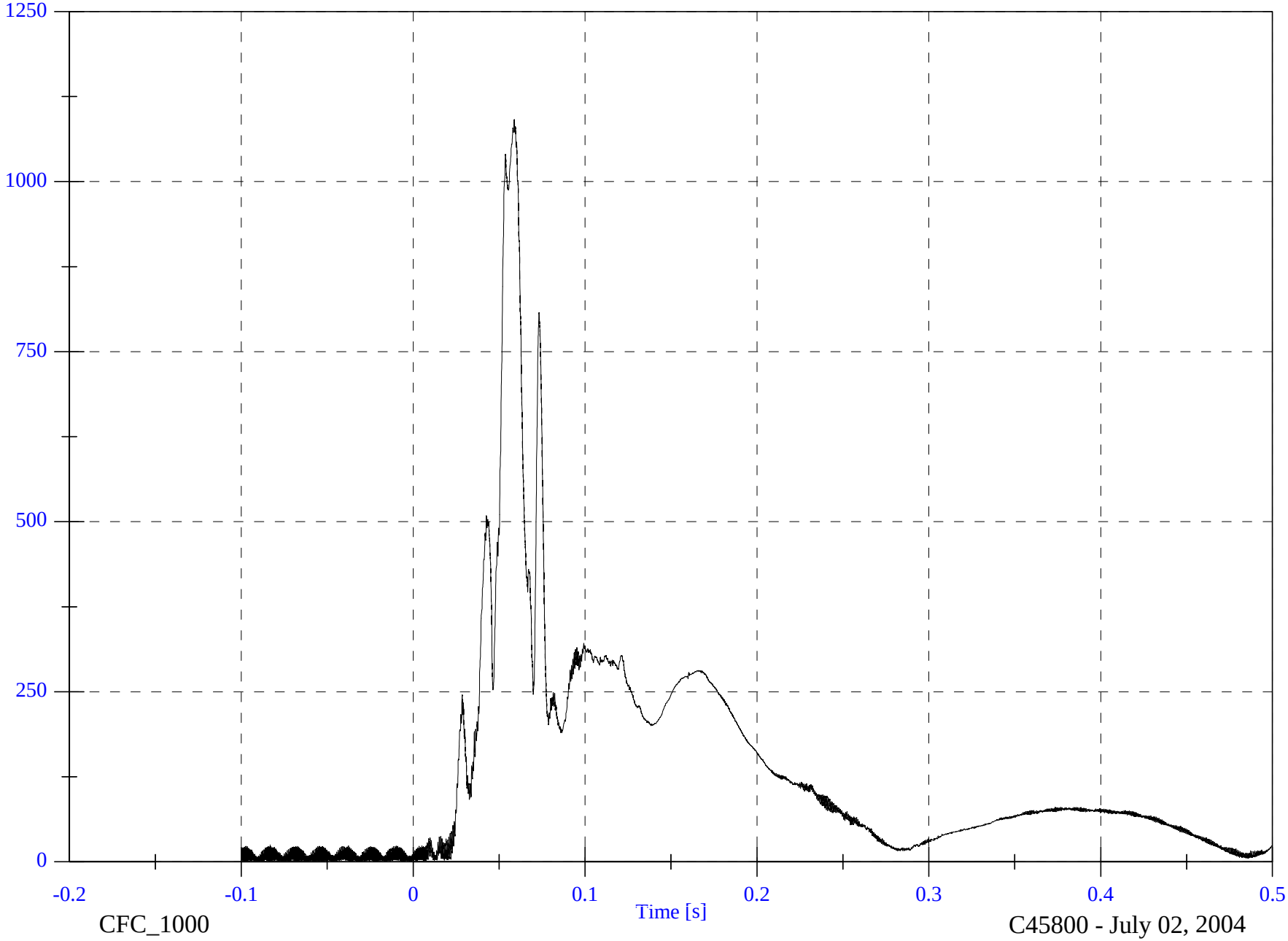
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck F Resultant

Max: 1091.2 [N] at 0.059 [s]

Min: 0.3 [N] at -0.058 [s]



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8655-F301-22R

CFC_1000

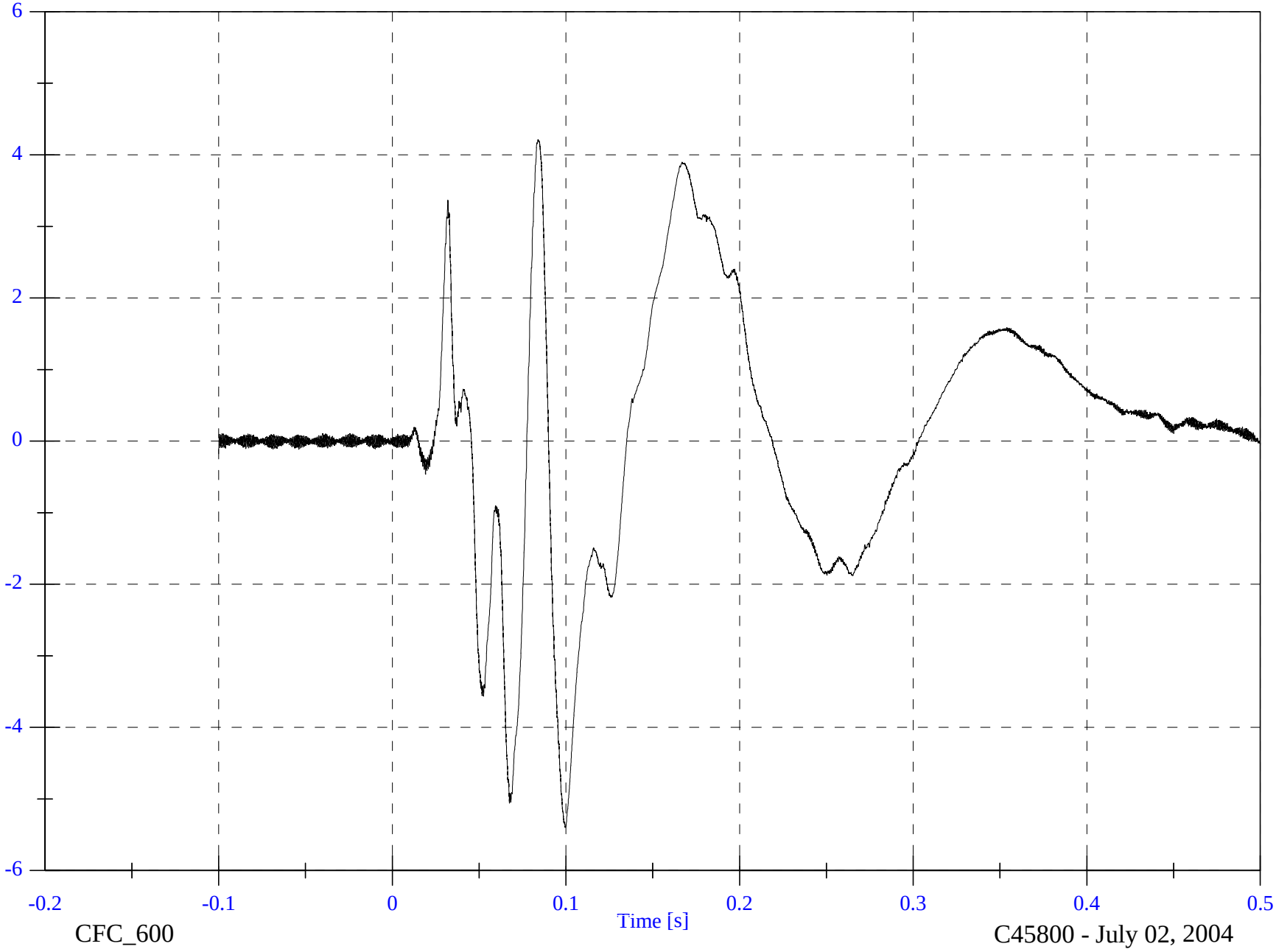
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck Mx

Max: 4.2 [N-m] at 0.084 [s]

Min: -5.4 [N-m] at 0.100 [s]



CFC_600

C45800 - July 02, 2004

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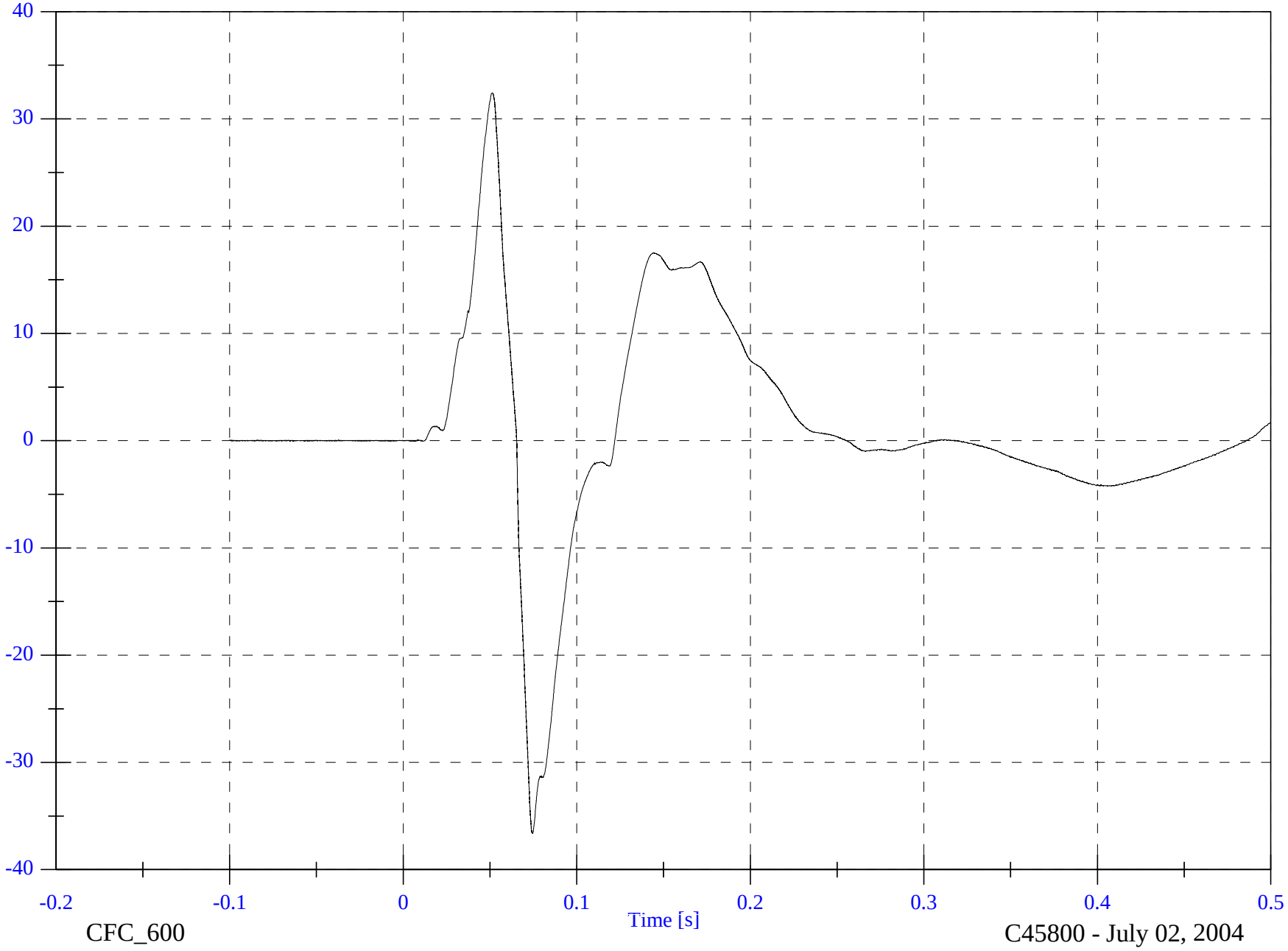
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck My

Max: 32.4 [N-m] at 0.051 [s]

Min: -36.6 [N-m] at 0.075 [s]



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8655-F301-22R

CFC_600

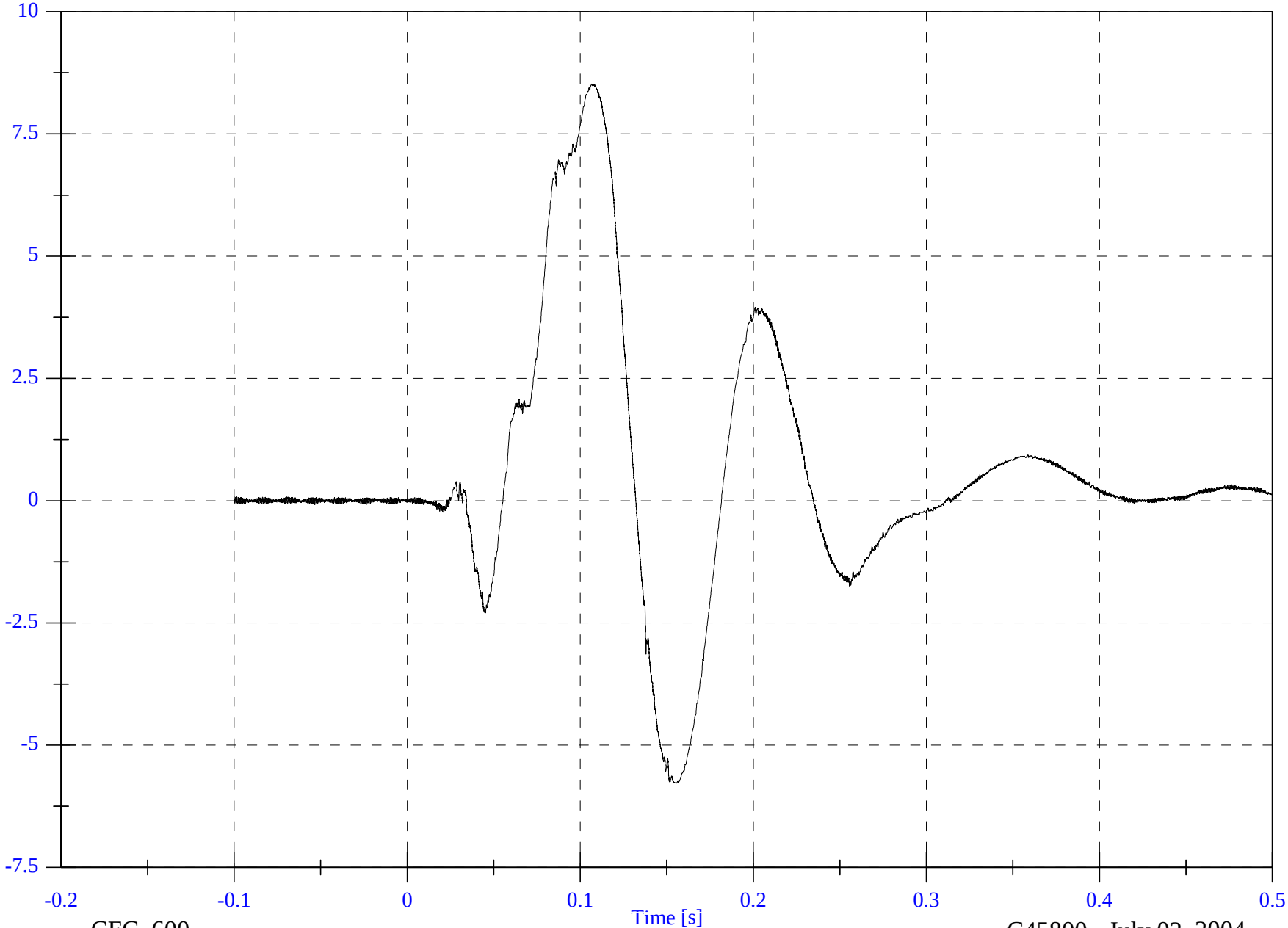
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck Mz

Max: 8.5 [N-m] at 0.107 [s]

Min: -5.8 [N-m] at 0.156 [s]



CFC_600

C45800 - July 02, 2004

B-64

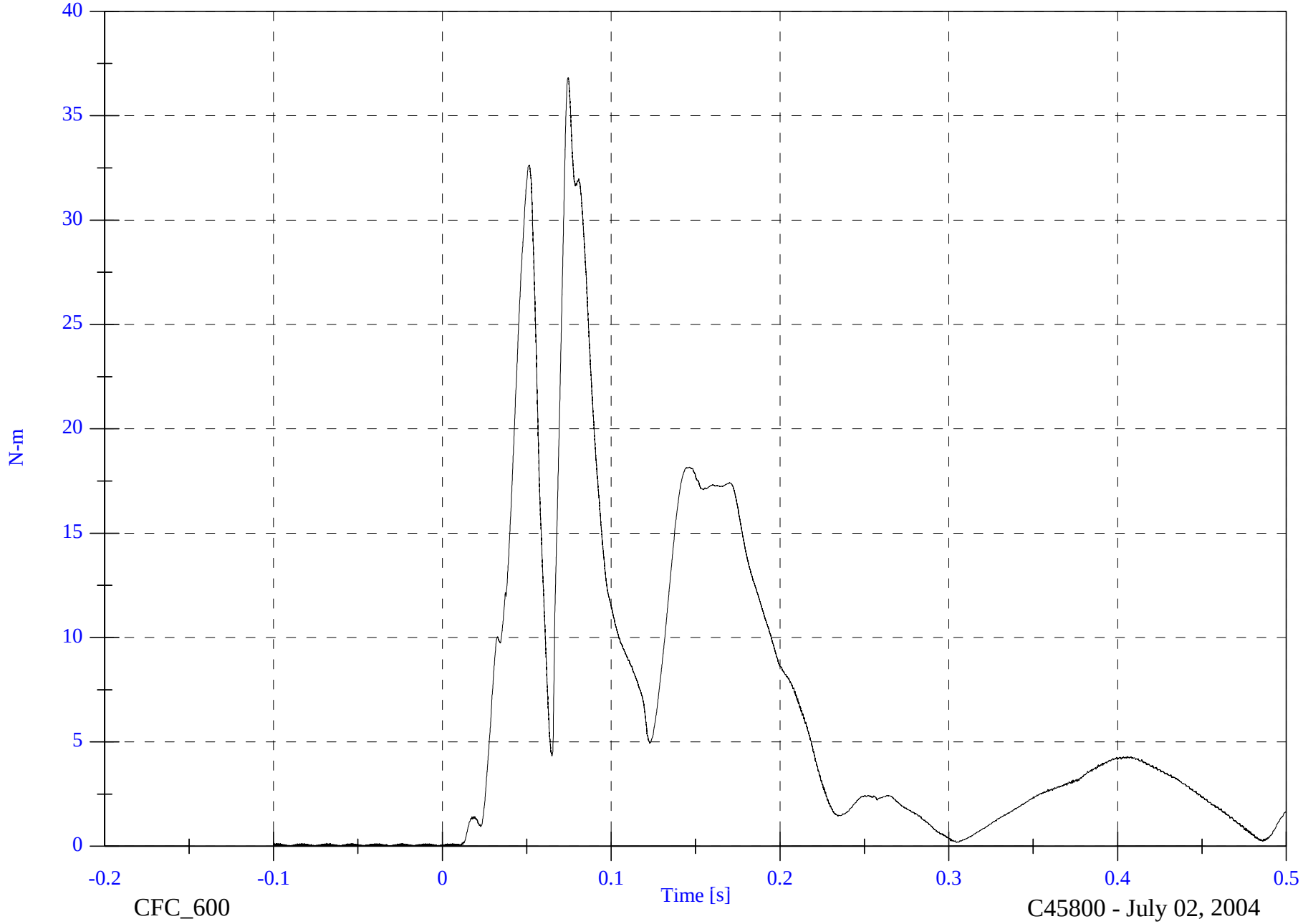
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Upper Neck M Resultant

Max: 36.8 [N-m] at 0.075 [s]

Min: 0.0 [N-m] at -0.021 [s]

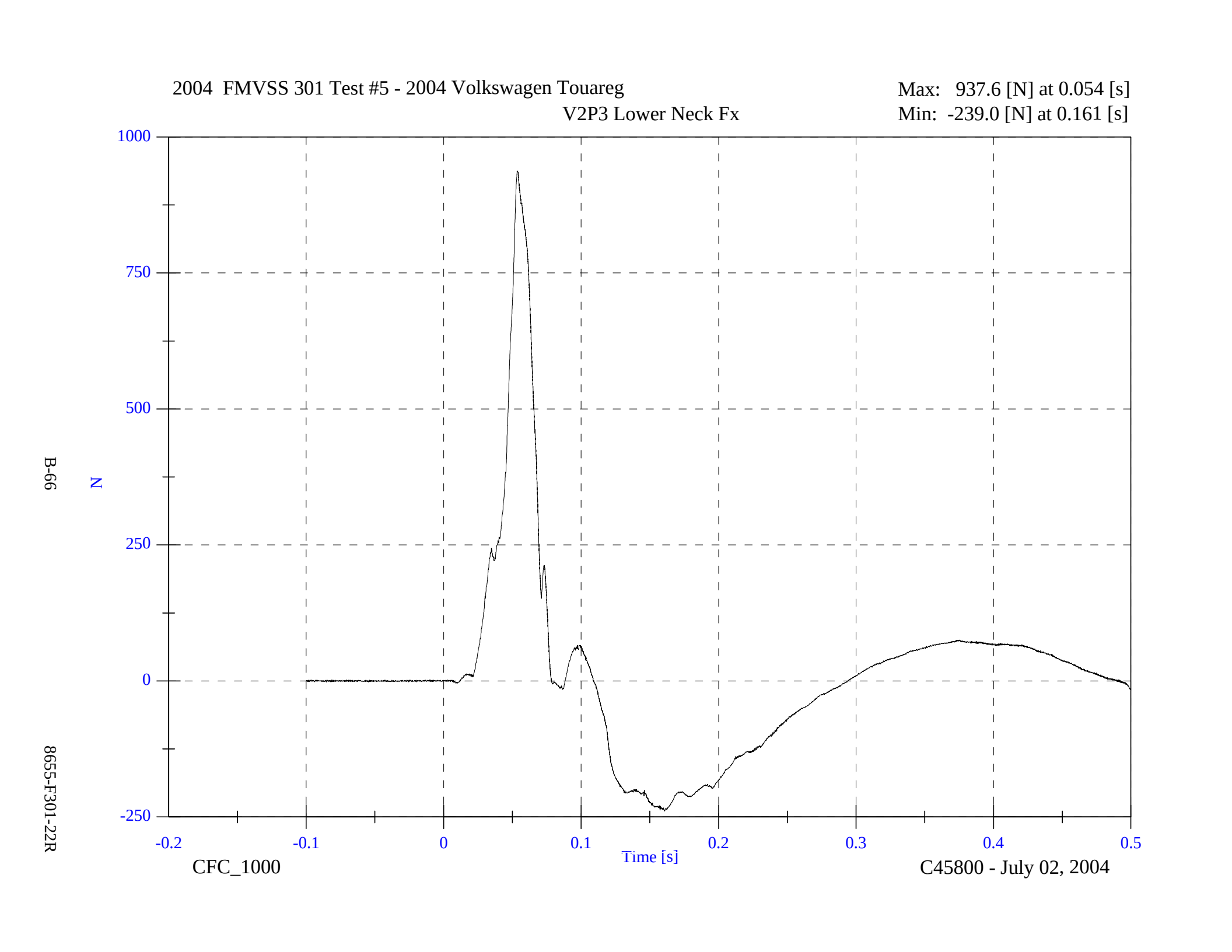


CFC_600

C45800 - July 02, 2004

B-65

8655-F301-22R


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P3 Lower Neck Fx
Max: 937.6 [N] at 0.054 [s]
Min: -239.0 [N] at 0.161 [s]
1000
750
500
250
0
-250
N
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_1000
C45800 - July 02, 2004
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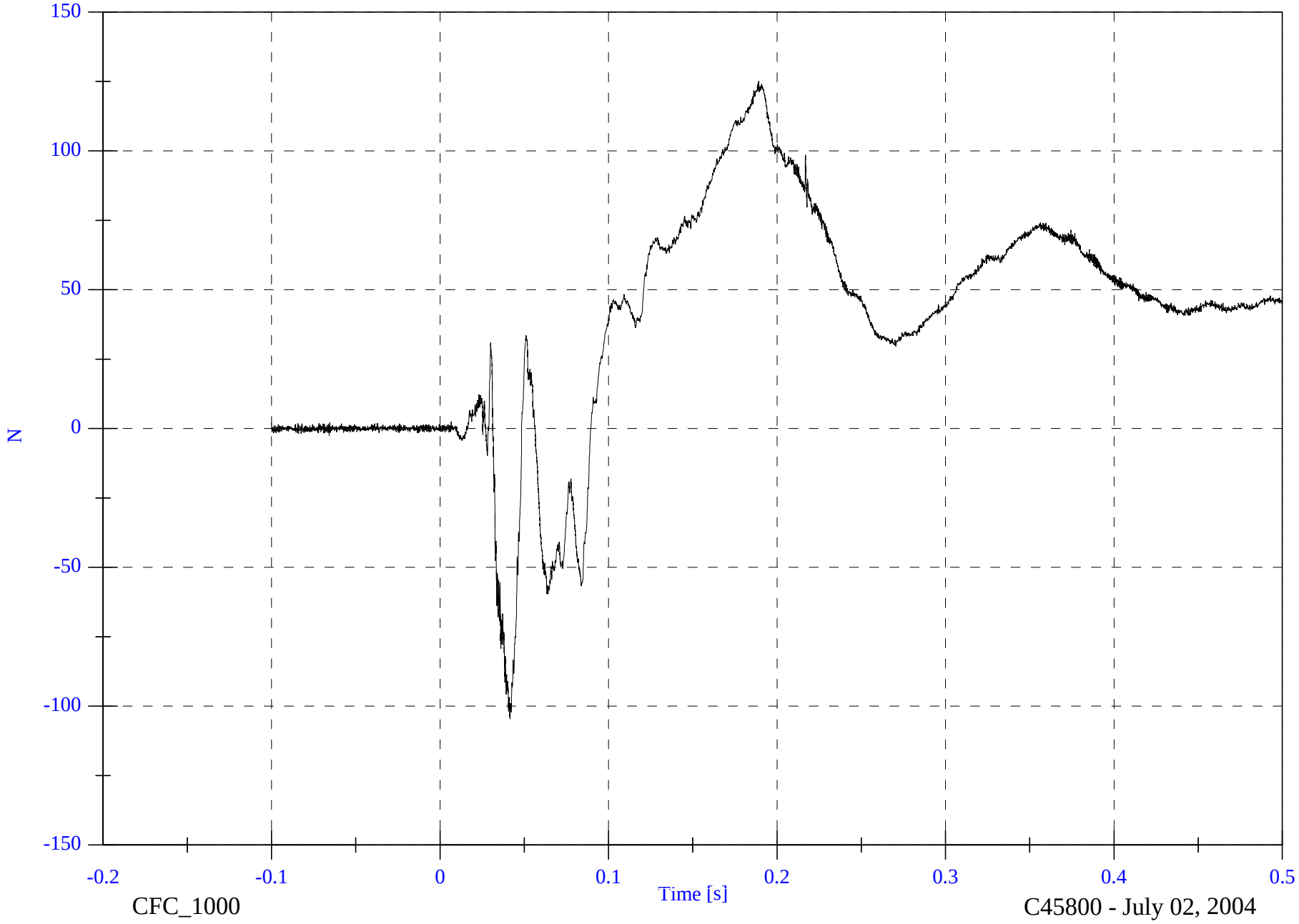
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck Fy

Max: 125.0 [N] at 0.189 [s]

Min: -104.5 [N] at 0.042 [s]



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8655-F301-22R

CFC_1000

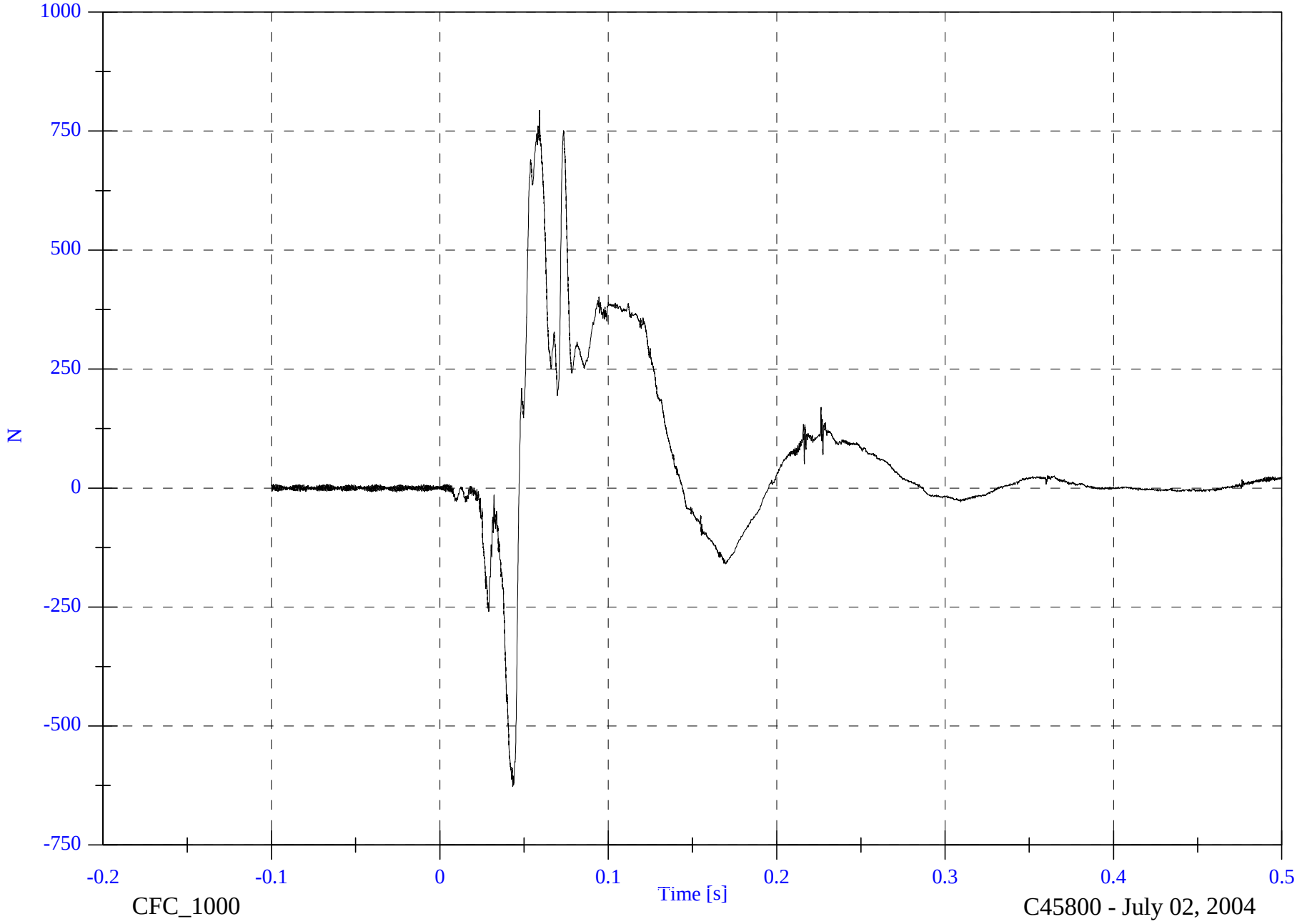
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck Fz

Max: 793.2 [N] at 0.059 [s]

Min: -627.2 [N] at 0.043 [s]



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8655-F301-22R

CFC_1000

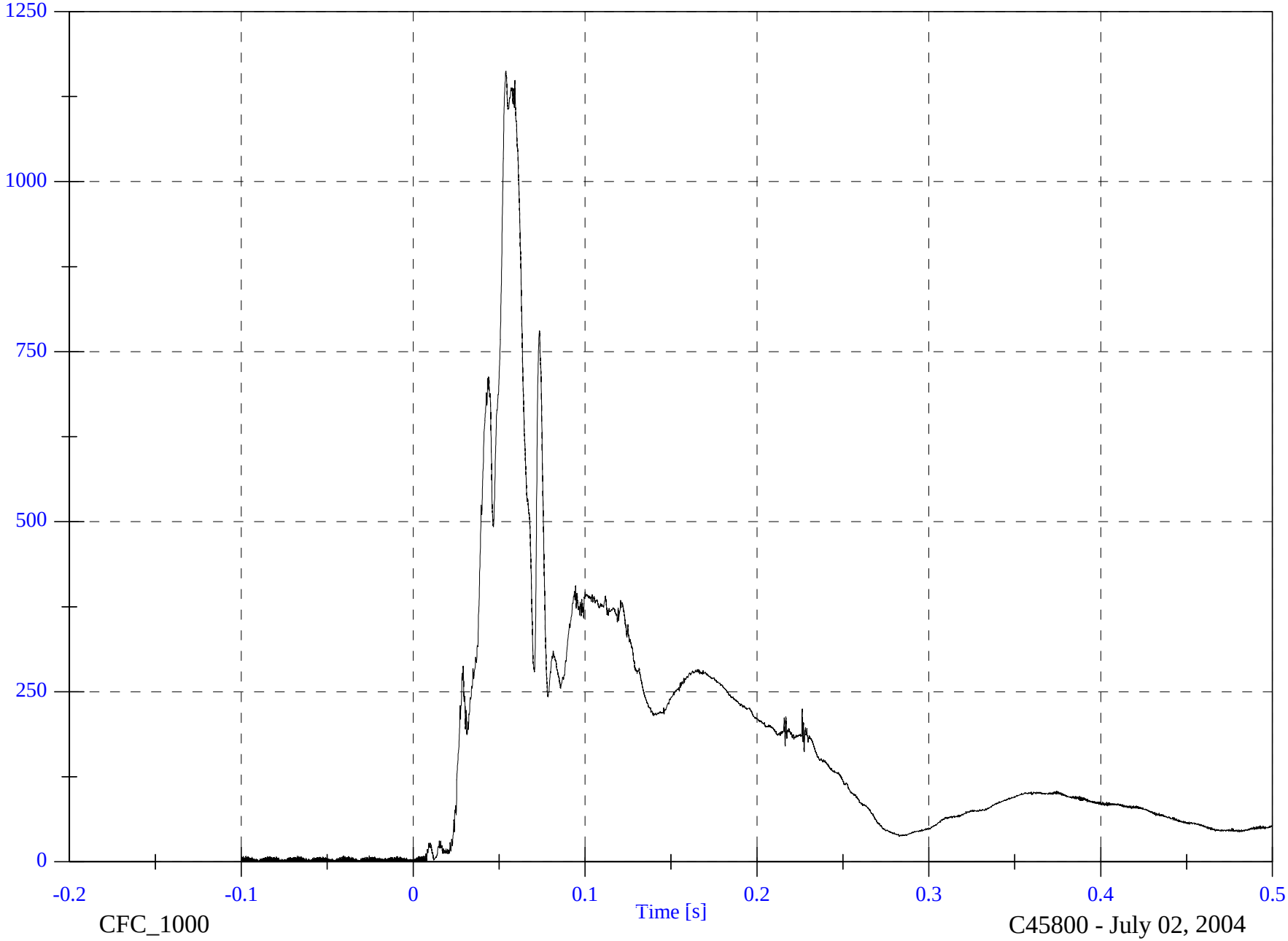
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck F Resultant

Max: 1162.4 [N] at 0.054 [s]

Min: 0.1 [N] at -0.019 [s]



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8655-F301-22R

CFC_1000

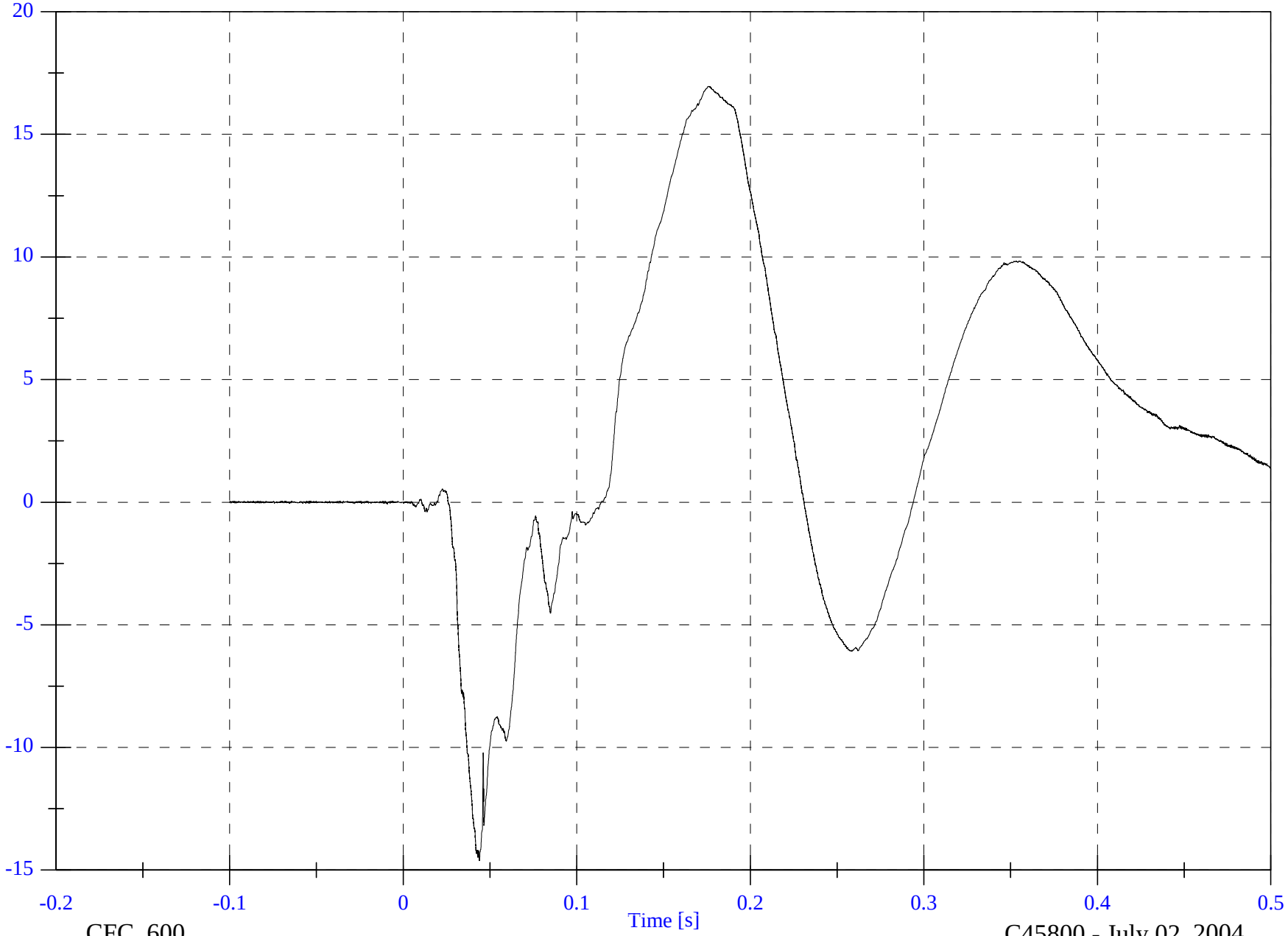
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck Mx

Max: 17.0 [N-m] at 0.176 [s]

Min: -14.6 [N-m] at 0.044 [s]



CFC_600

C45800 - July 02, 2004

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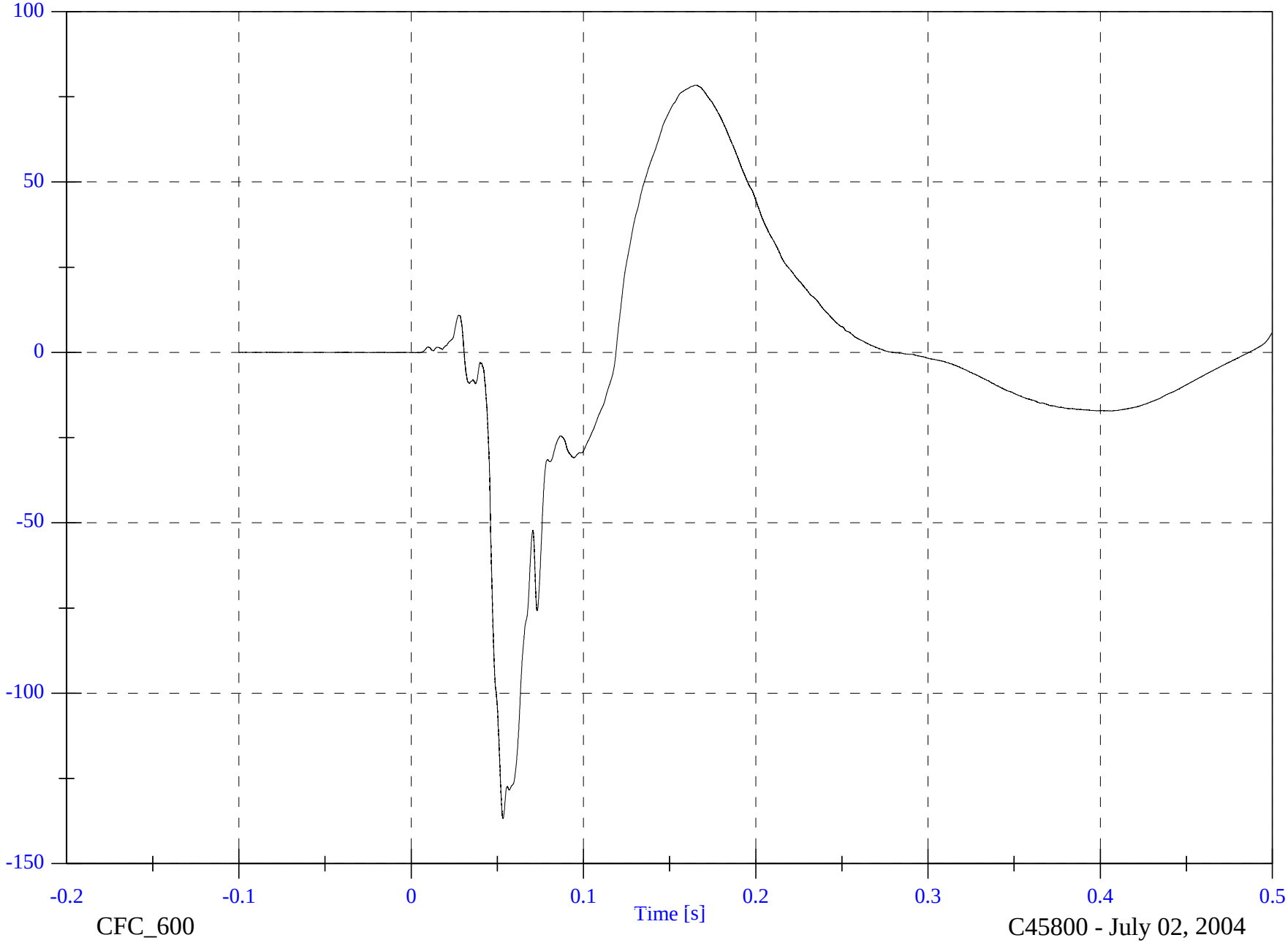
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck My

Max: 78.4 [N-m] at 0.165 [s]

Min: -136.8 [N-m] at 0.053 [s]



CFC_600

C45800 - July 02, 2004

B-71

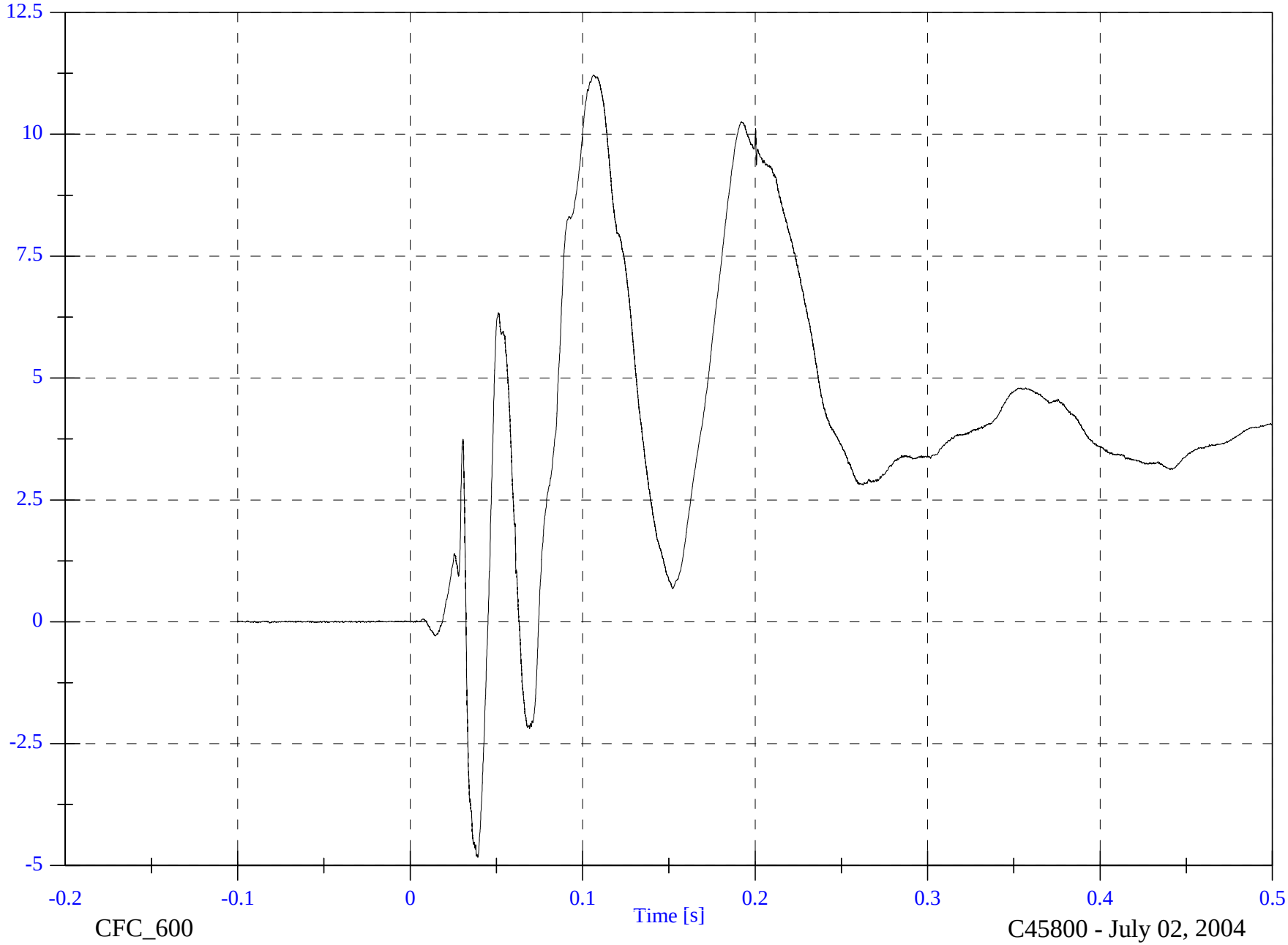
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck Mz

Max: 11.2 [N-m] at 0.106 [s]

Min: -4.8 [N-m] at 0.039 [s]



CFC_600

C45800 - July 02, 2004

B-72

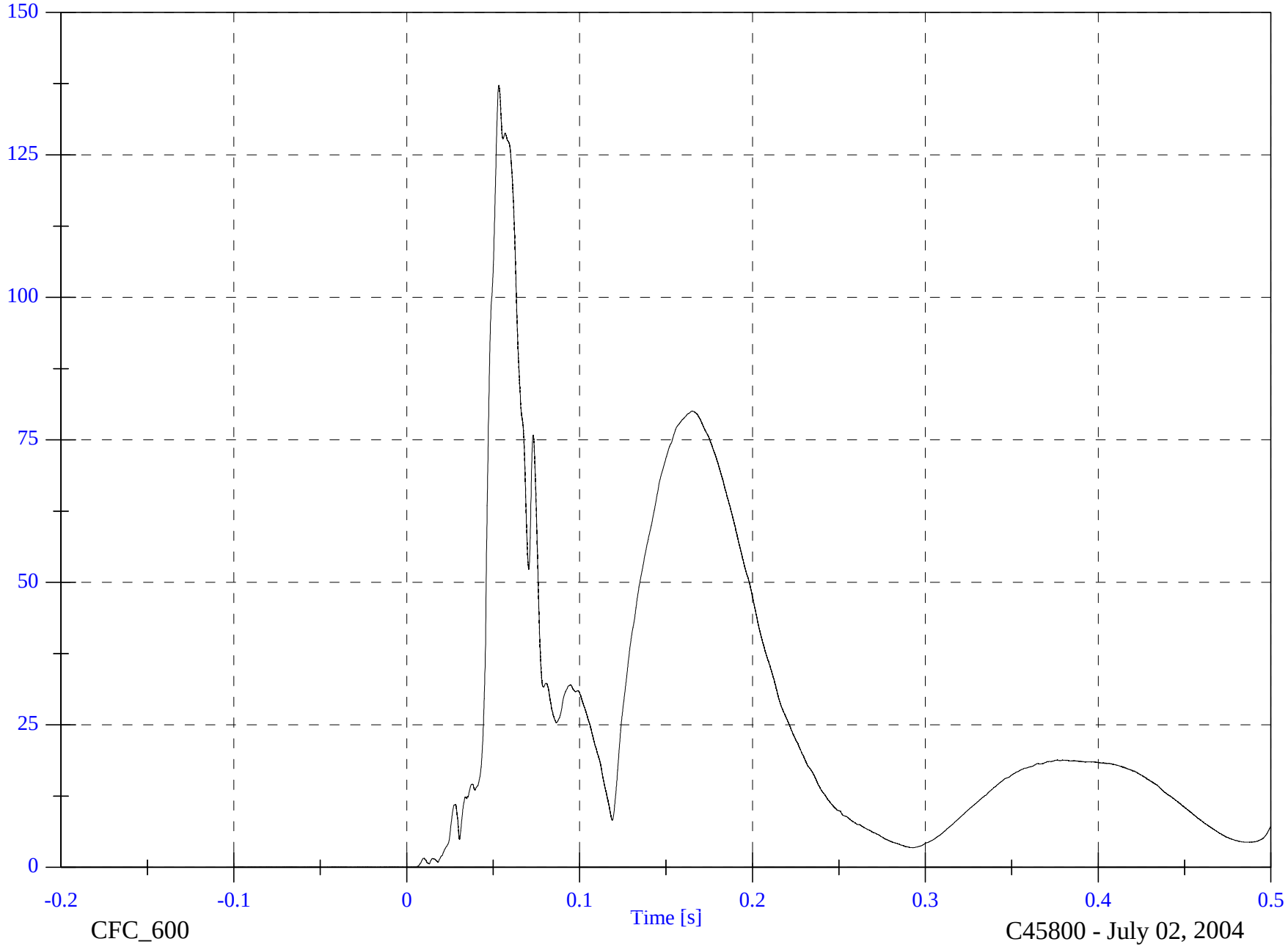
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck M Resultant

Max: 137.2 [N-m] at 0.053 [s]

Min: 0.0 [N-m] at -0.060 [s]



CFC_600

C45800 - July 02, 2004

B-73

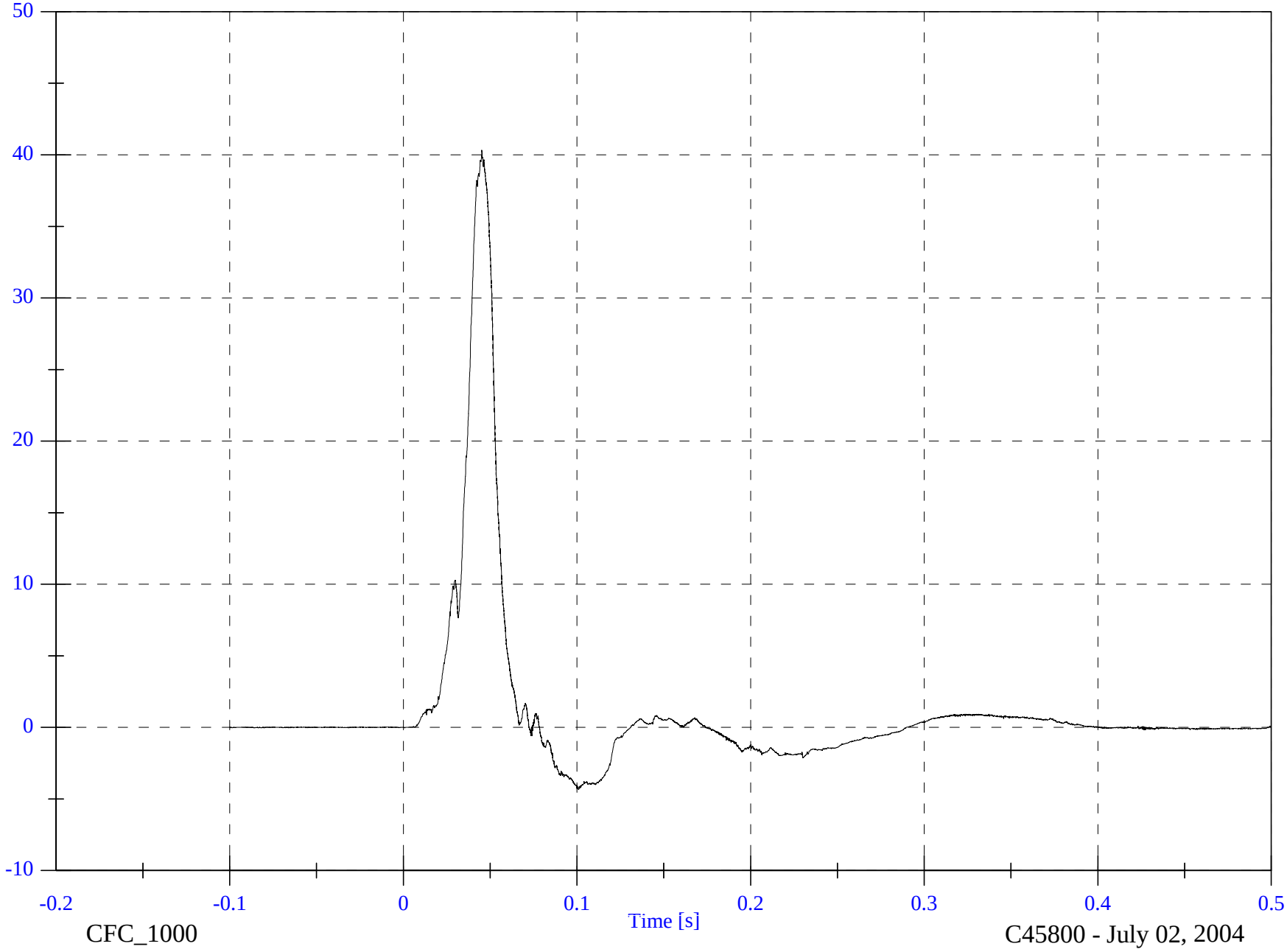
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lower Neck x

Max: 40.3 [g] at 0.045 [s]

Min: -4.3 [g] at 0.101 [s]



CFC_1000

C45800 - July 02, 2004

B-74

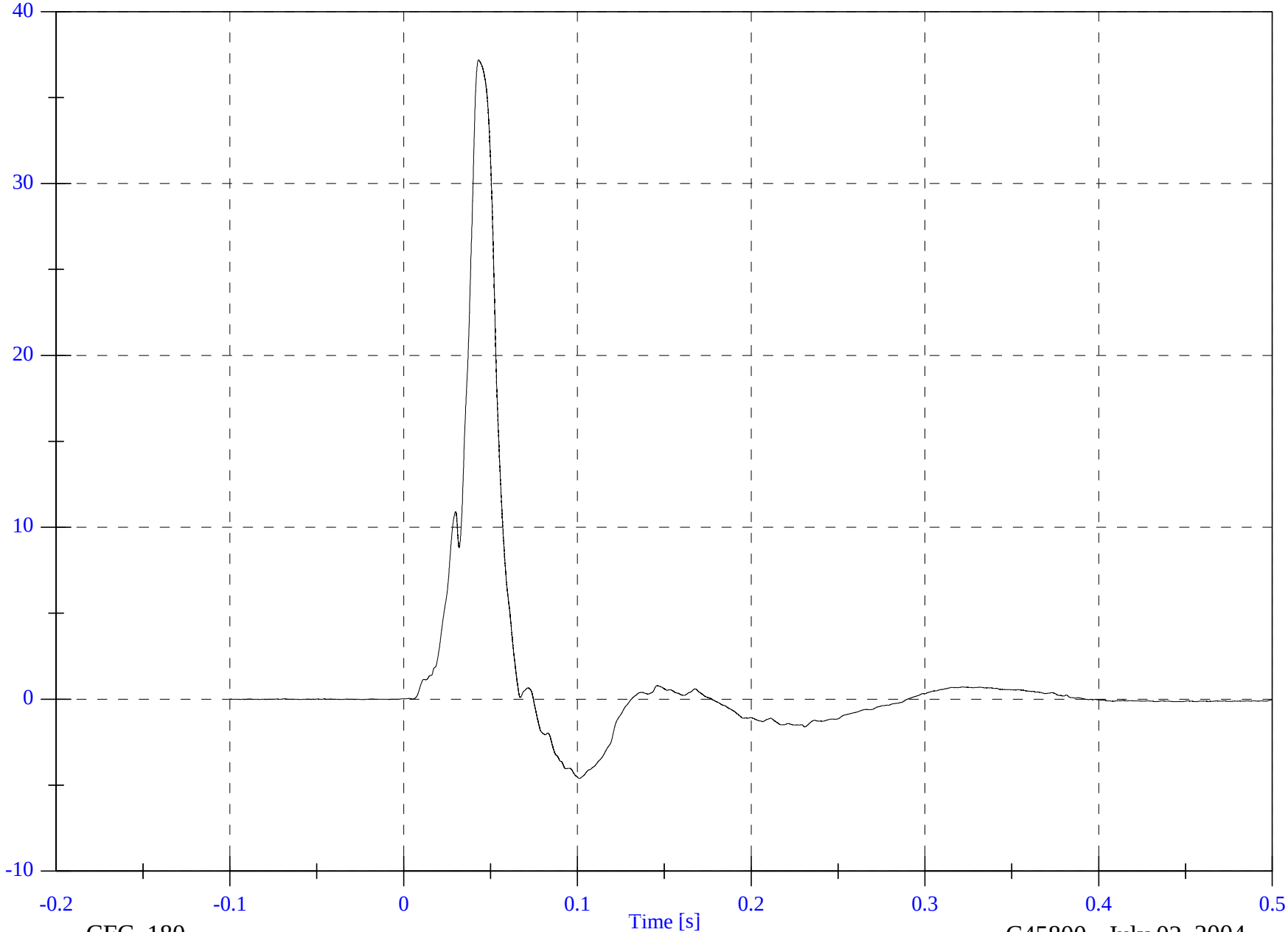
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest x

Max: 37.2 [g] at 0.043 [s]

Min: -4.6 [g] at 0.101 [s]



B-75

8655-F301-22R

CFC_180

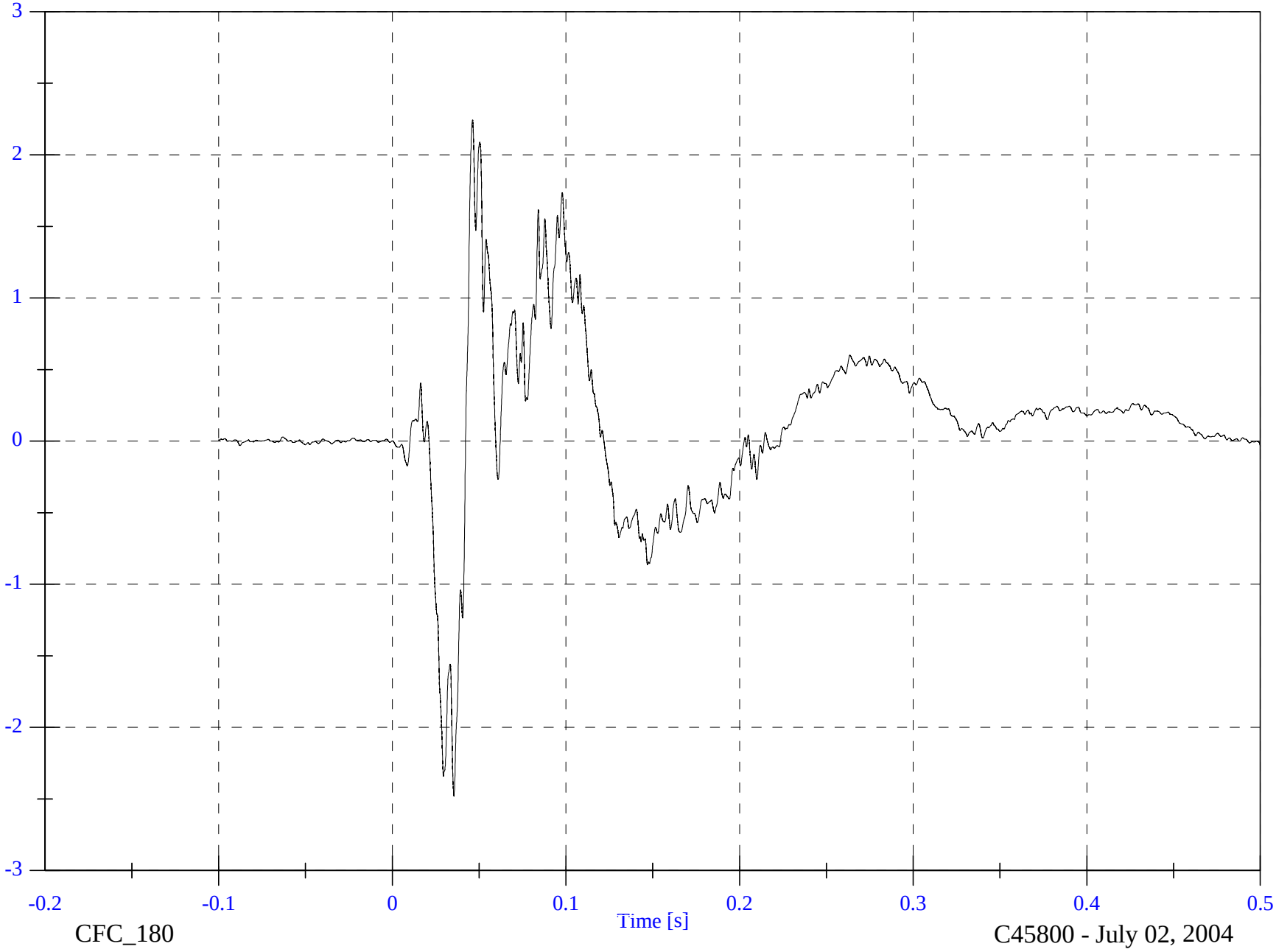
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest y

Max: 2.2 [g] at 0.046 [s]

Min: -2.5 [g] at 0.035 [s]

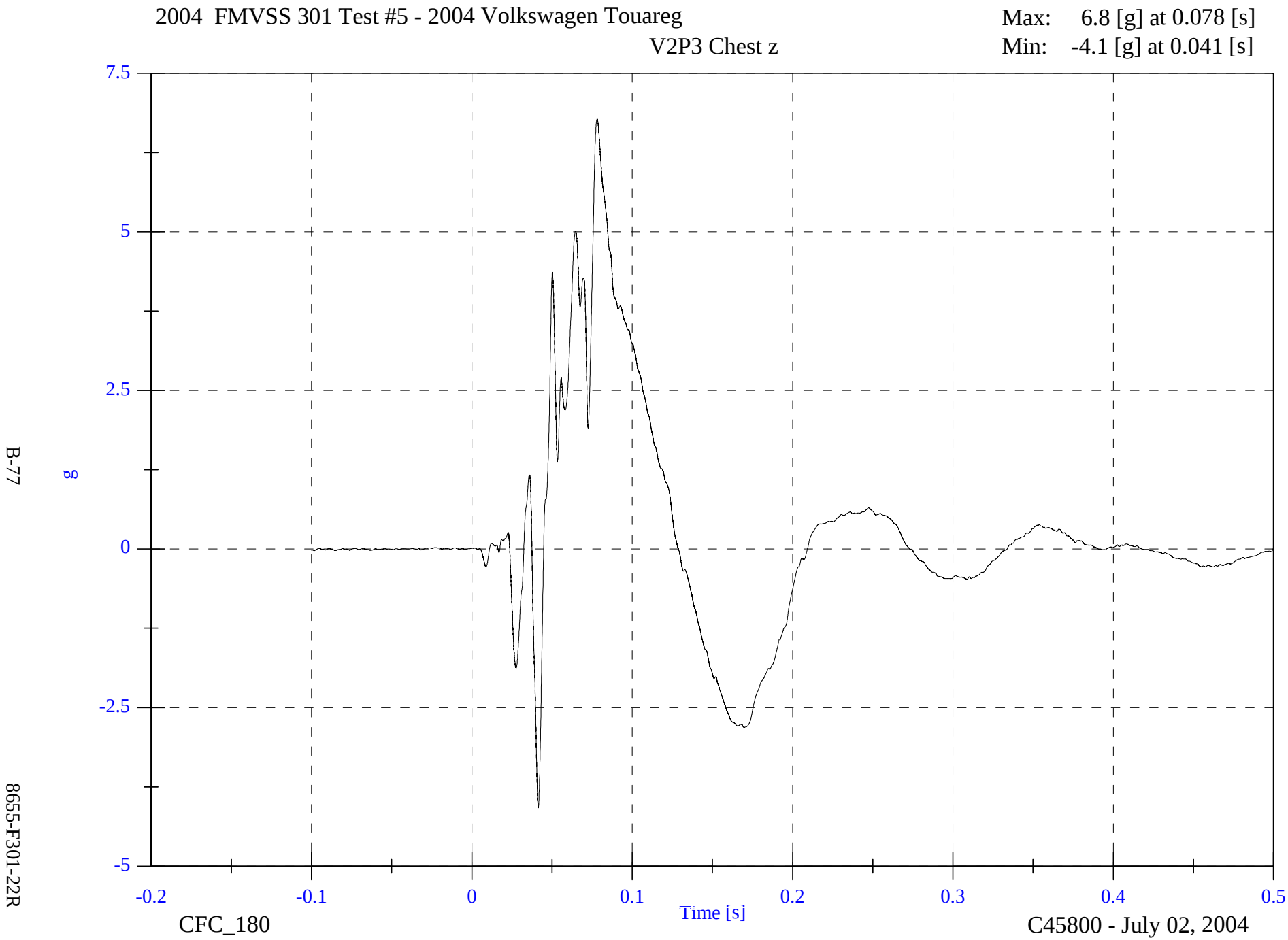


B-76

8655-F301-22R

CFC_180

C45800 - July 02, 2004


2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P3 Chest z
Max: 6.8 [g] at 0.078 [s]
Min: -4.1 [g] at 0.041 [s]
7.5
5
2.5
0
-2.5
-5
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_180
C45800 - July 02, 2004
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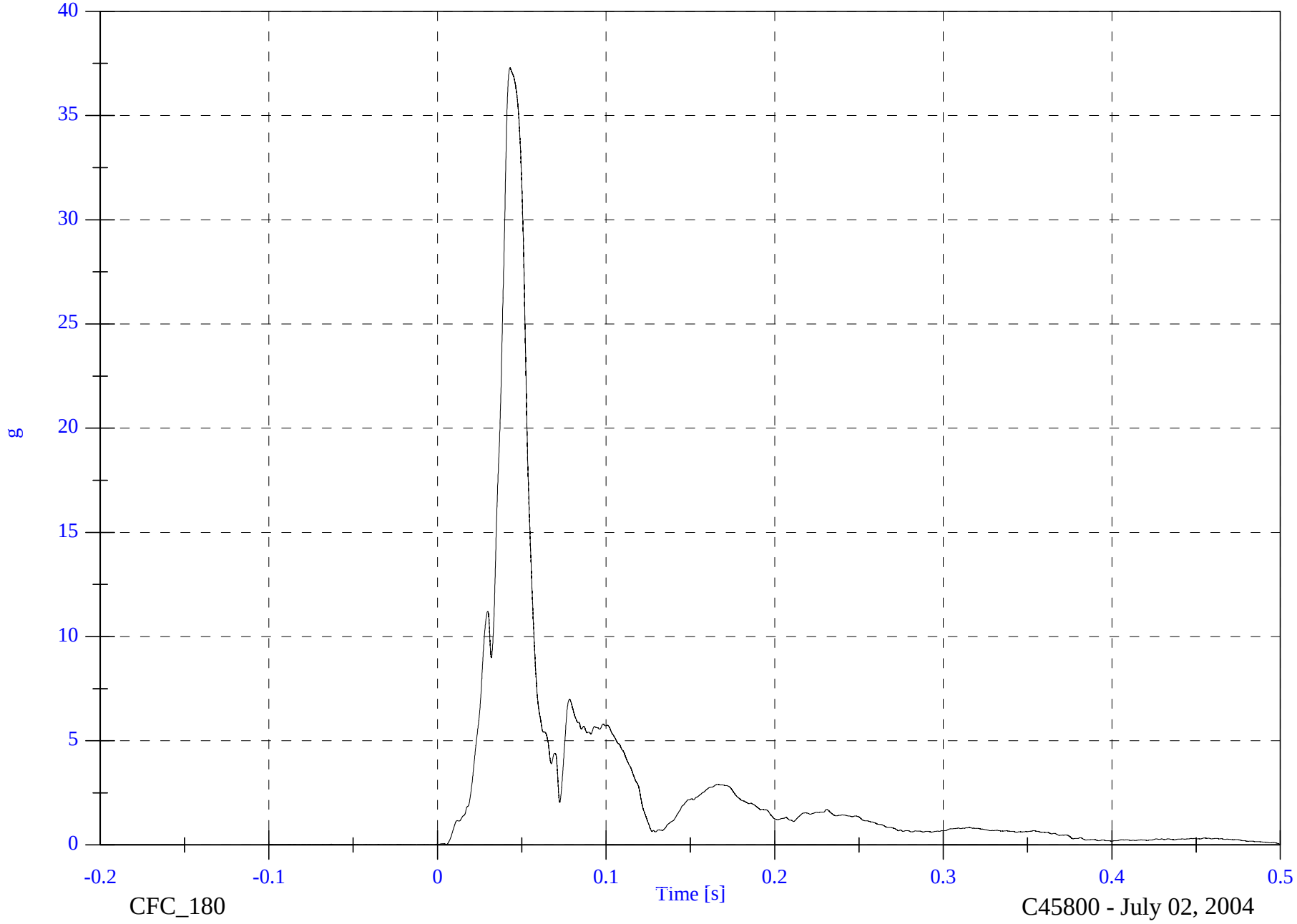
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest Resultant

Max: 37.3 [g] at 0.043 [s]

Min: 0.0 [g] at -0.075 [s]



CFC_180

C45800 - July 02, 2004

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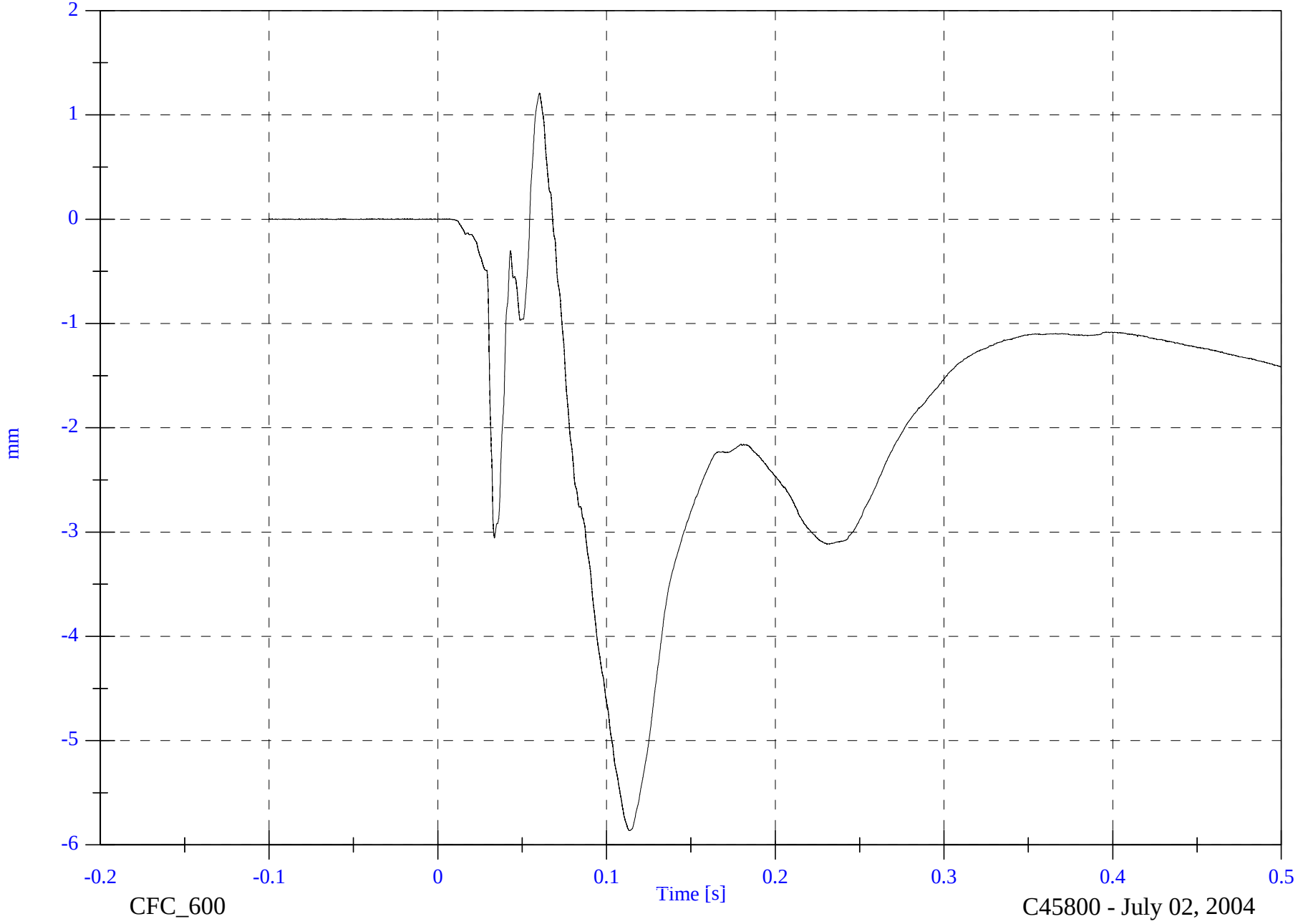
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest Compression

Max: 1.2 [mm] at 0.060 [s]

Min: -5.9 [mm] at 0.114 [s]



CFC_600

C45800 - July 02, 2004

B-79

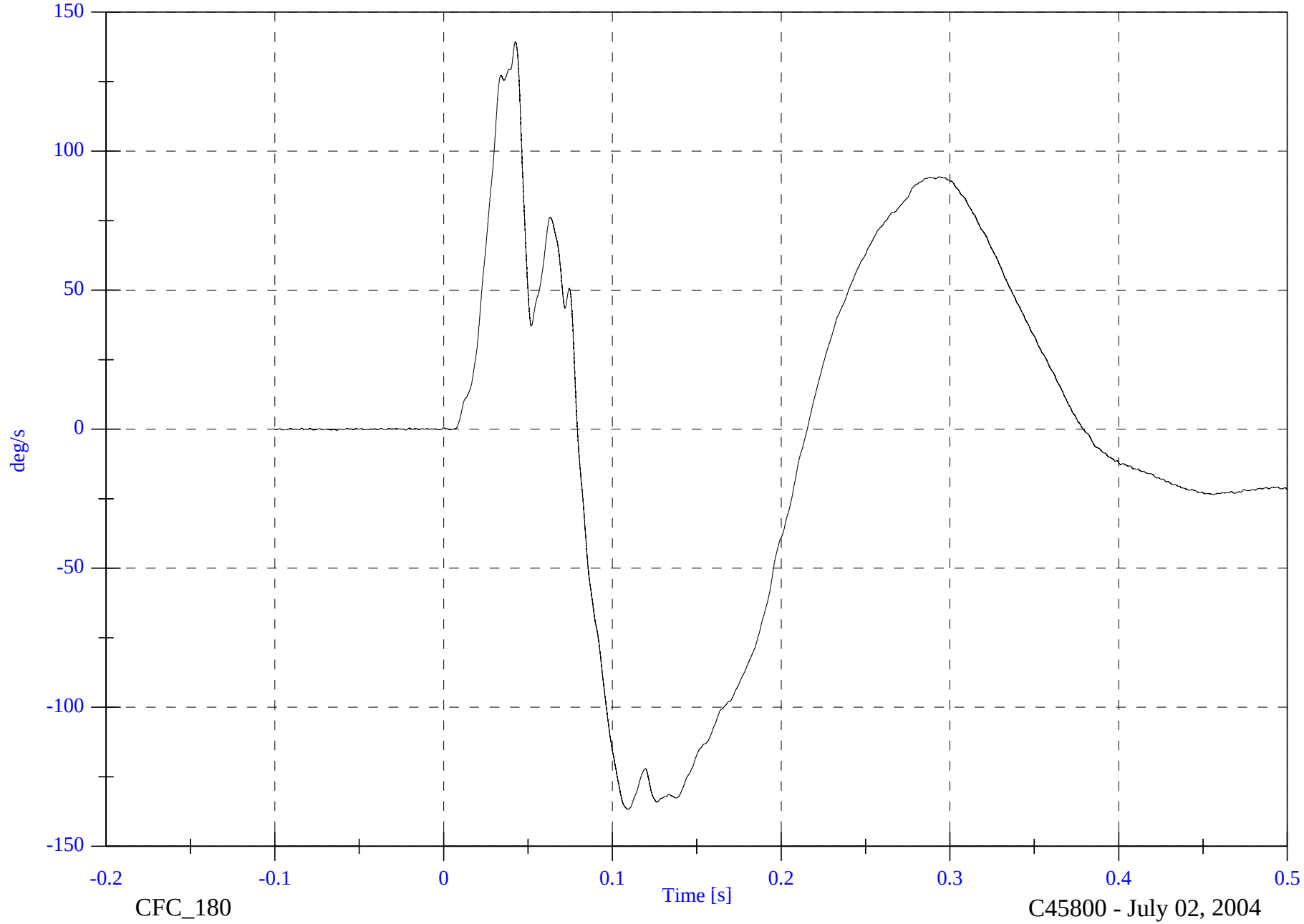
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest AVy

Max: 139.3 [deg/s] at 0.043 [s]

Min: -136.7 [deg/s] at 0.110 [s]



B-80

8655-F301-22R

CFC_180

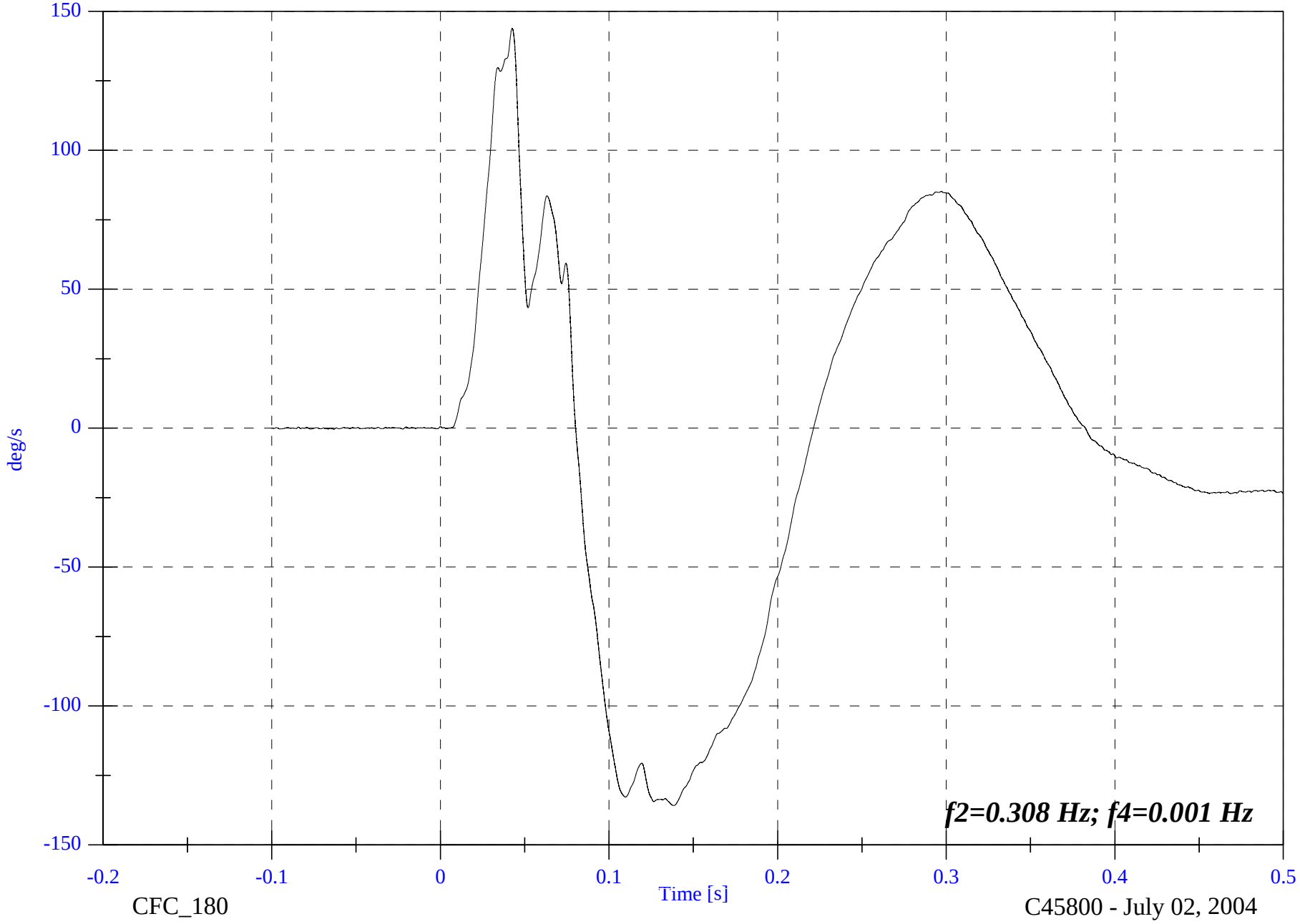
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest Comp AVy

Max: 143.9 [deg/s] at 0.043 [s]

Min: -135.8 [deg/s] at 0.138 [s]



B-81

8655-F301-22R

CFC_180

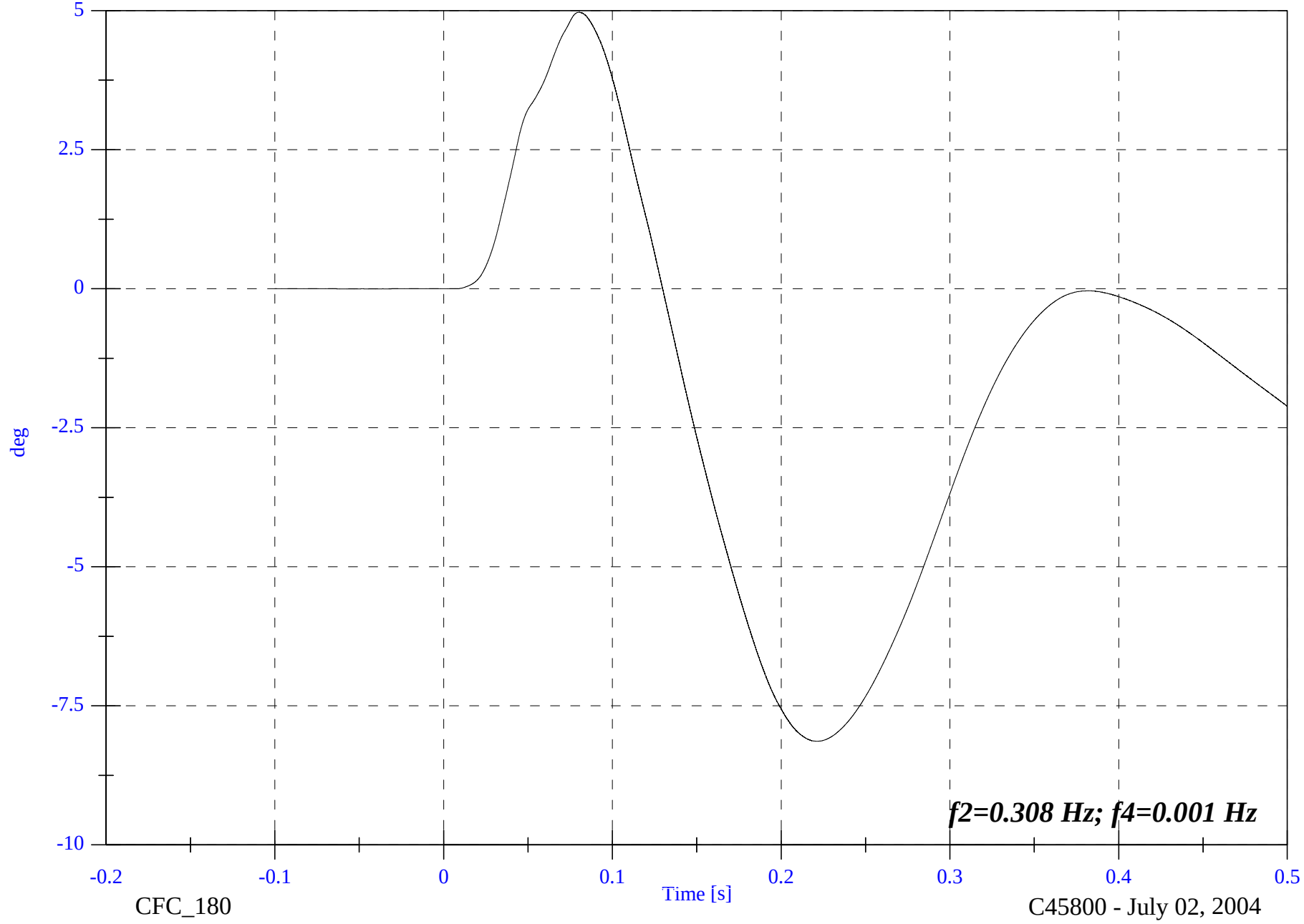
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Chest Comp ADy

Max: 5.0 [deg] at 0.080 [s]

Min: -8.1 [deg] at 0.221 [s]



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8655-F301-22R

CFC_180

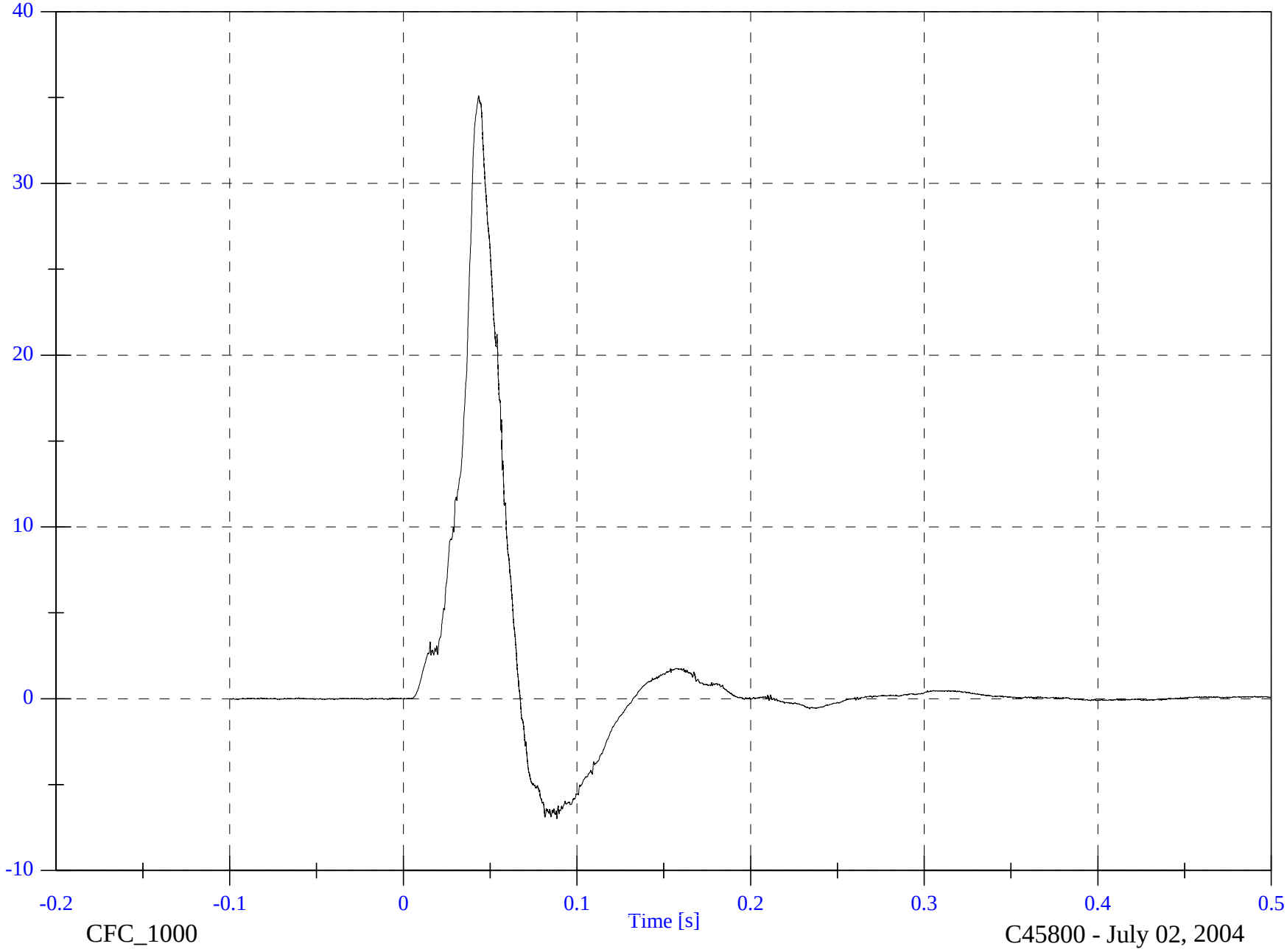
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Pelvic x

Max: 35.1 [g] at 0.043 [s]

Min: -7.0 [g] at 0.088 [s]



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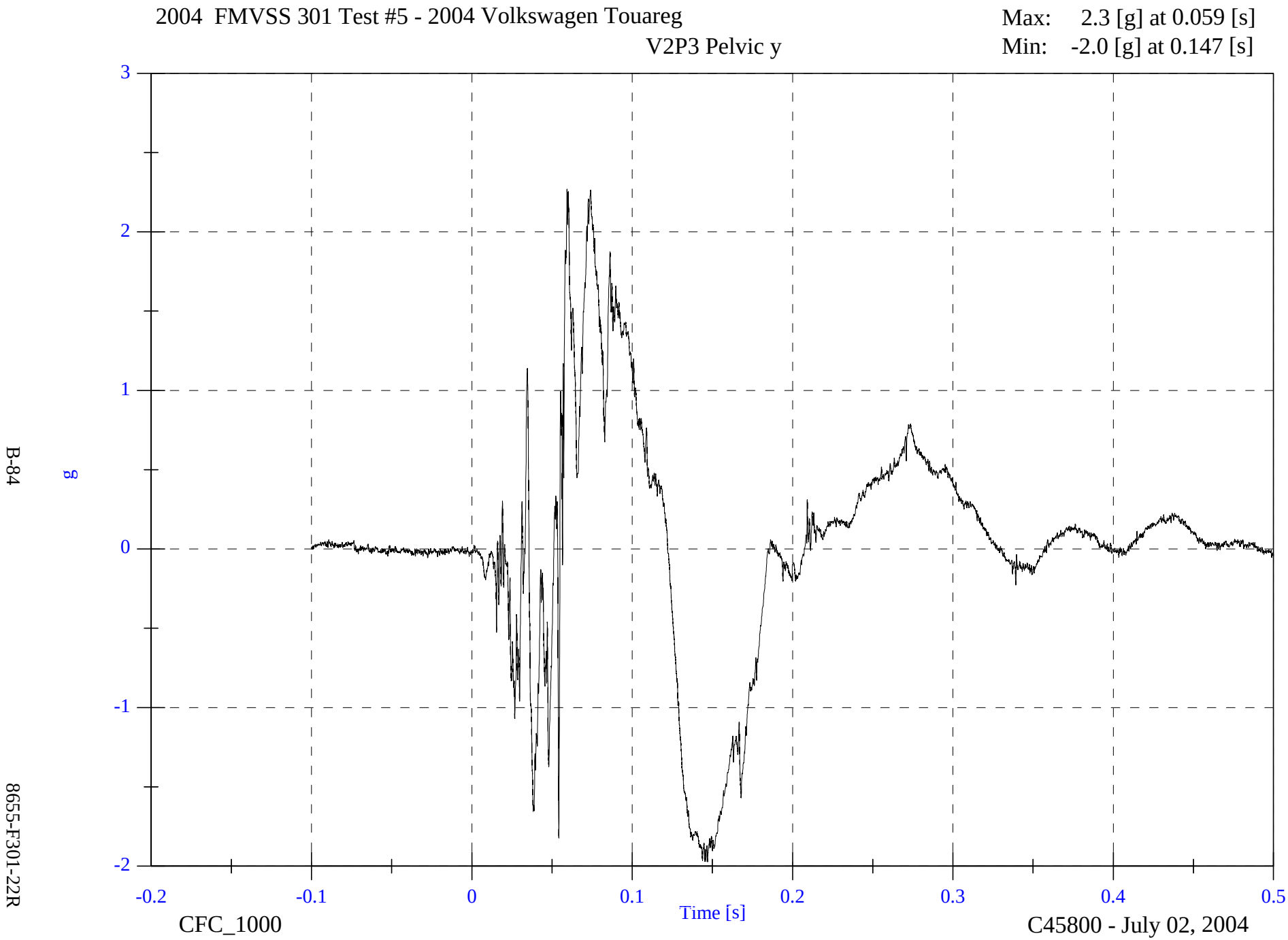
8655-F301-22R

CFC_1000

C45800 - July 02, 2004

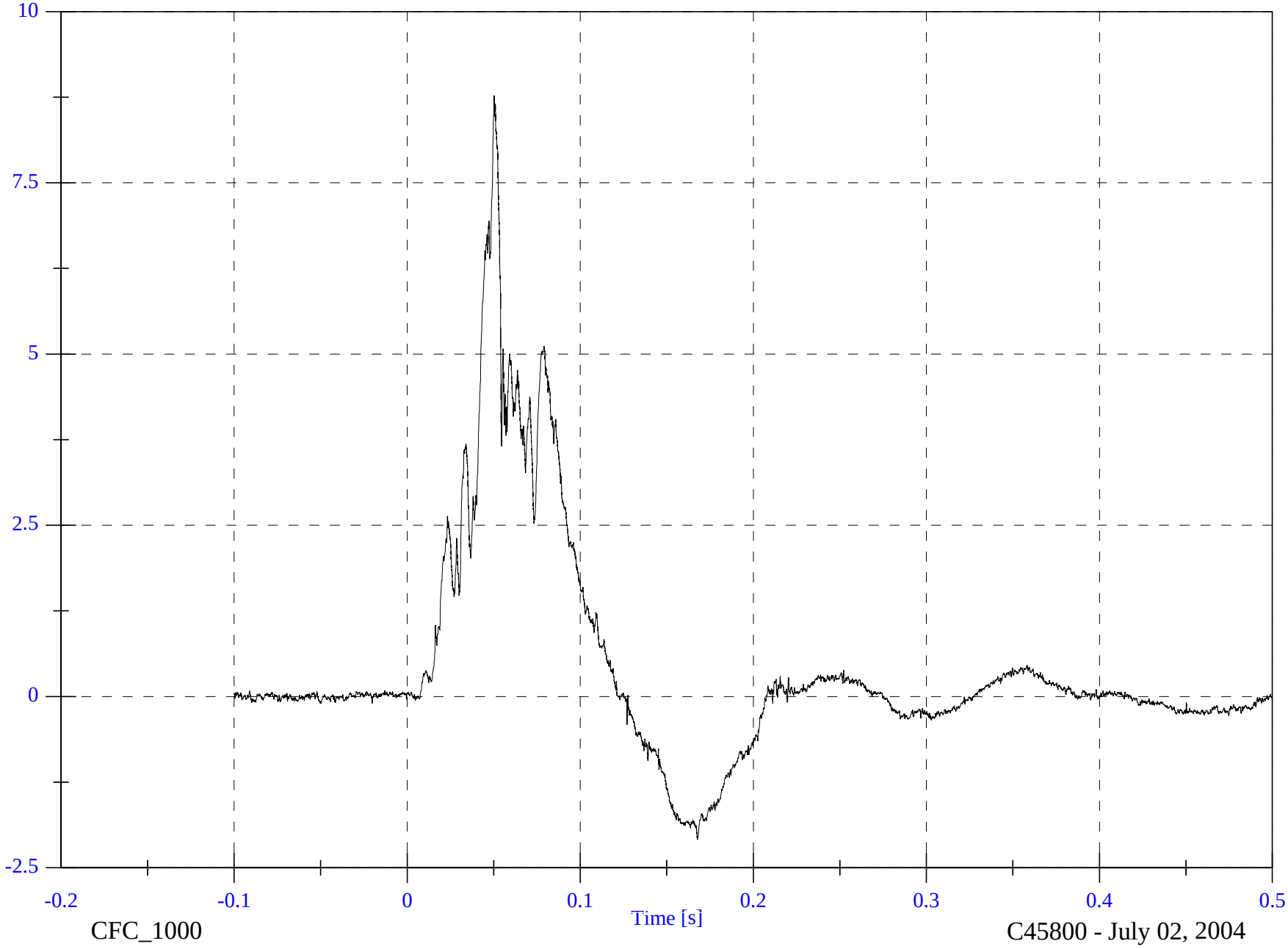

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P3 Pelvic y
Max: 2.3 [g] at 0.059 [s]
Min: -2.0 [g] at 0.147 [s]
3
2
1
0
-1
-2
g
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
CFC_1000
C45800 - July 02, 2004
B-84
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Pelvic z

Max: 8.8 [g] at 0.050 [s]

Min: -2.1 [g] at 0.168 [s]



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8655-F301-22R

CFC_1000

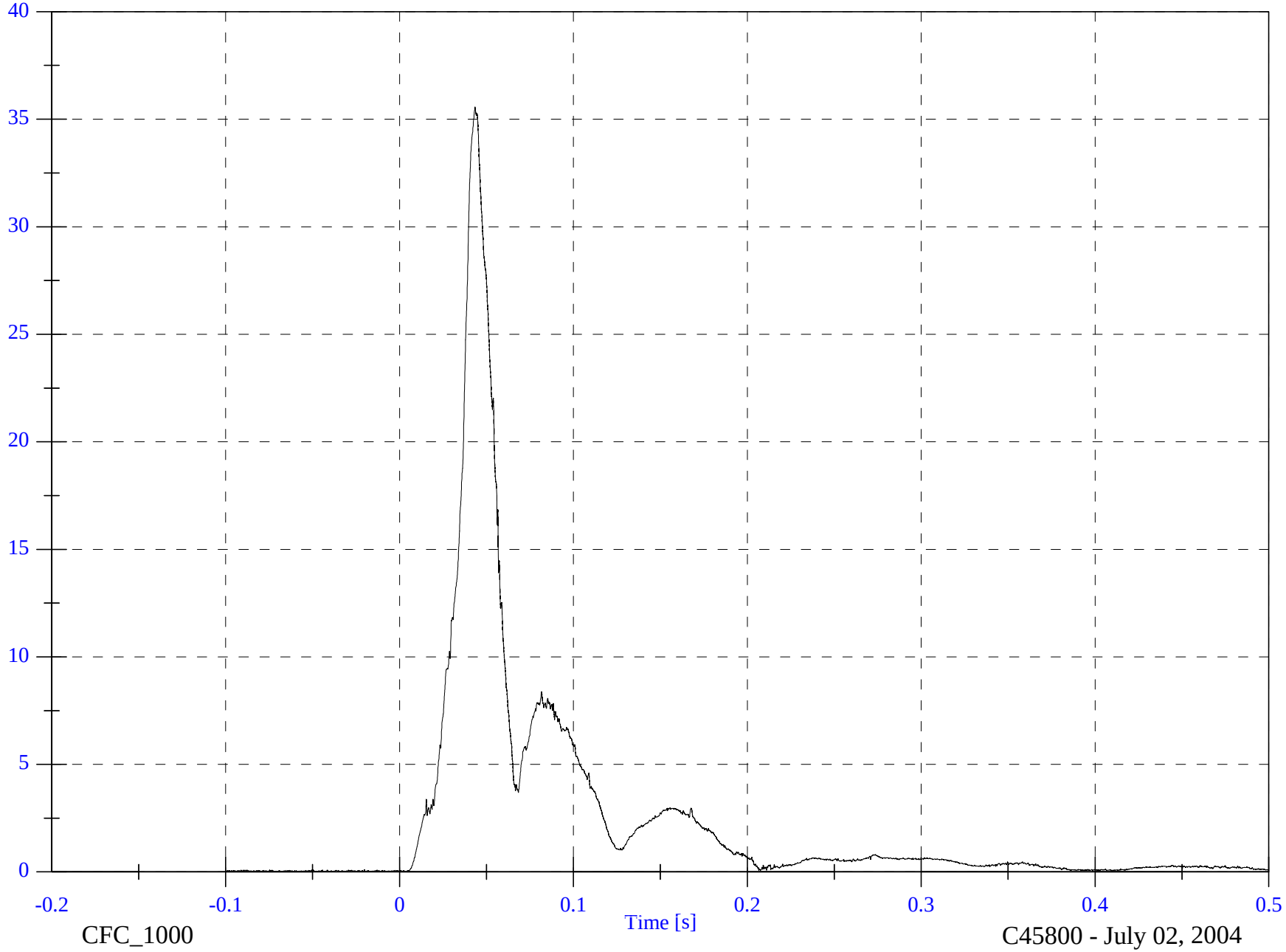
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Pelvic Resultant

Max: 35.6 [g] at 0.043 [s]

Min: 0.0 [g] at -0.100 [s]



B-86

8655-F301-22R

CFC_1000

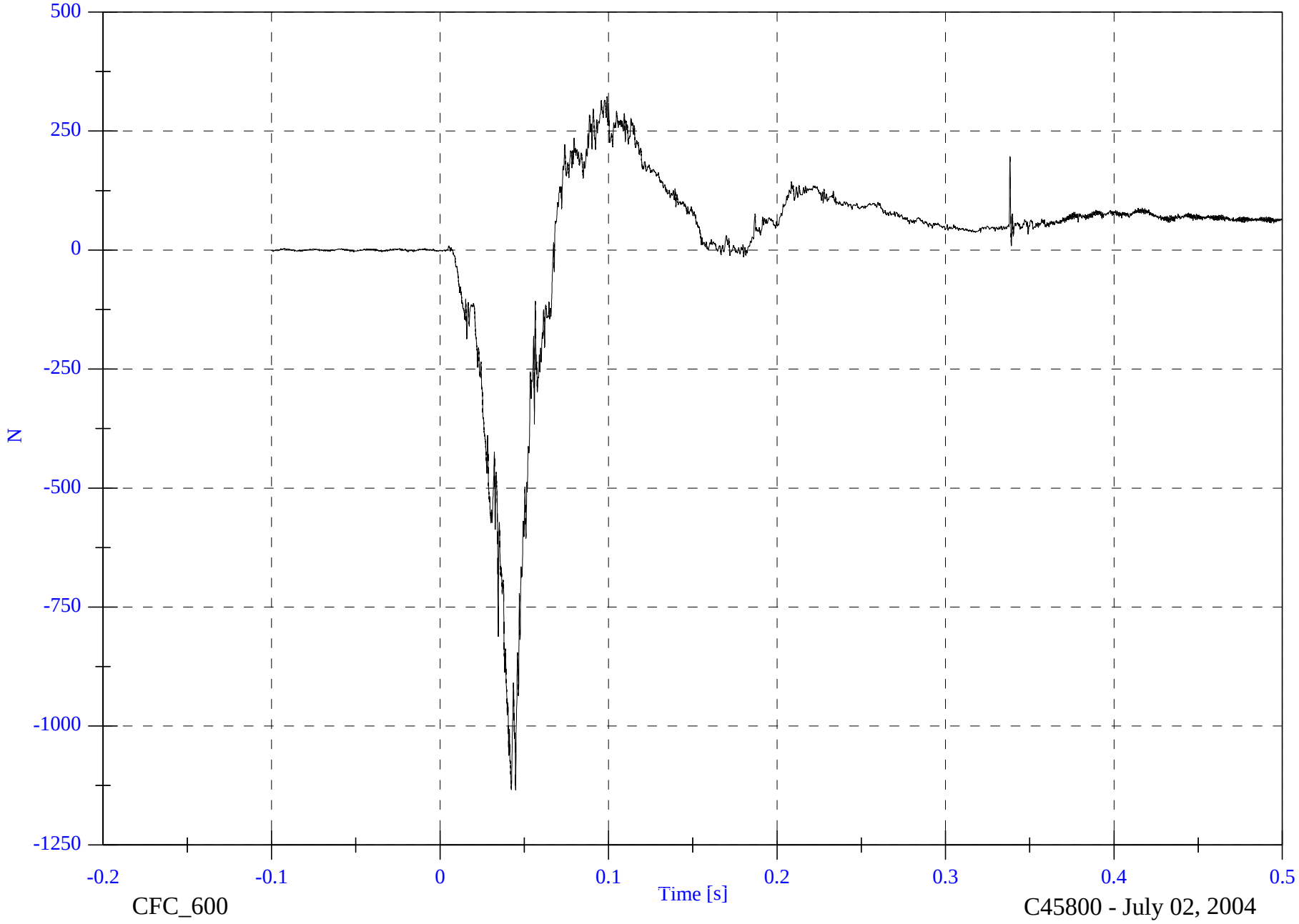
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Femur

Max: 322.0 [N] at 0.099 [s]

Min: -1134.3 [N] at 0.045 [s]



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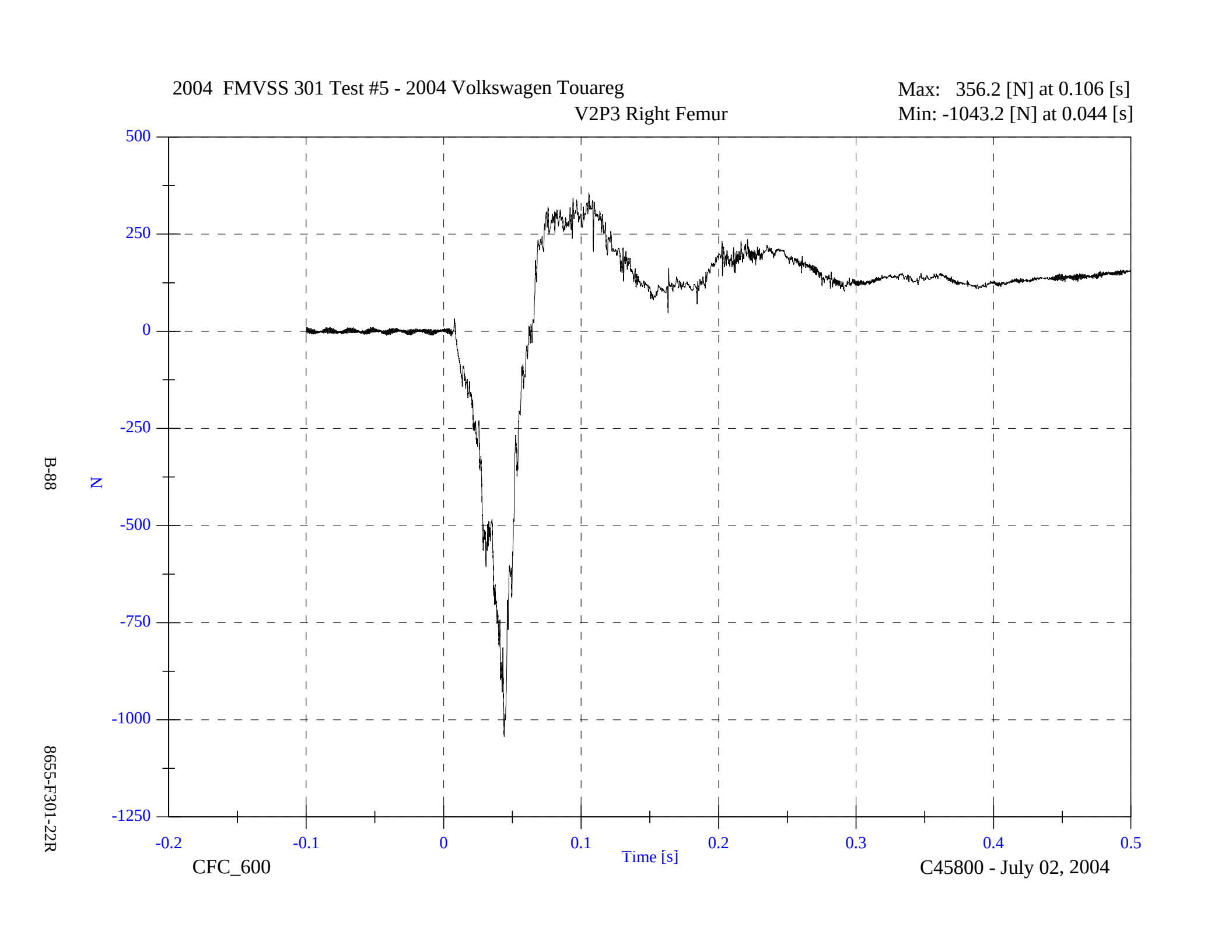
8655-F301-22R

CFC_600

C45800 - July 02, 2004

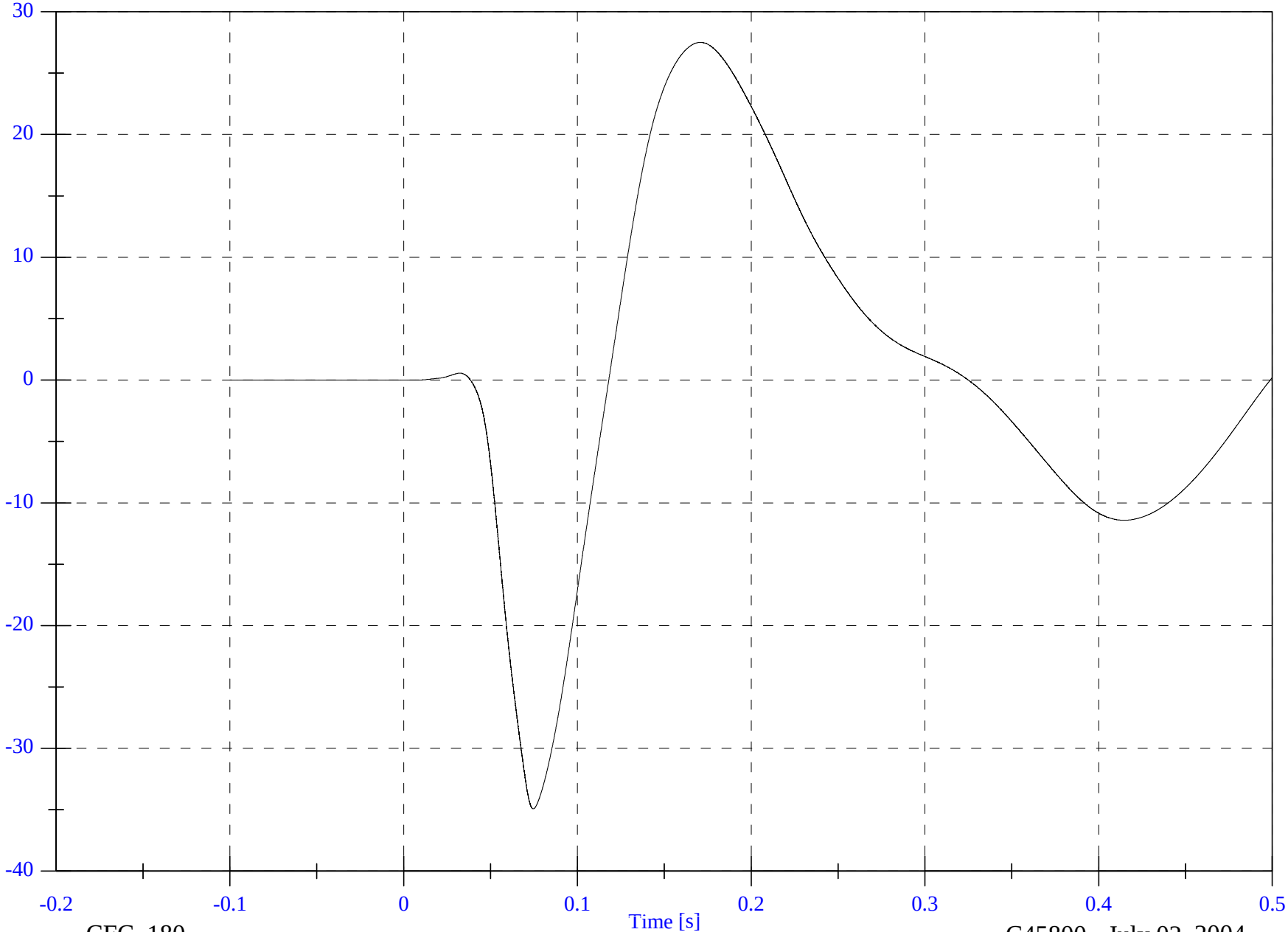

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg
V2P3 Right Femur
Max: 356.2 [N] at 0.106 [s]
Min: -1043.2 [N] at 0.044 [s]
500
250
0
-250
-500
-750
-1000
-1250
N
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
Time [s]
B-88
8655-F301-22R
CFC_600
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Head to Chest

Max: 27.5 [deg] at 0.171 [s]

Min: -34.9 [deg] at 0.075 [s]



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8655-F301-22R

CFC_180

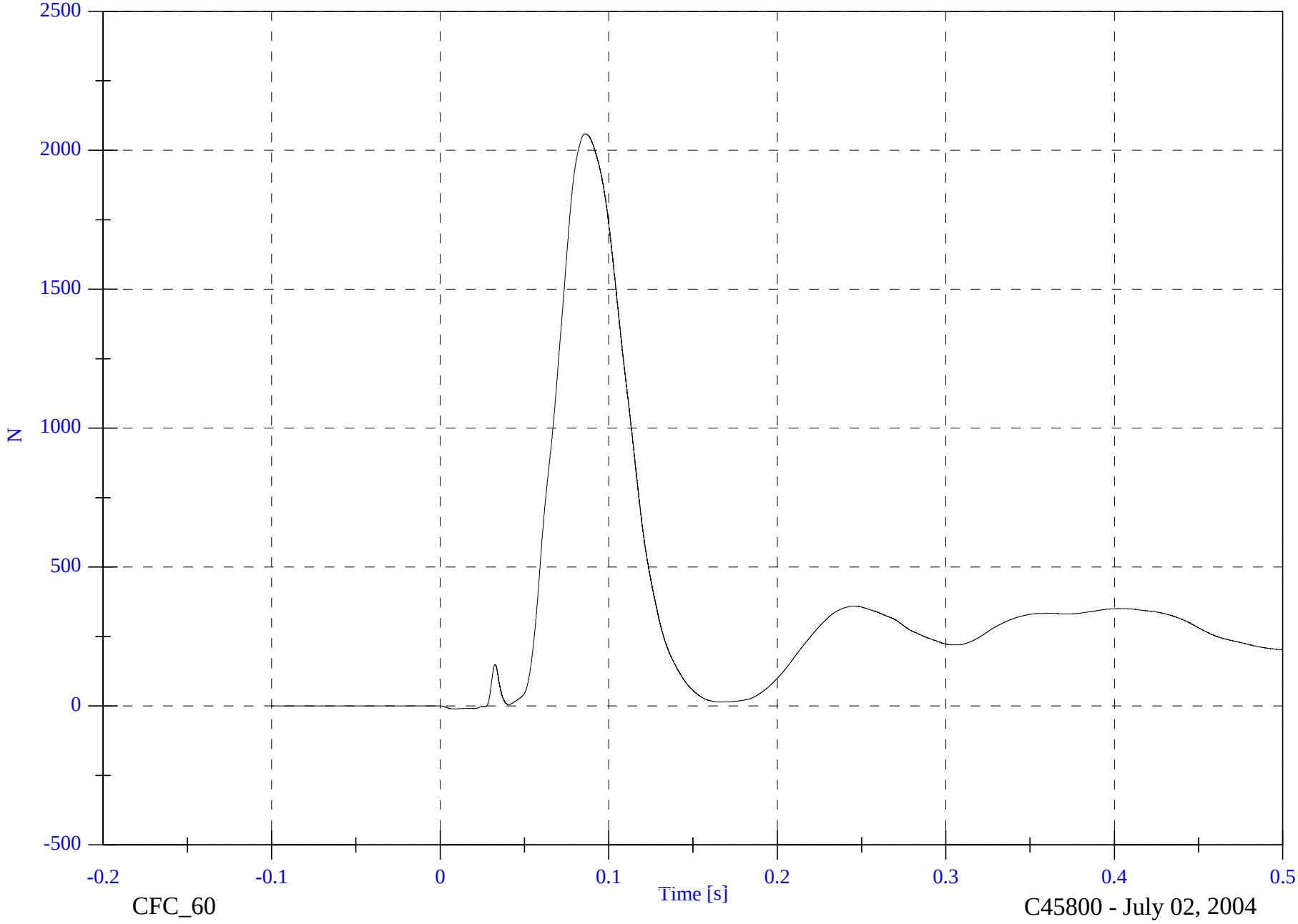
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Lap Belt

Max: 2059.2 [N] at 0.086 [s]

Min: -10.7 [N] at 0.008 [s]



B-90

8655-F301-22R

CFC_60

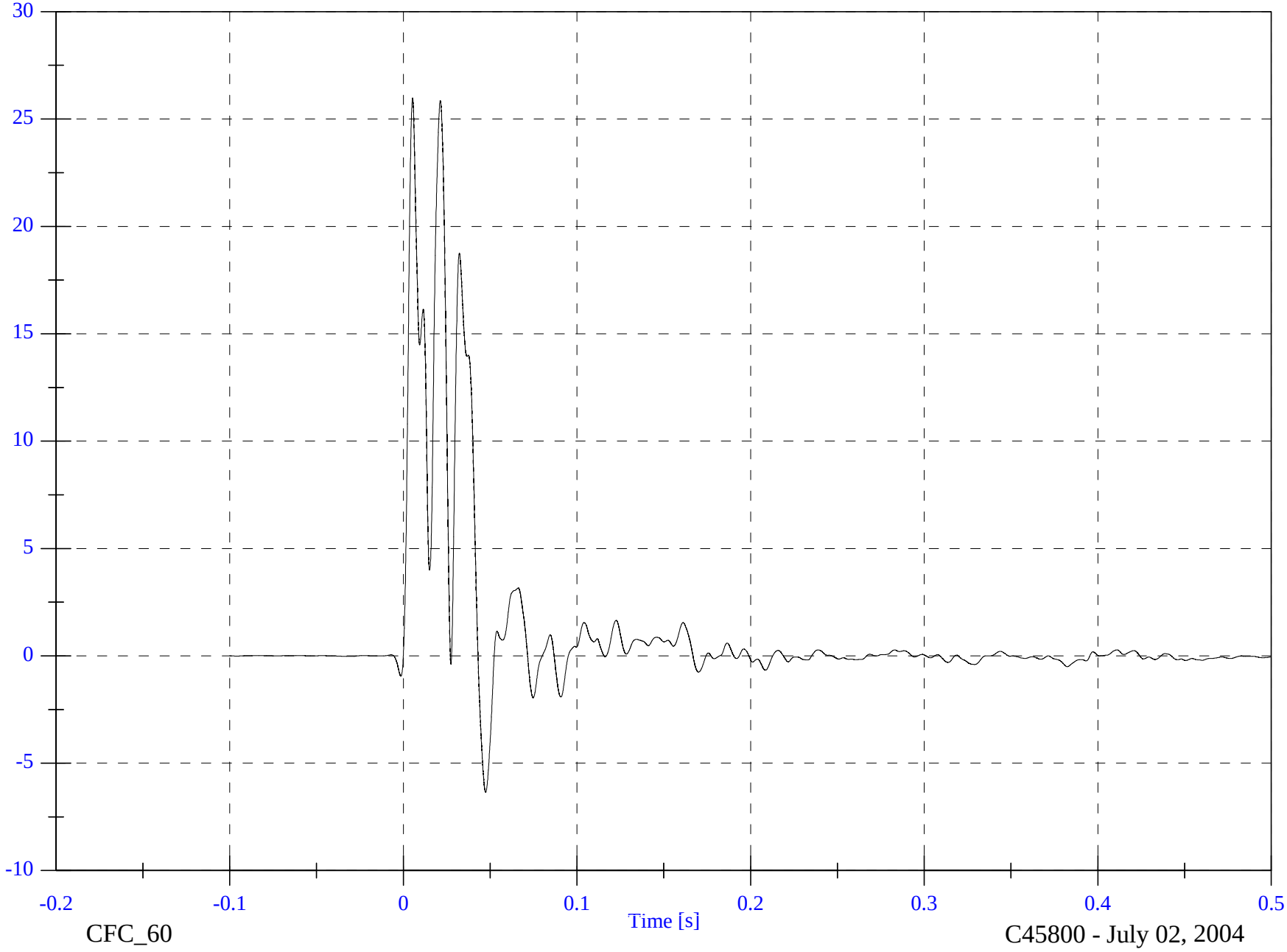
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member x

Max: 26.0 [g] at 0.005 [s]

Min: -6.4 [g] at 0.047 [s]



B-91

8655-F301-22R

CFC_60

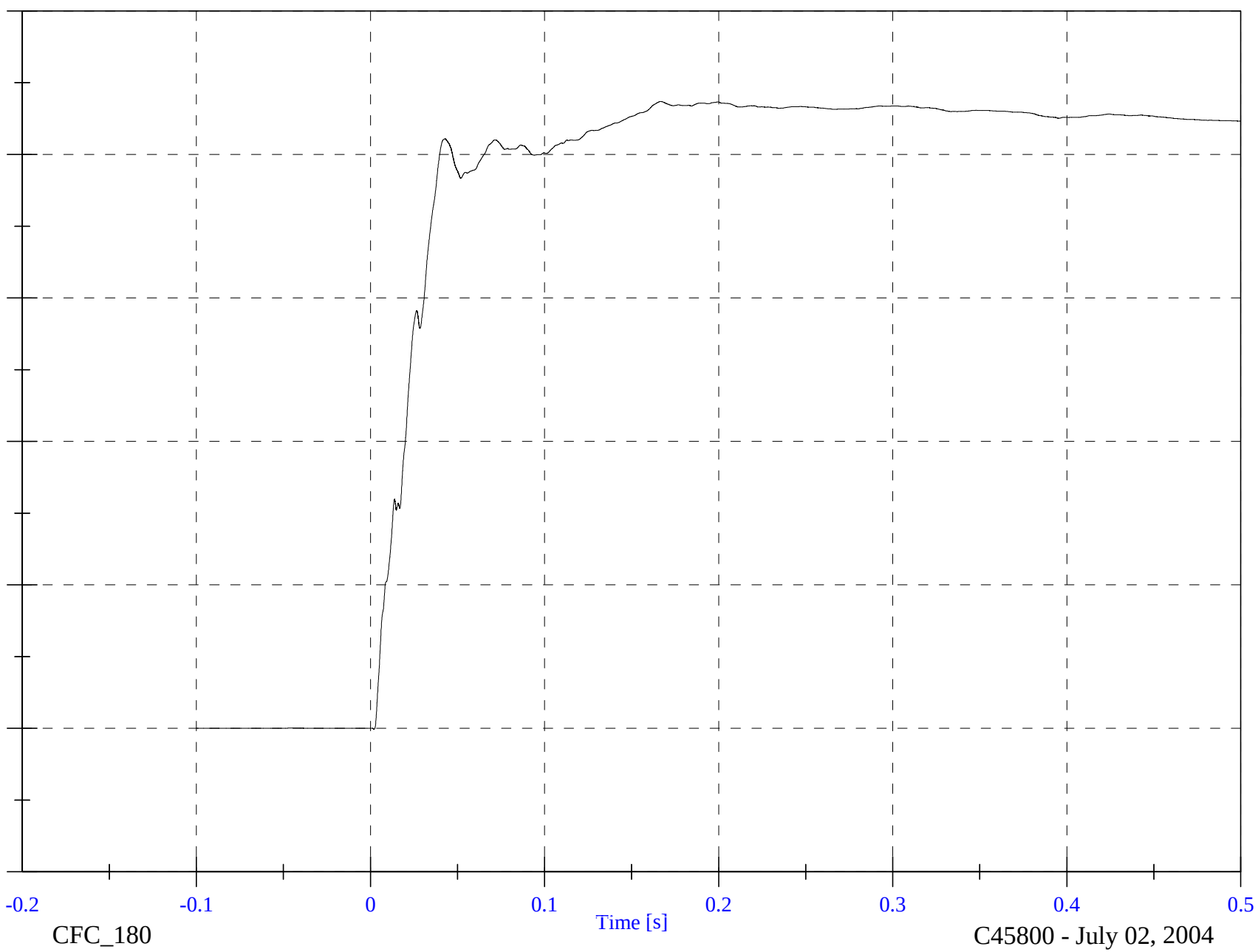
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member x Velocity

Max: 21.8 [kph] at 0.167 [s]

Min: -0.0 [kph] at 0.002 [s]



CFC_180

C45800 - July 02, 2004

B-92

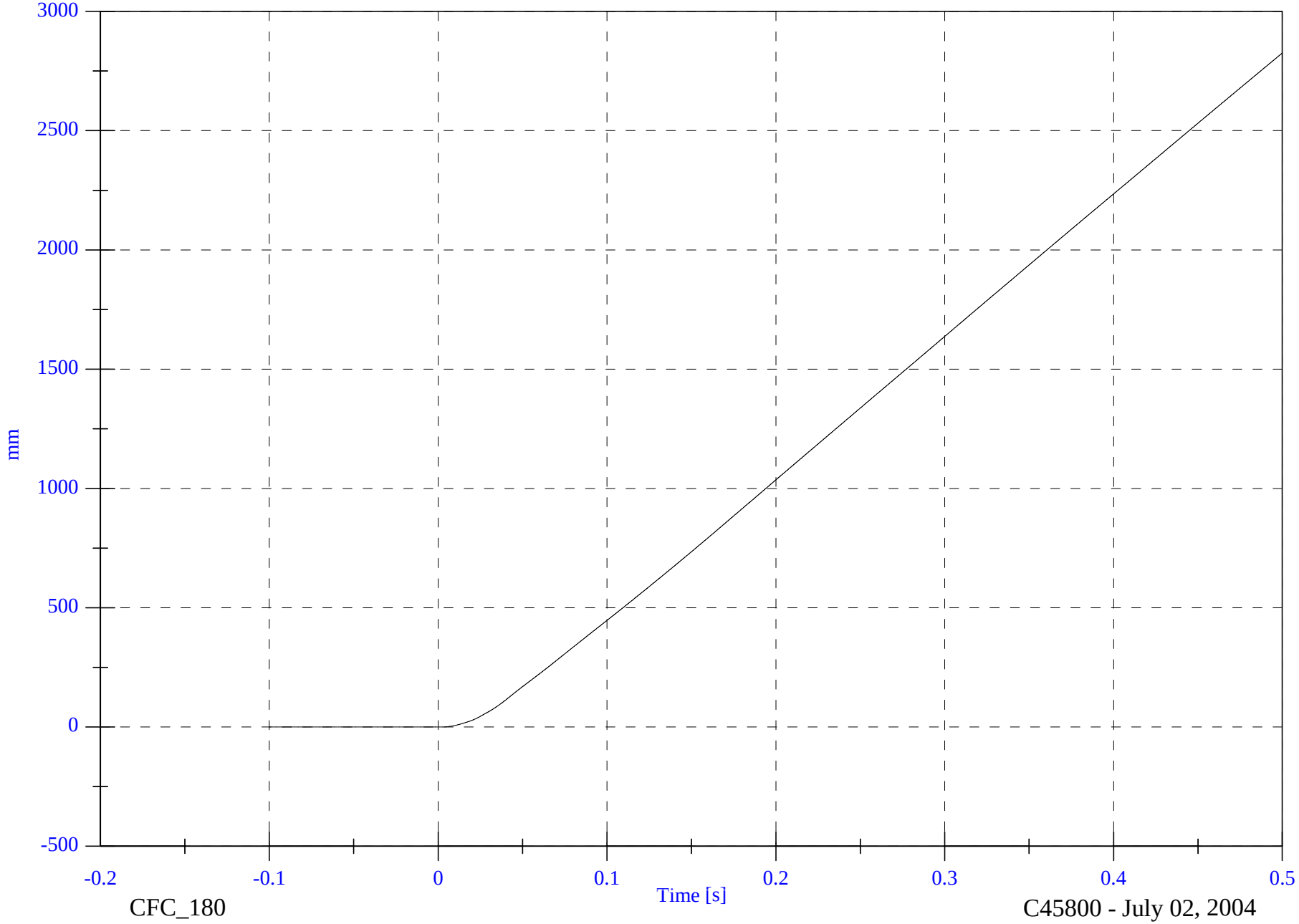
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member x Displacement

Max: 2825.4 [mm] at 0.500 [s]

Min: -0.1 [mm] at -0.082 [s]



B-93

8655-F301-22R

CFC_180

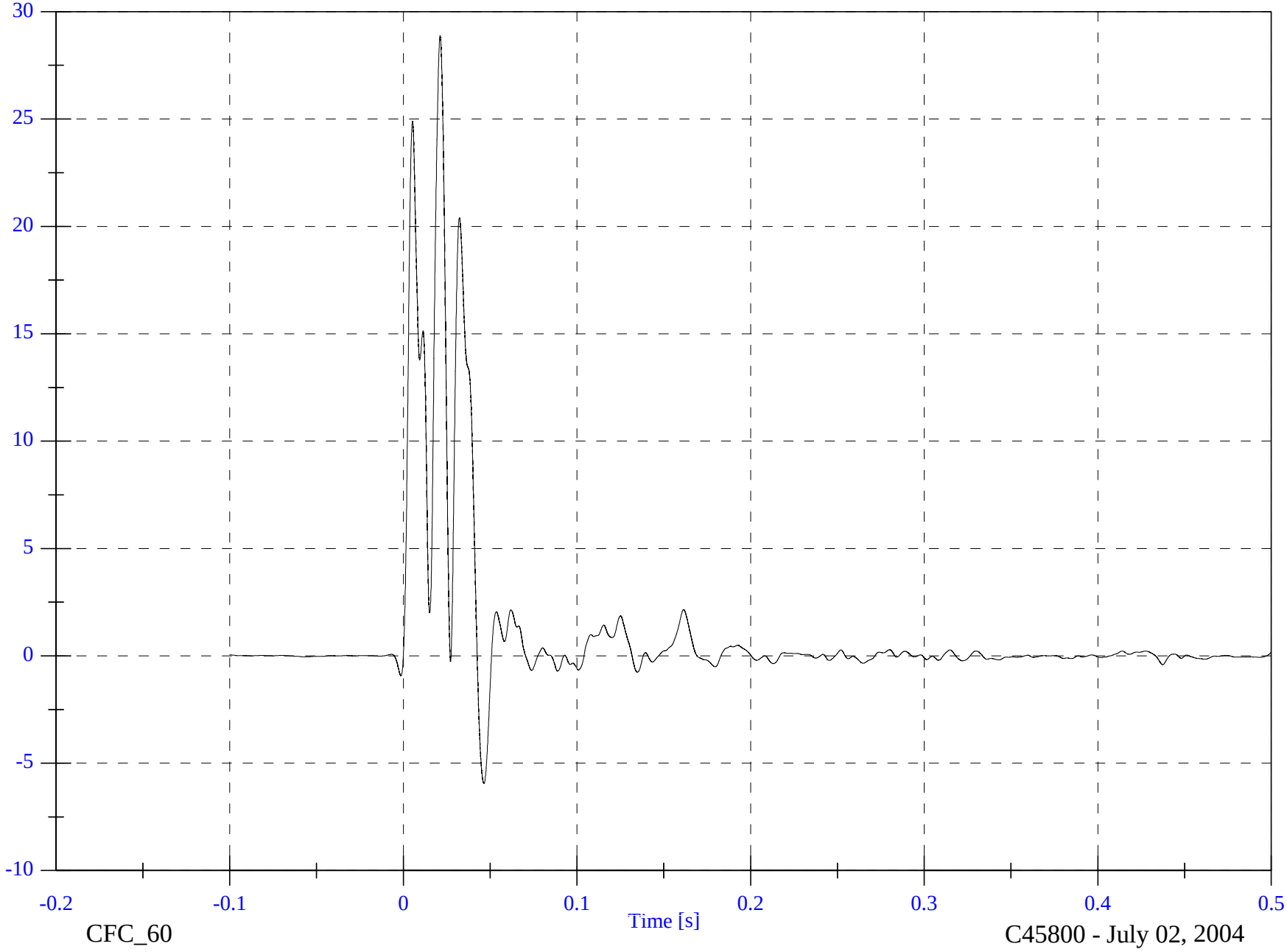
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member RED x

Max: 28.9 [g] at 0.021 [s]

Min: -5.9 [g] at 0.046 [s]



B-94

8655-F301-22R

CFC_60

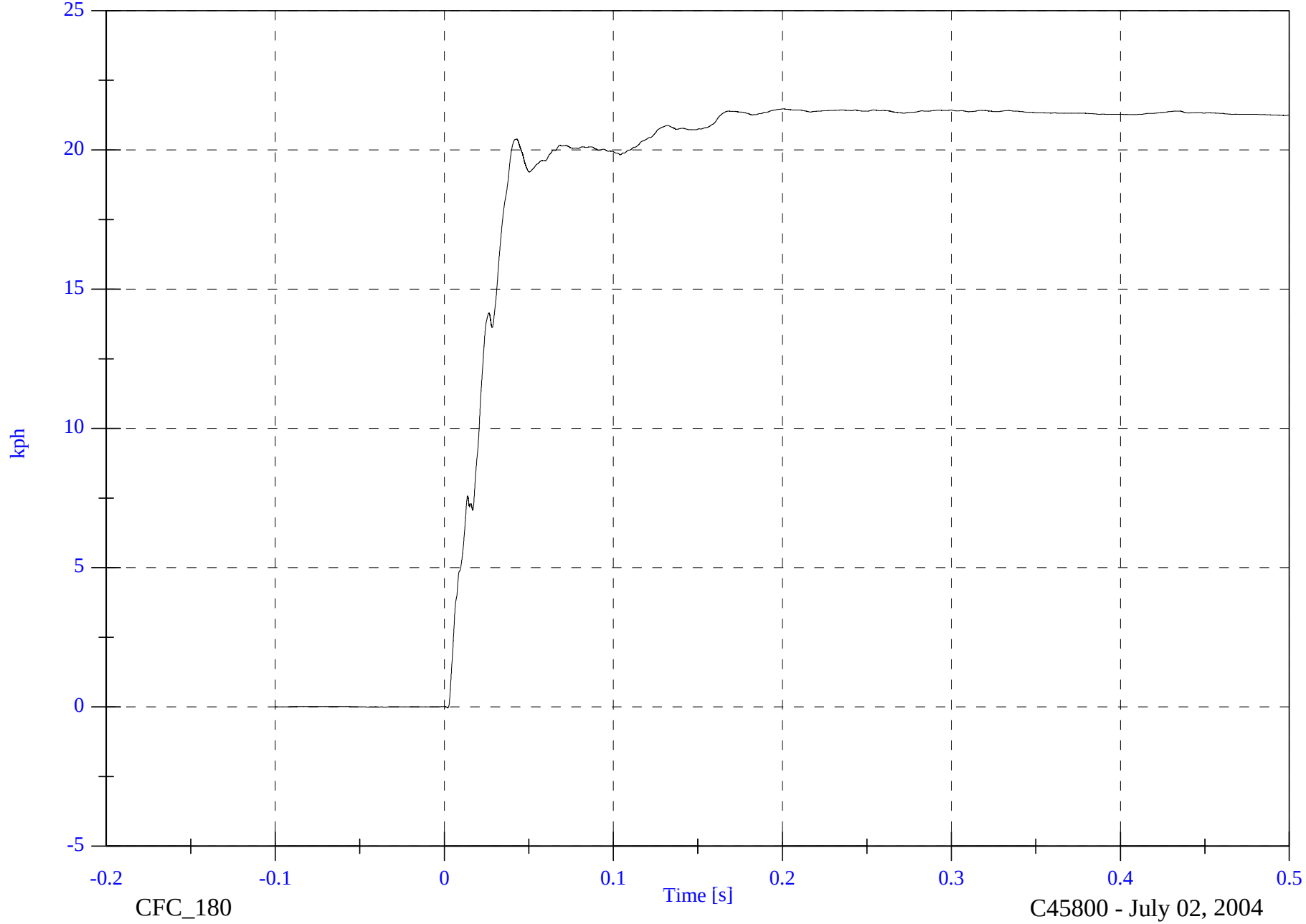
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member RED x Velocity

Max: 21.5 [kph] at 0.201 [s]

Min: -0.0 [kph] at 0.002 [s]



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8655-F301-22R

CFC_180

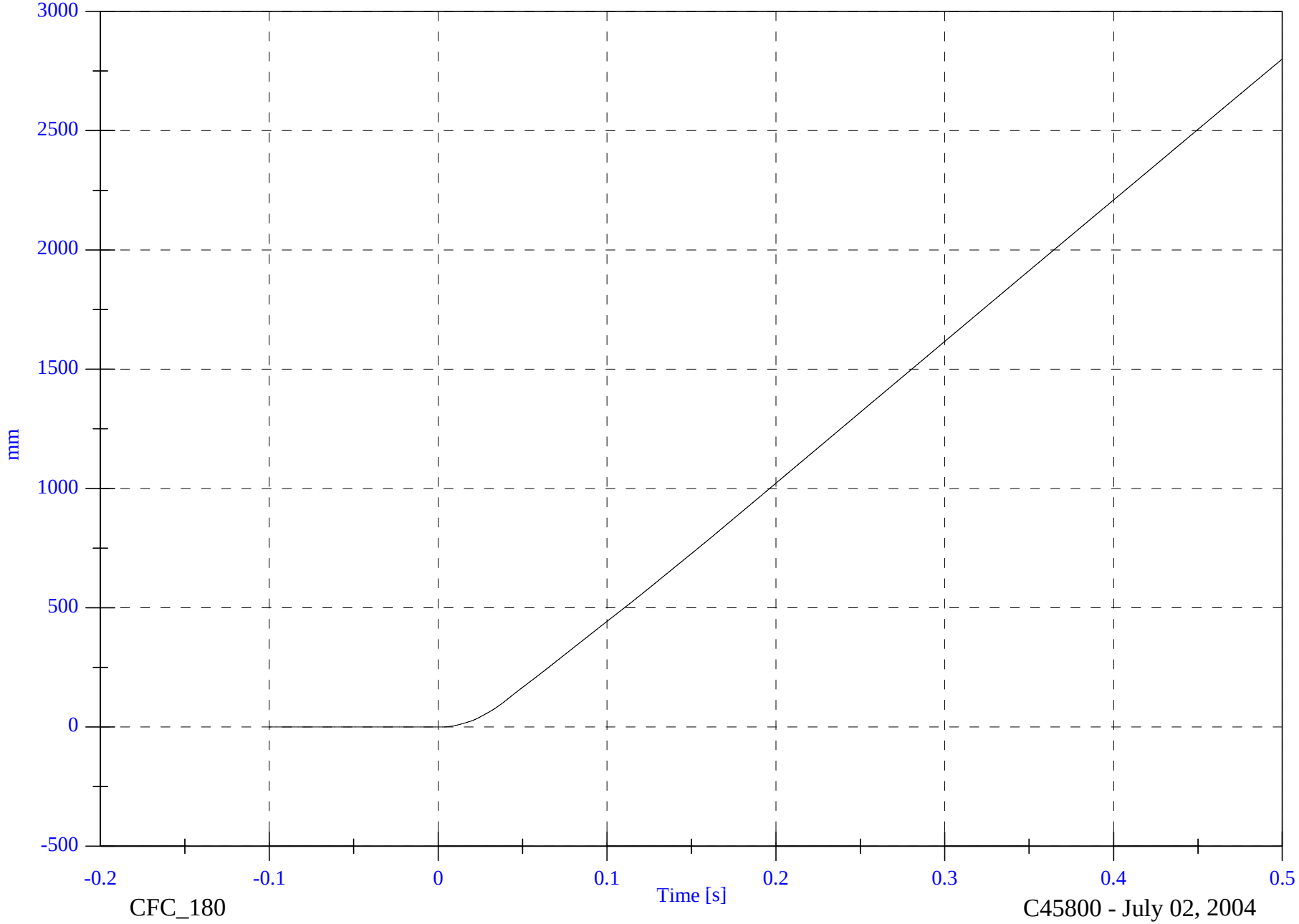
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left X Member RED x Displacement

Max: 2800.4 [mm] at 0.500 [s]

Min: -0.1 [mm] at -0.100 [s]



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8655-F301-22R

CFC_180

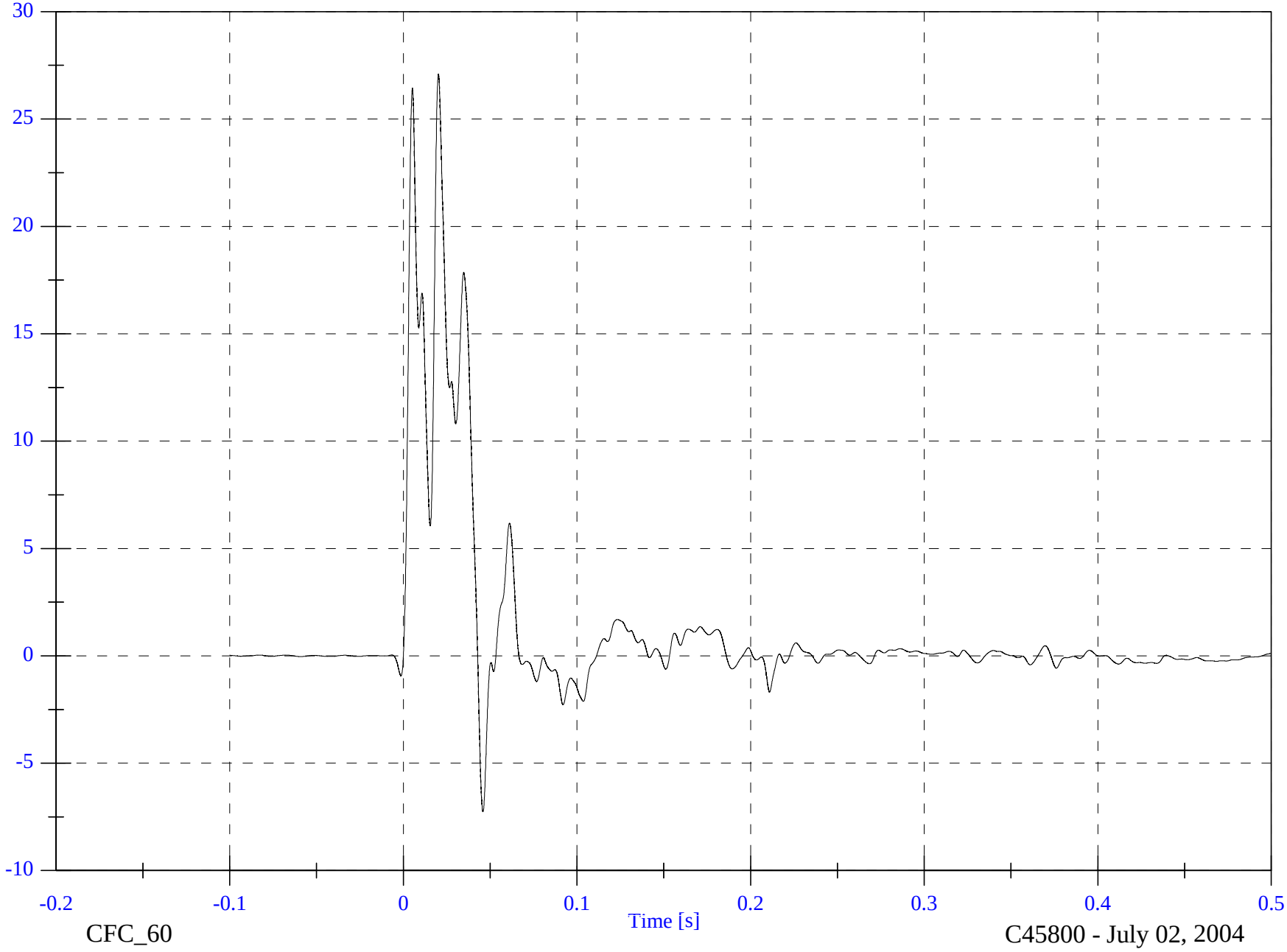
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member x

Max: 27.1 [g] at 0.020 [s]

Min: -7.3 [g] at 0.046 [s]



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8655-F301-22R

CFC_60

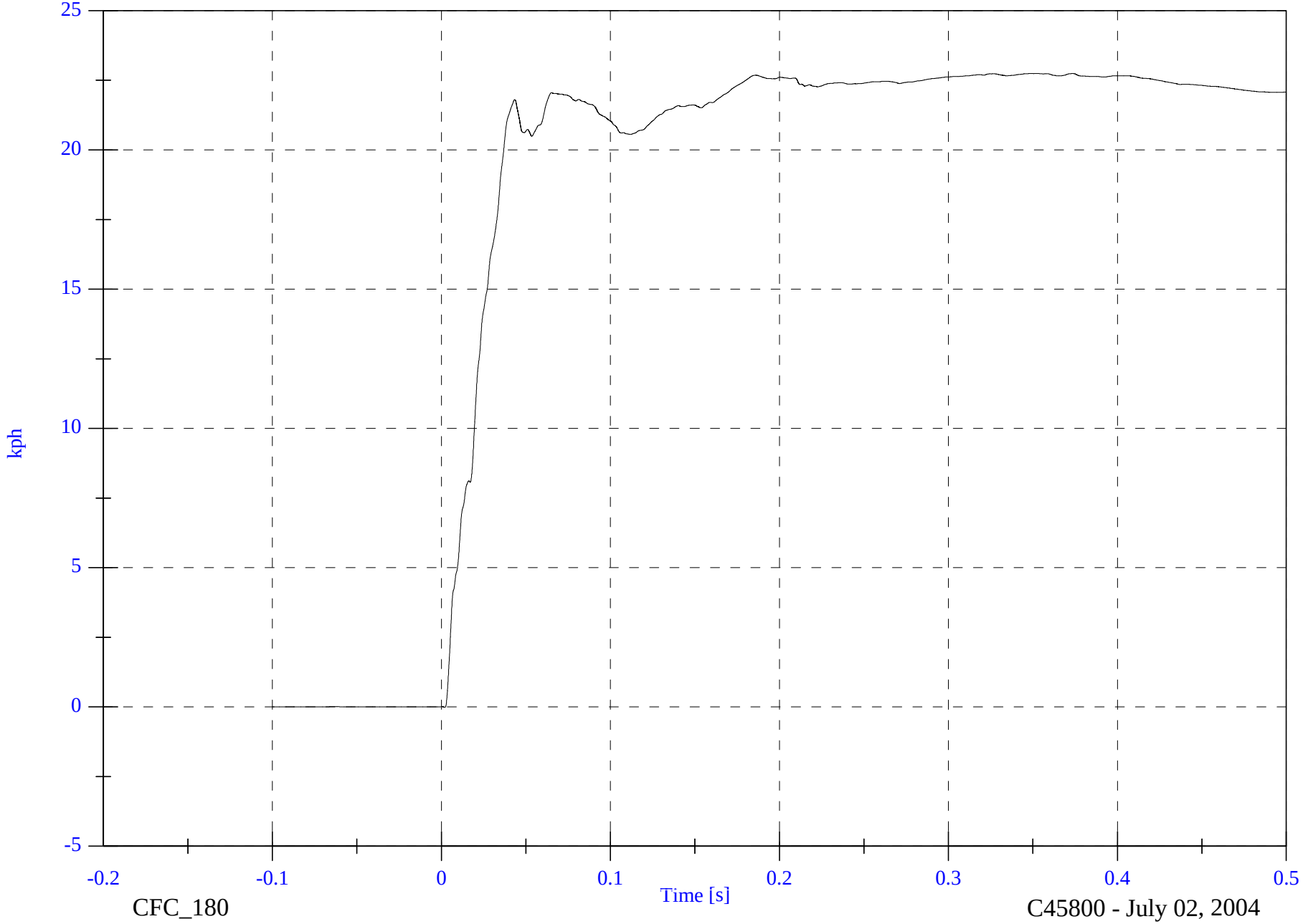
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member x Velocity

Max: 22.7 [kph] at 0.352 [s]

Min: -0.0 [kph] at 0.002 [s]



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8655-F301-22R

CFC_180

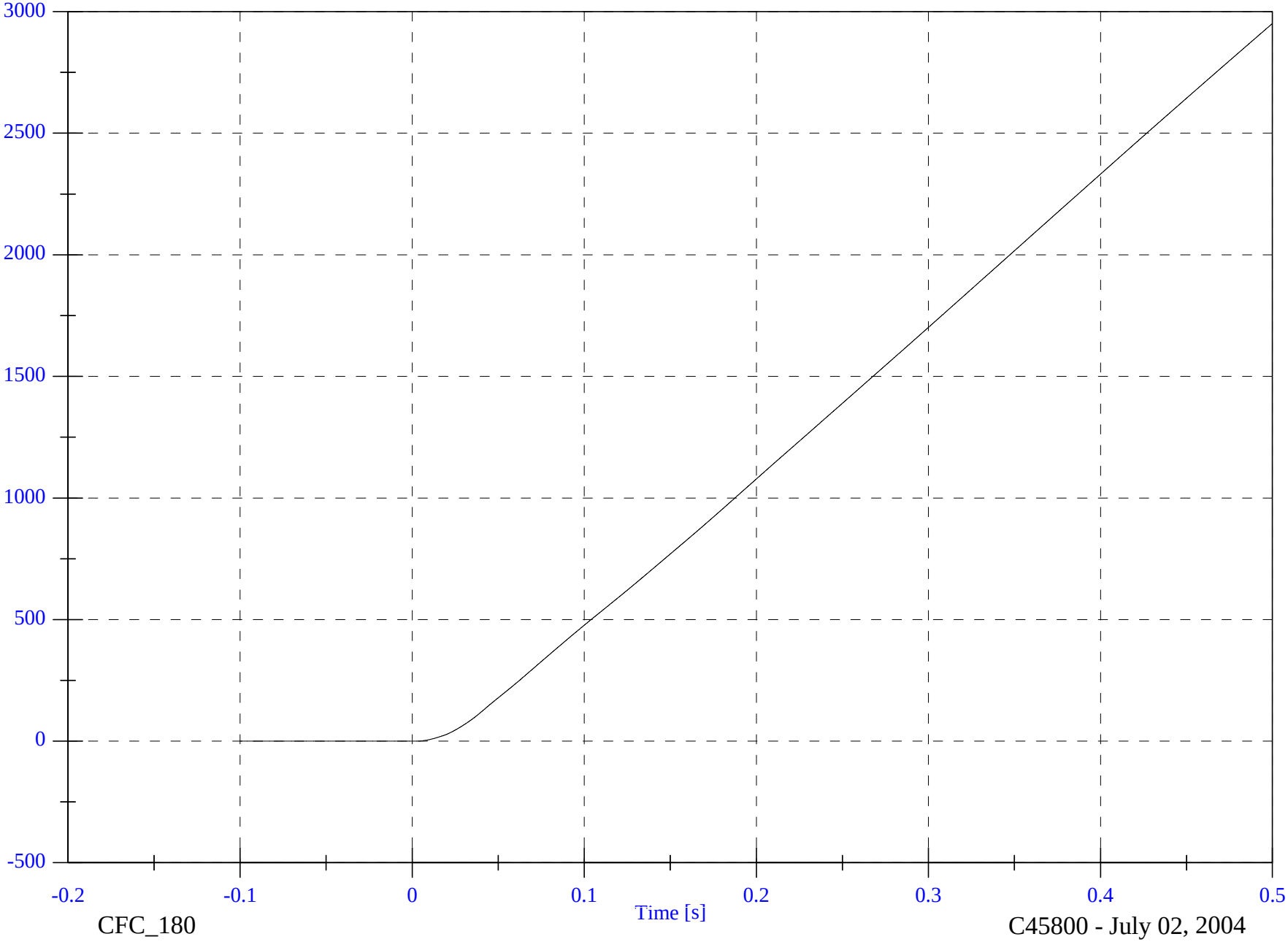
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member x Displacement

Max: 2951.1 [mm] at 0.500 [s]

Min: -0.1 [mm] at -0.100 [s]



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8655-F301-22R

CFC_180

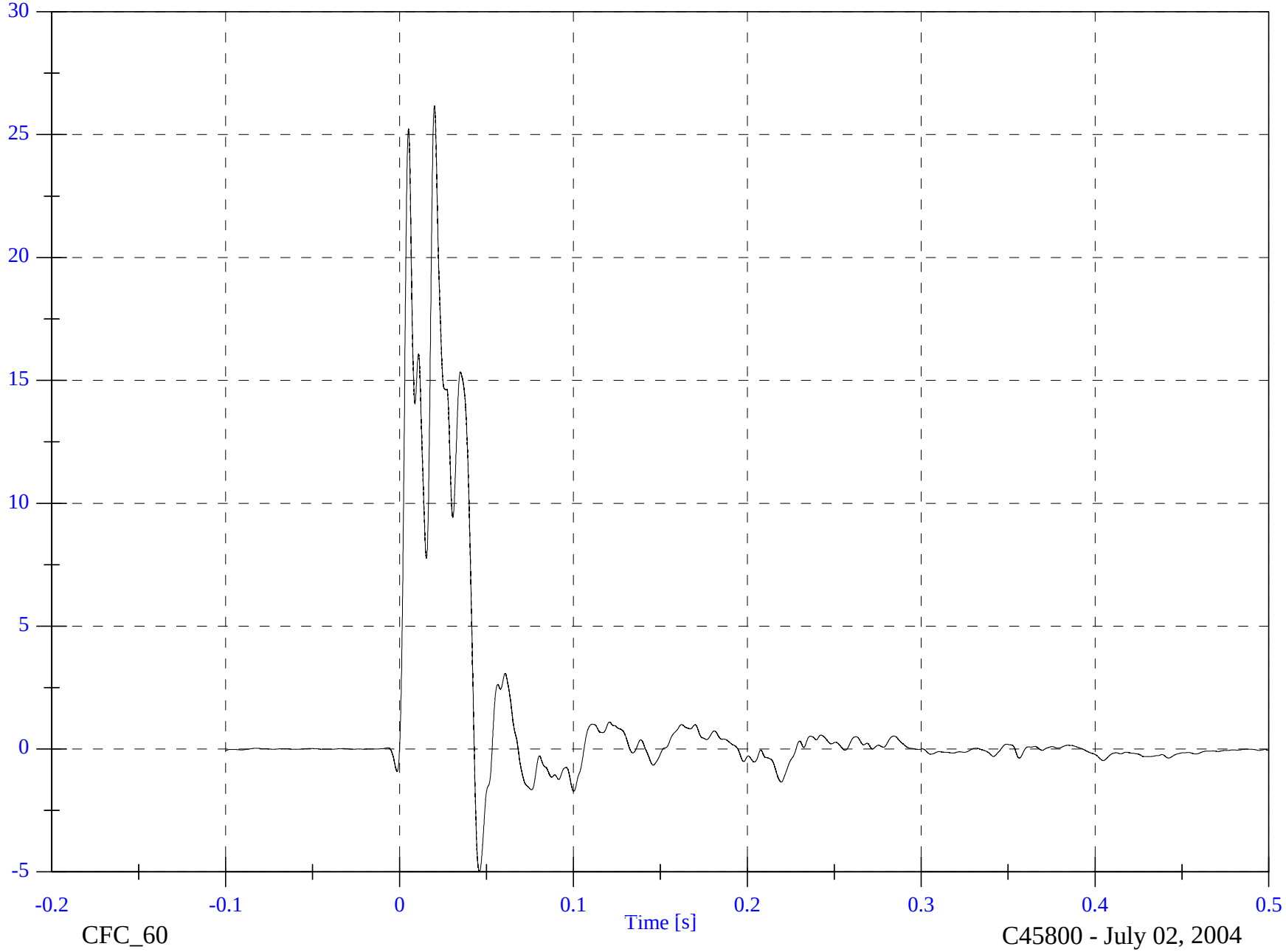
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member RED x

Max: 26.2 [g] at 0.020 [s]

Min: -5.0 [g] at 0.046 [s]



B-100

8655-F301-22R

CFC_60

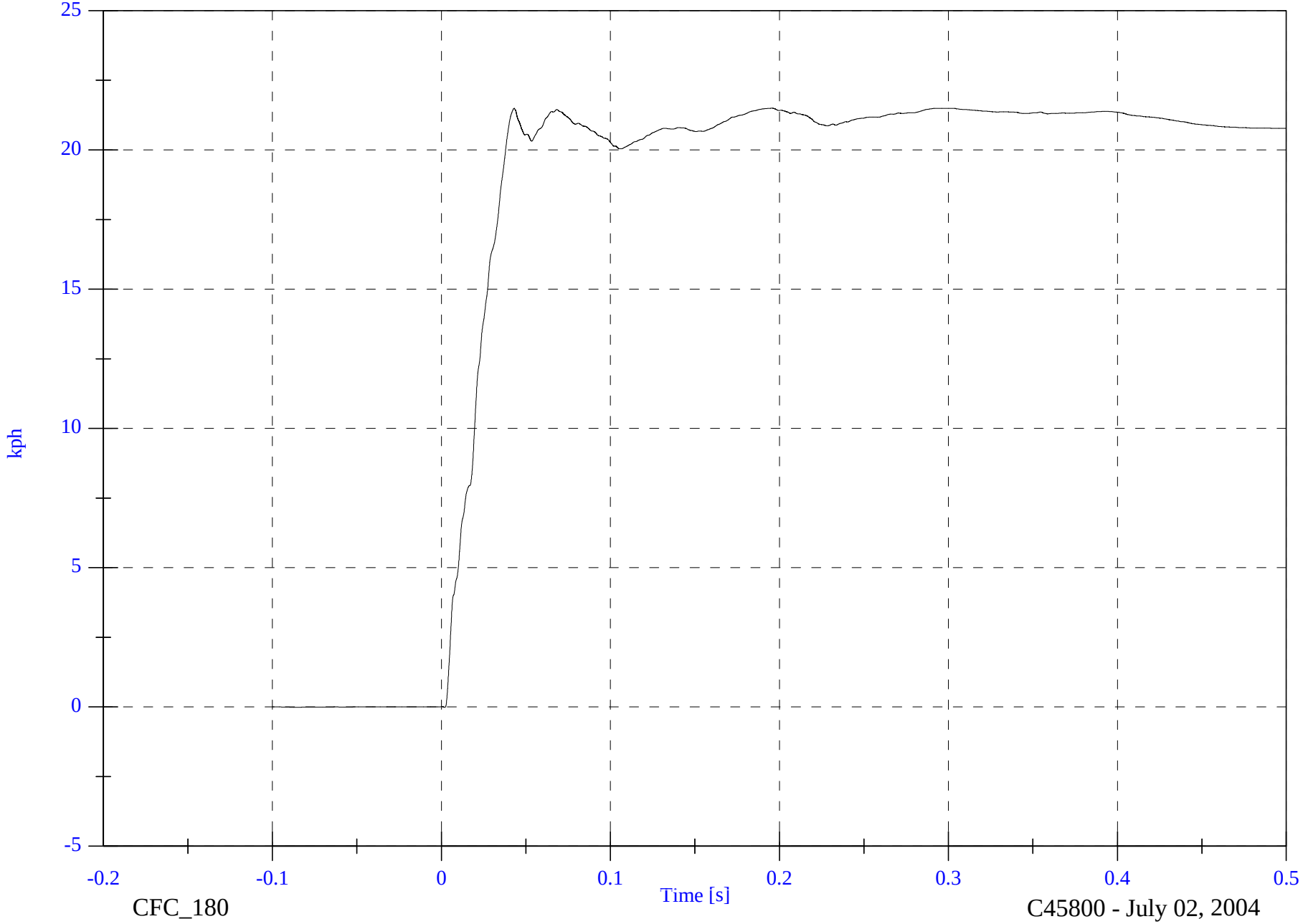
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member RED x Velocity

Max: 21.5 [kph] at 0.196 [s]

Min: -0.0 [kph] at 0.002 [s]



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8655-F301-22R

CFC_180

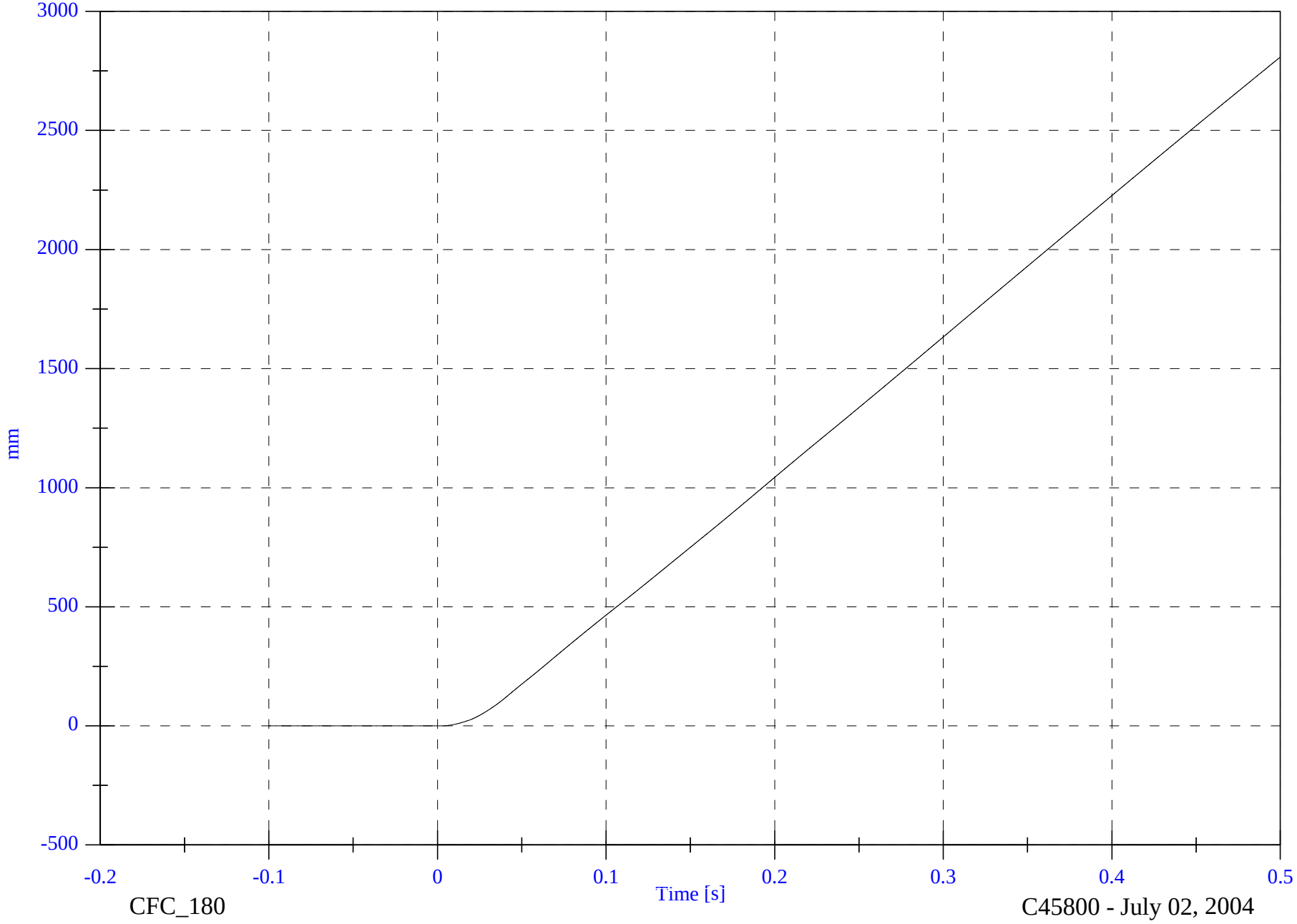
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Right X Member RED x Displacement

Max: 2808.2 [mm] at 0.500 [s]

Min: -0.0 [mm] at -0.006 [s]



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8655-F301-22R

CFC_180

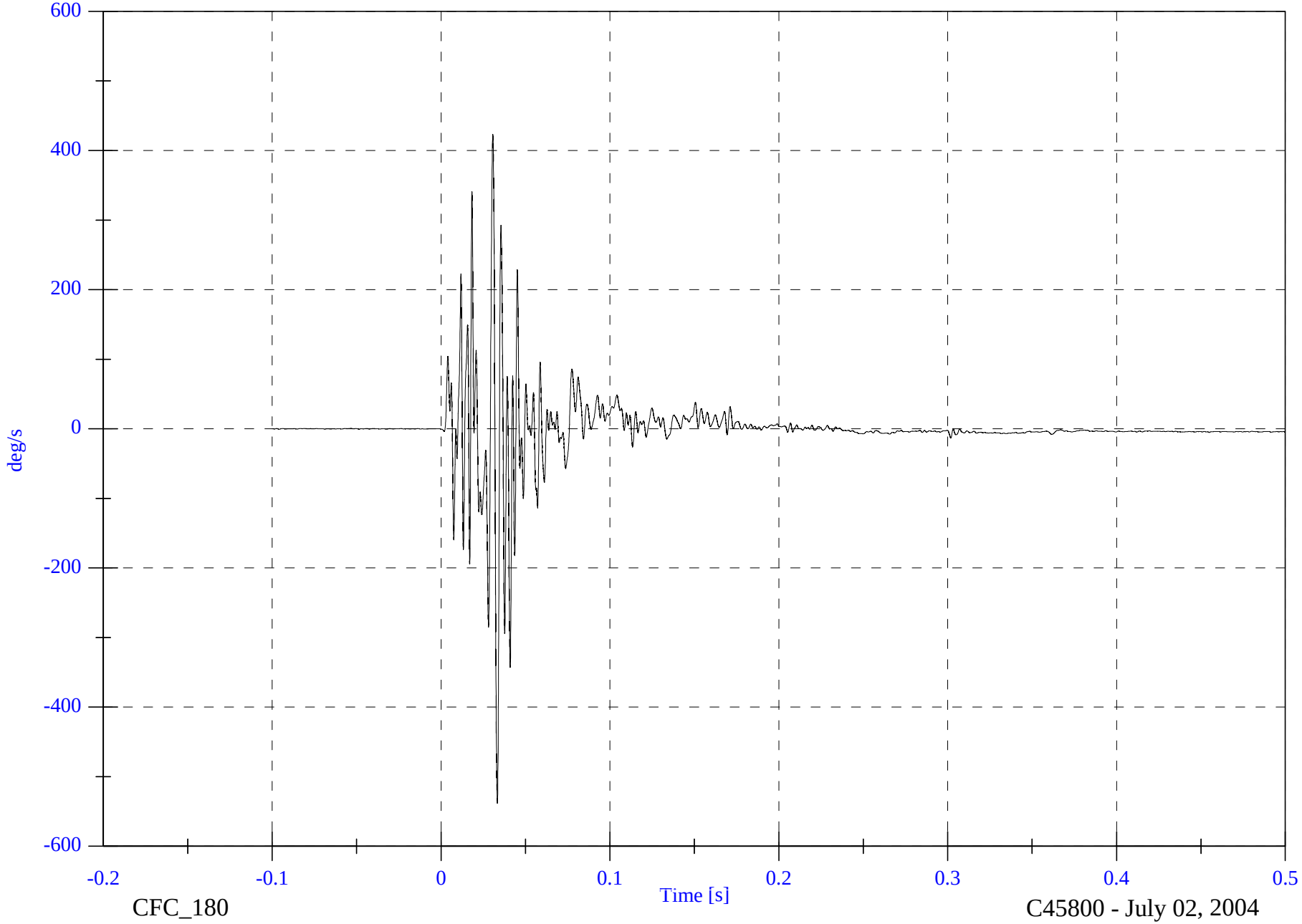
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left Front Sill AVy

Max: 423.5 [deg/s] at 0.031 [s]

Min: -538.4 [deg/s] at 0.033 [s]



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8655-F301-22R

CFC_180

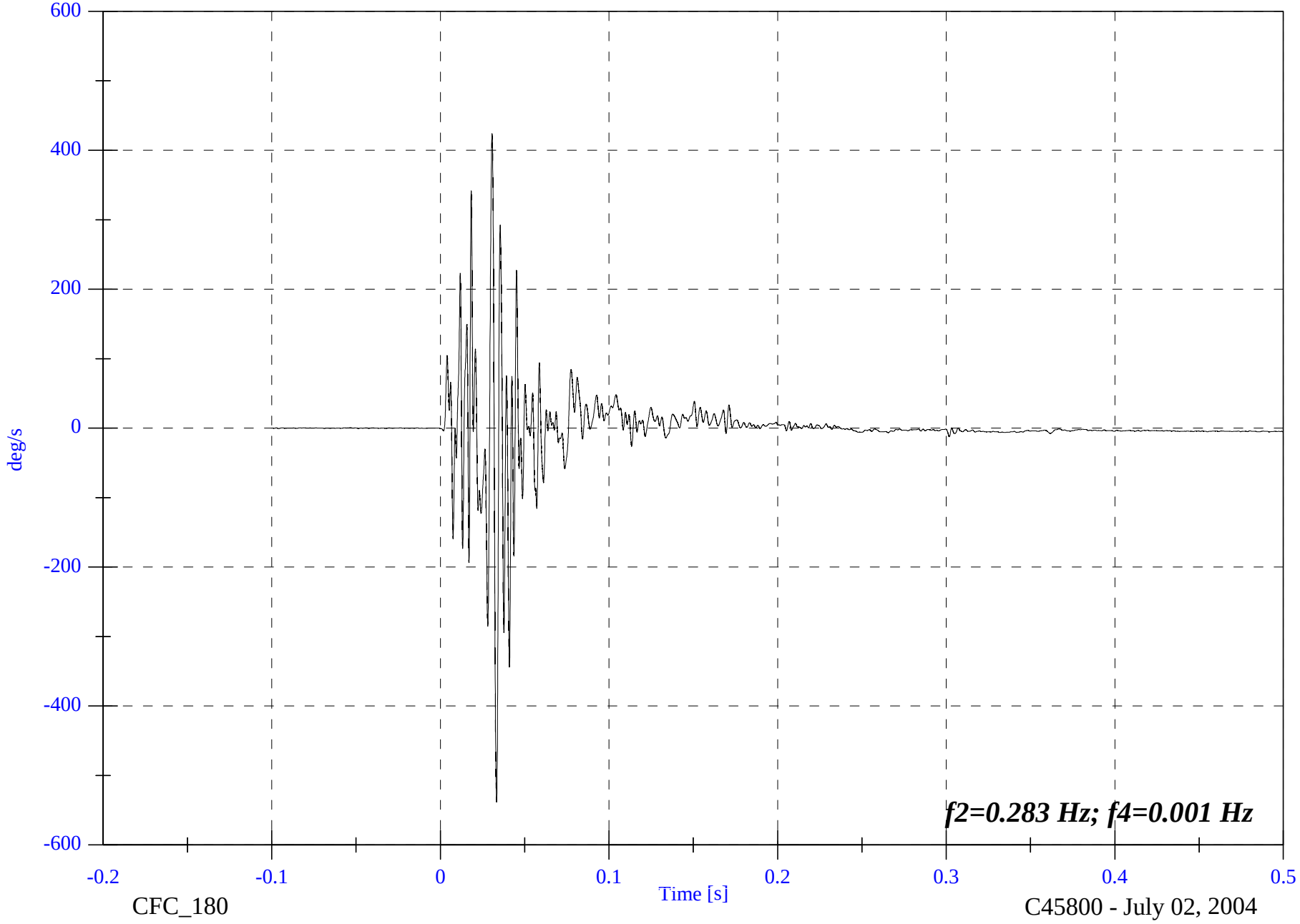
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left Front Sill Comp AVy

Max: 423.9 [deg/s] at 0.031 [s]

Min: -538.3 [deg/s] at 0.033 [s]



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8655-F301-22R

CFC_180

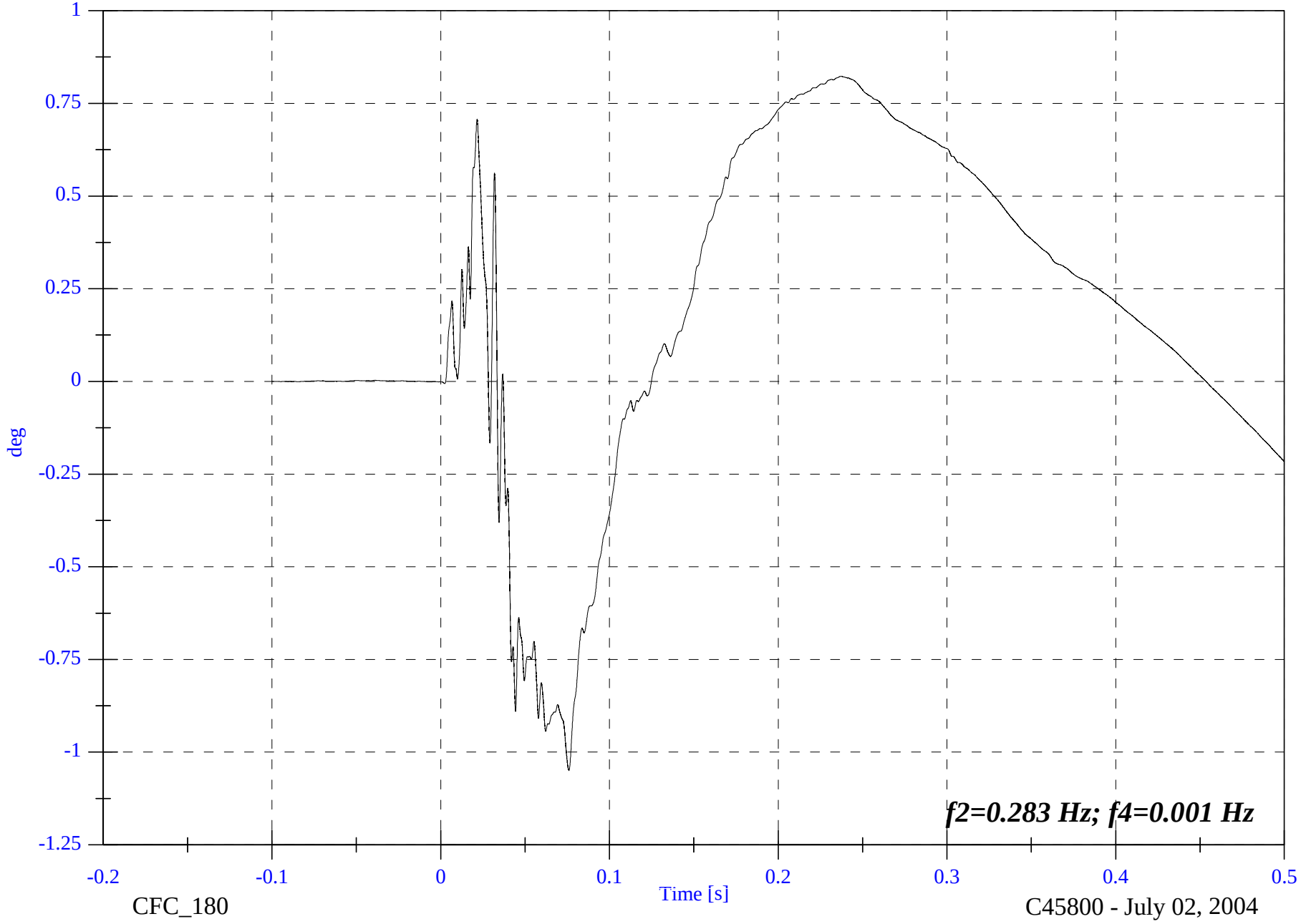
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2 Left Front Sill Comp ADy

Max: 0.8 [deg] at 0.237 [s]

Min: -1.0 [deg] at 0.076 [s]



B-105

8655-F301-22R

CFC_180

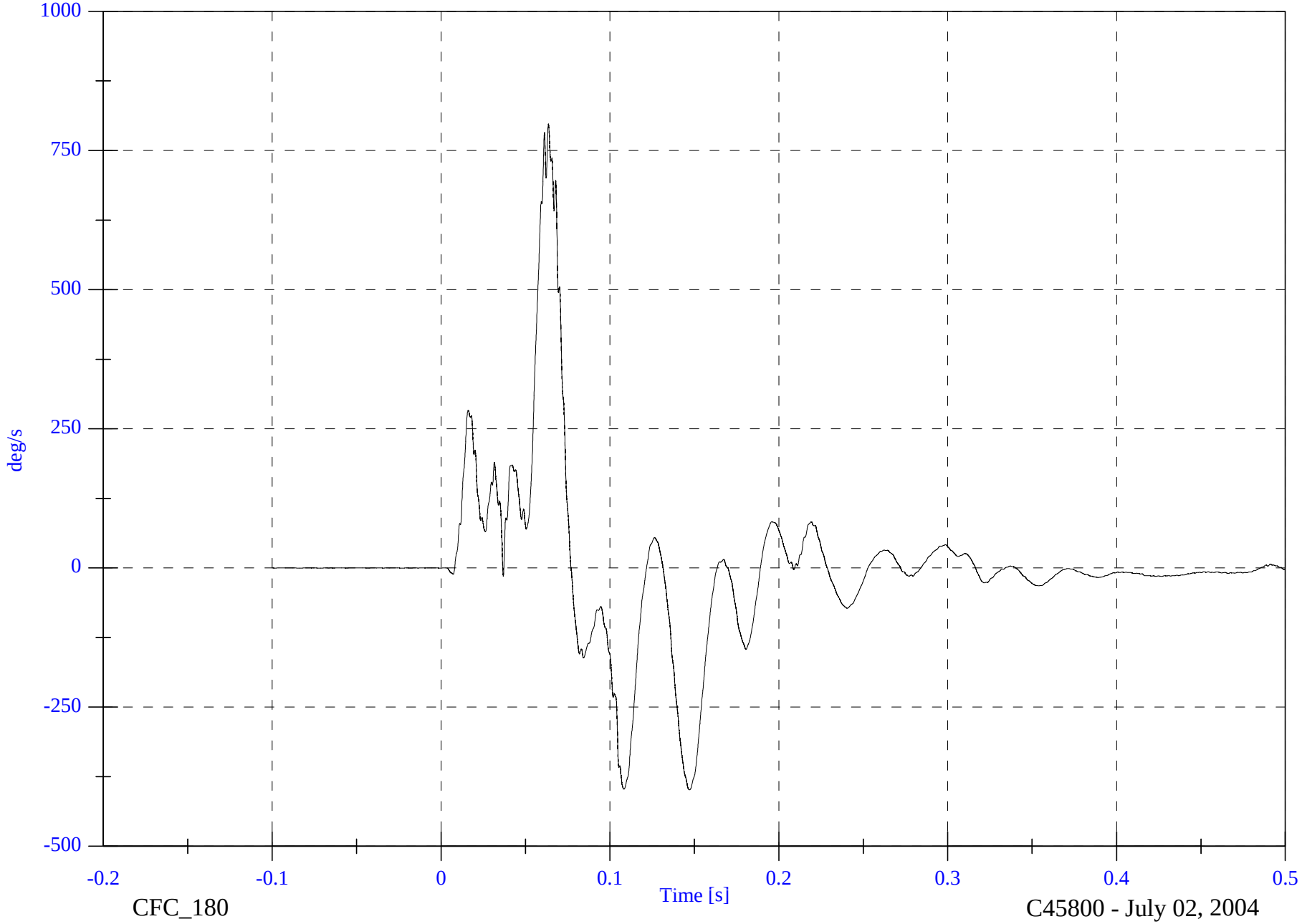
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Left Seat Avy

Max: 797.8 [deg/s] at 0.064 [s]

Min: -398.6 [deg/s] at 0.147 [s]



B-106

8655-F301-22R

CFC_180

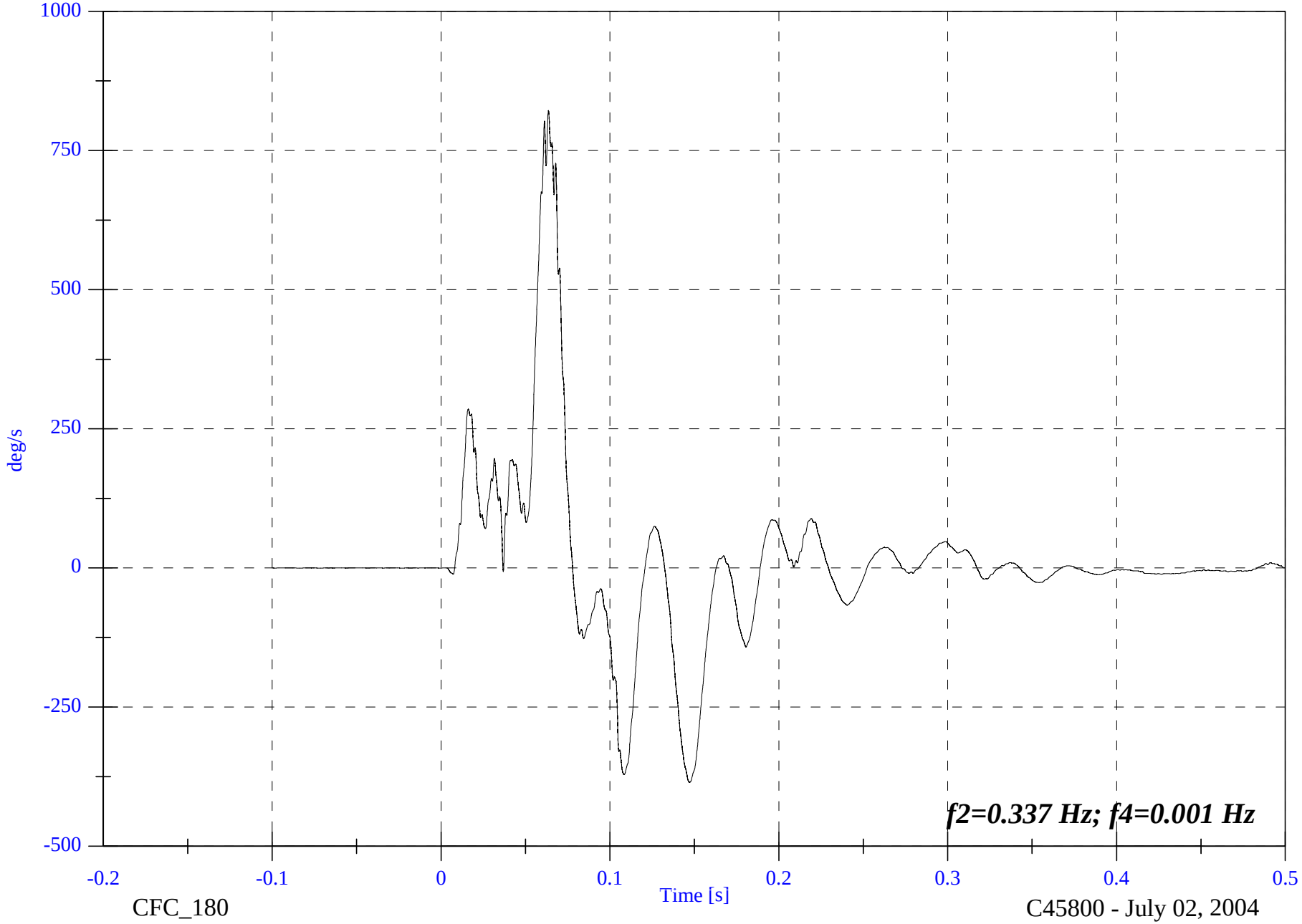
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Left Seat Comp Avy

Max: 822.0 [deg/s] at 0.064 [s]

Min: -385.2 [deg/s] at 0.147 [s]



B-107

8655-F301-22R

CFC_180

C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Left Seat Comp ADy

Max: 18.3 [deg] at 0.078 [s]

Min: -0.0 [deg] at 0.008 [s]

B-108

8655-F301-22R

CFC_180

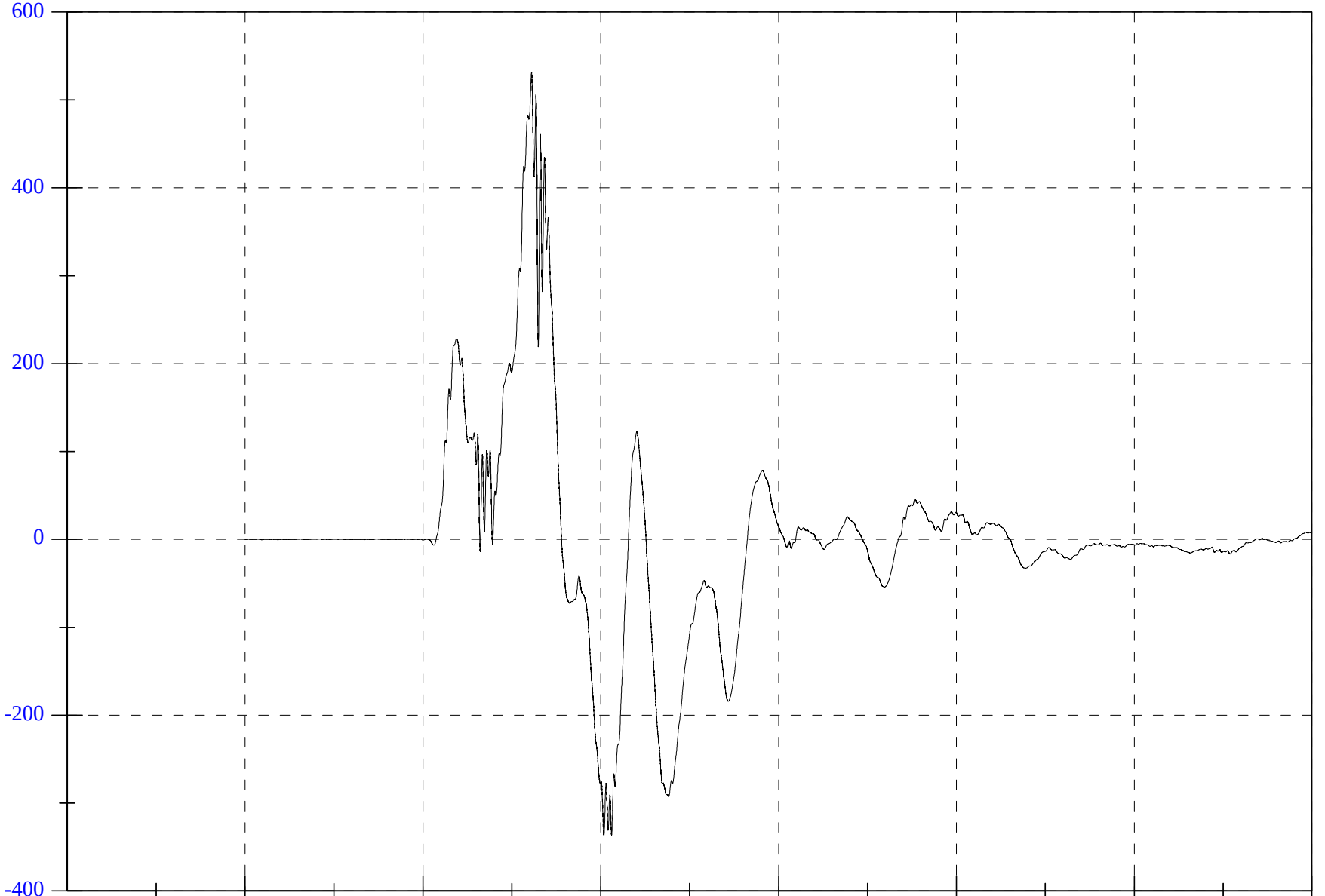
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Seat Avy

Max: 531.1 [deg/s] at 0.061 [s]

Min: -337.0 [deg/s] at 0.102 [s]



B-109

8655-F301-22R

CFC_180

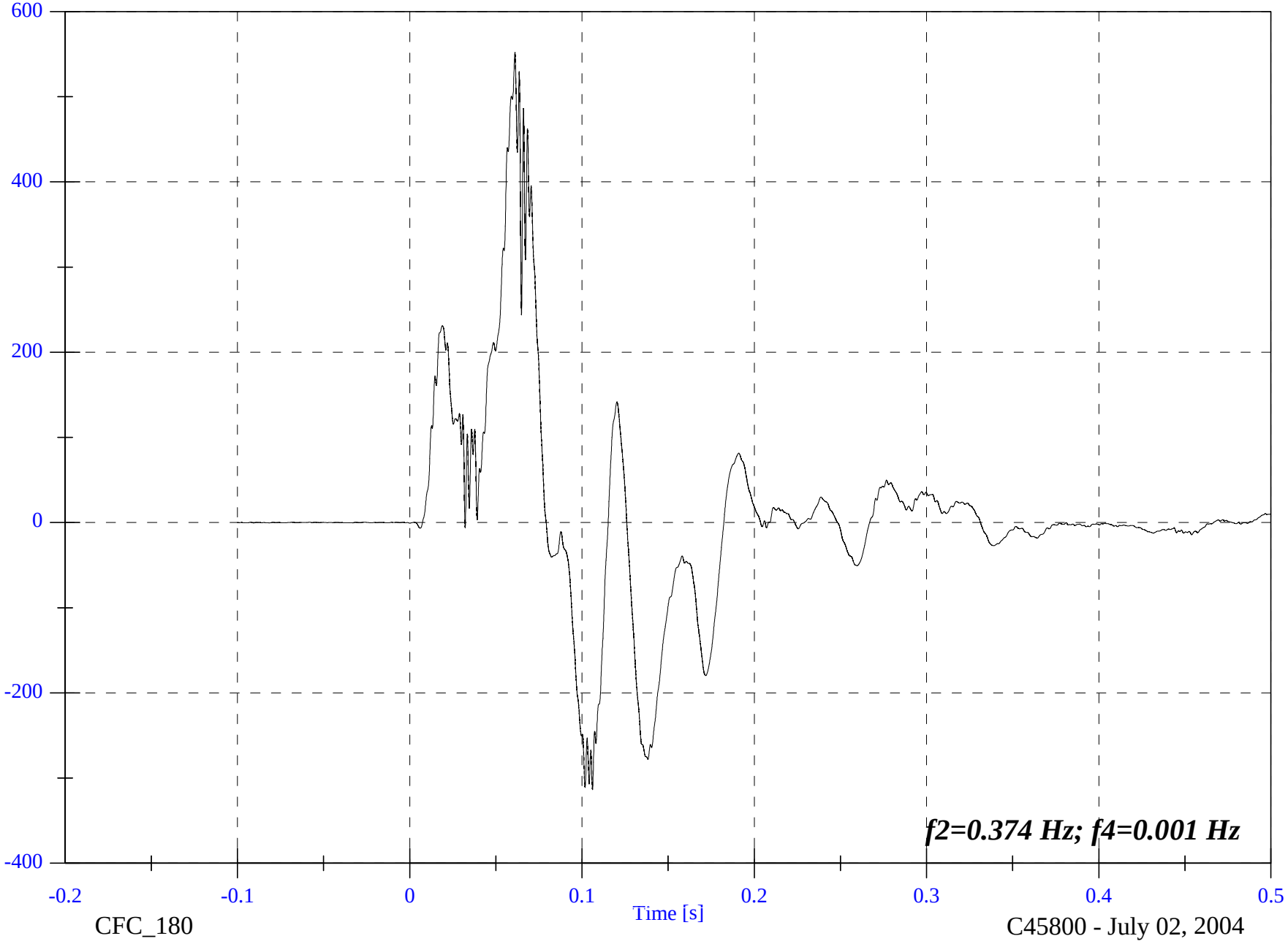
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Seat Comp Avy

Max: 551.9 [deg/s] at 0.061 [s]

Min: -313.8 [deg/s] at 0.106 [s]



B-110

8655-F301-22R

CFC_180

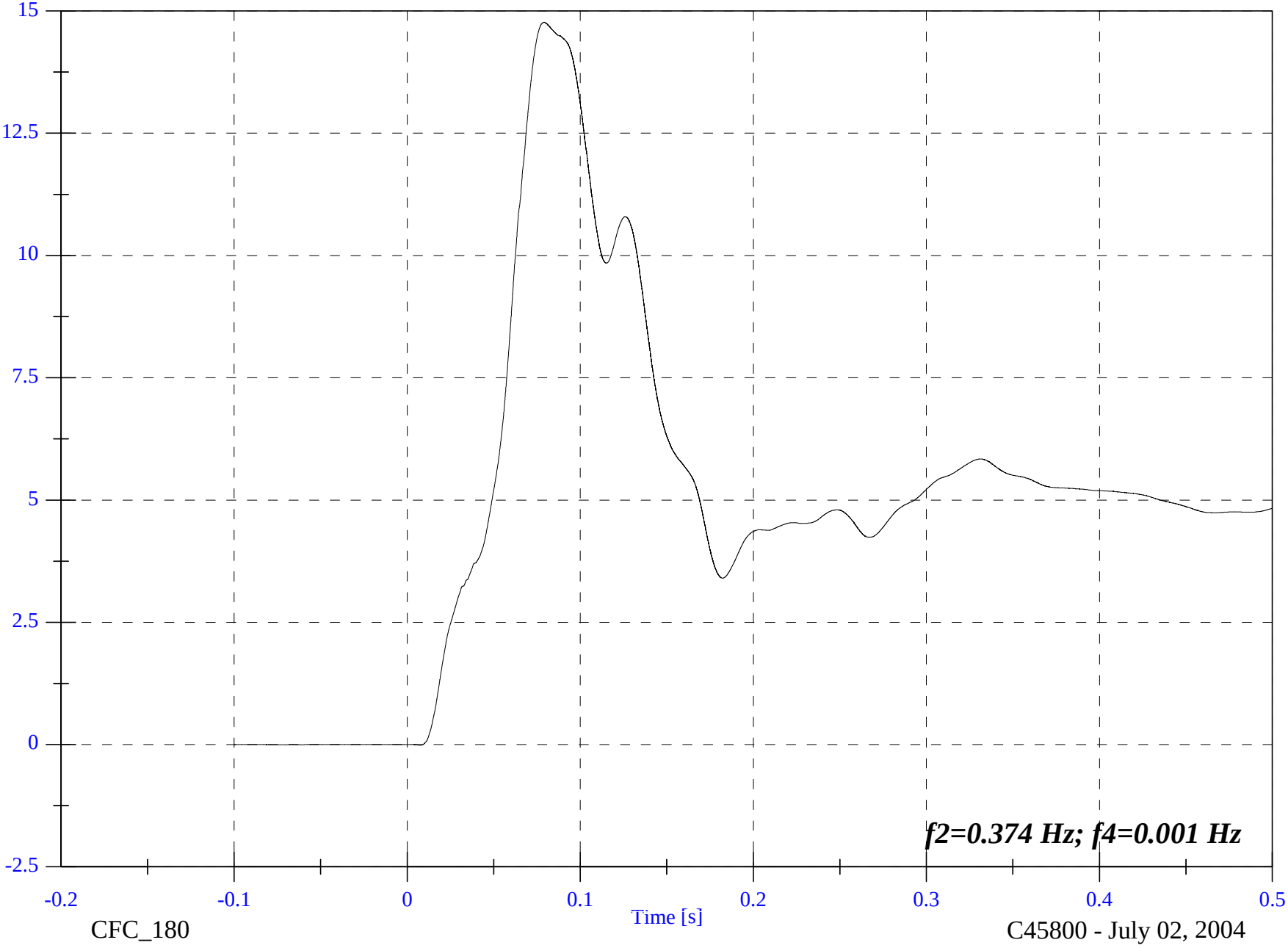
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Seat Comp ADy

Max: 14.8 [deg] at 0.079 [s]

Min: -0.0 [deg] at 0.007 [s]



B-111

8655-F301-22R

CFC_180

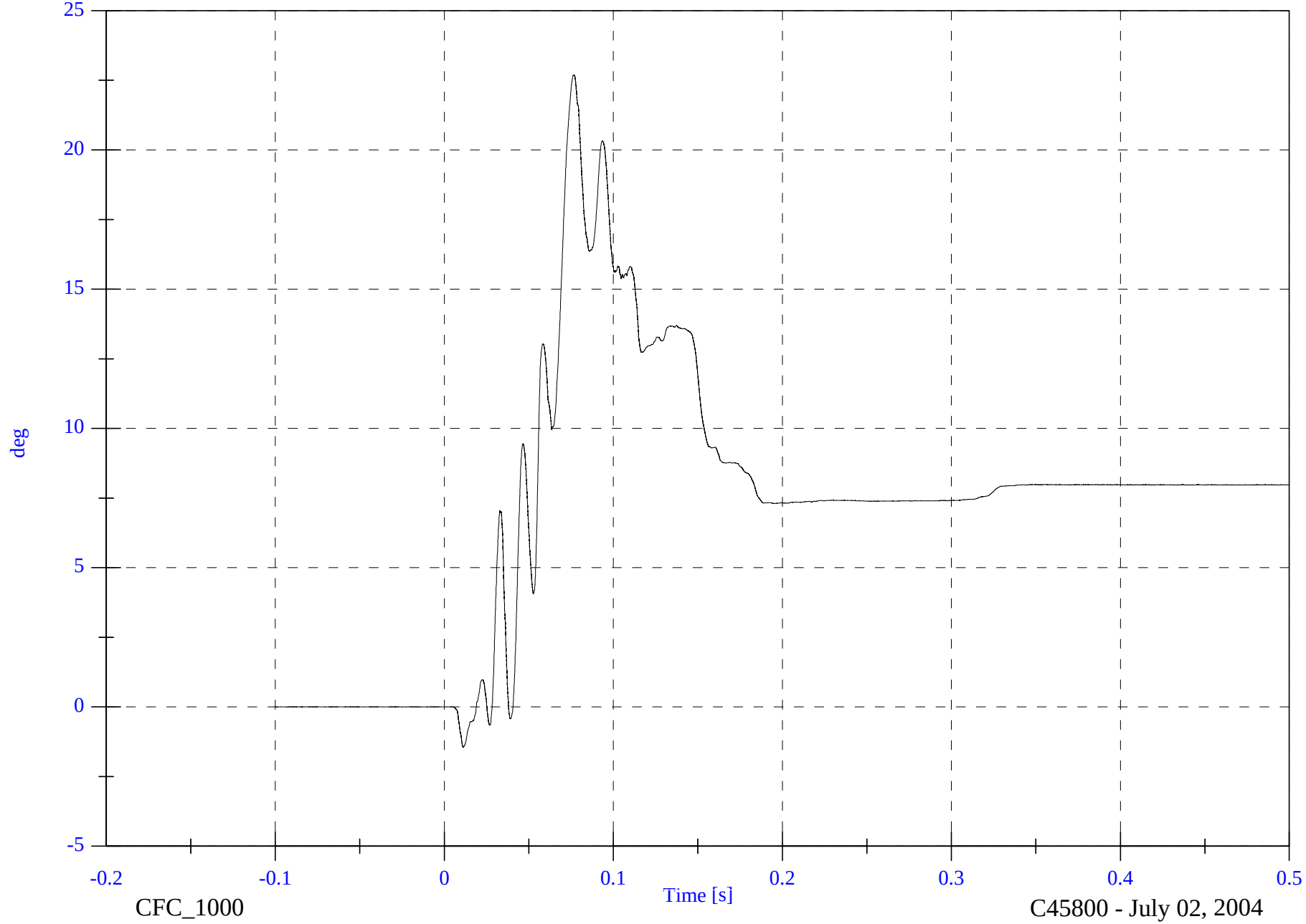
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Left Link Ady

Max: 22.7 [deg] at 0.076 [s]

Min: -1.5 [deg] at 0.011 [s]



CFC_1000

C45800 - July 02, 2004

B-112

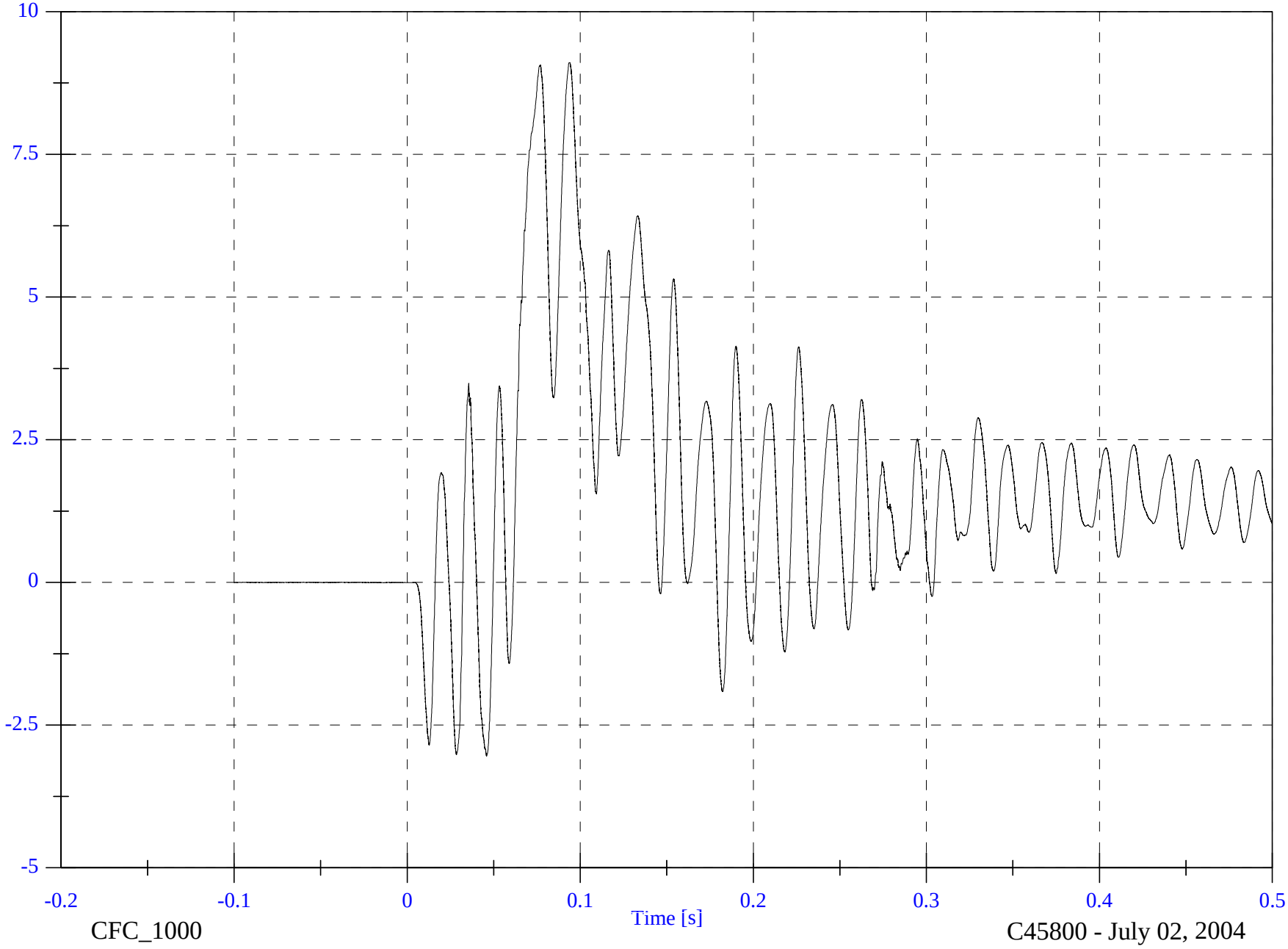
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Link Ady

Max: 9.1 [deg] at 0.094 [s]

Min: -3.0 [deg] at 0.046 [s]



B-113

8655-F301-22R

CFC_1000

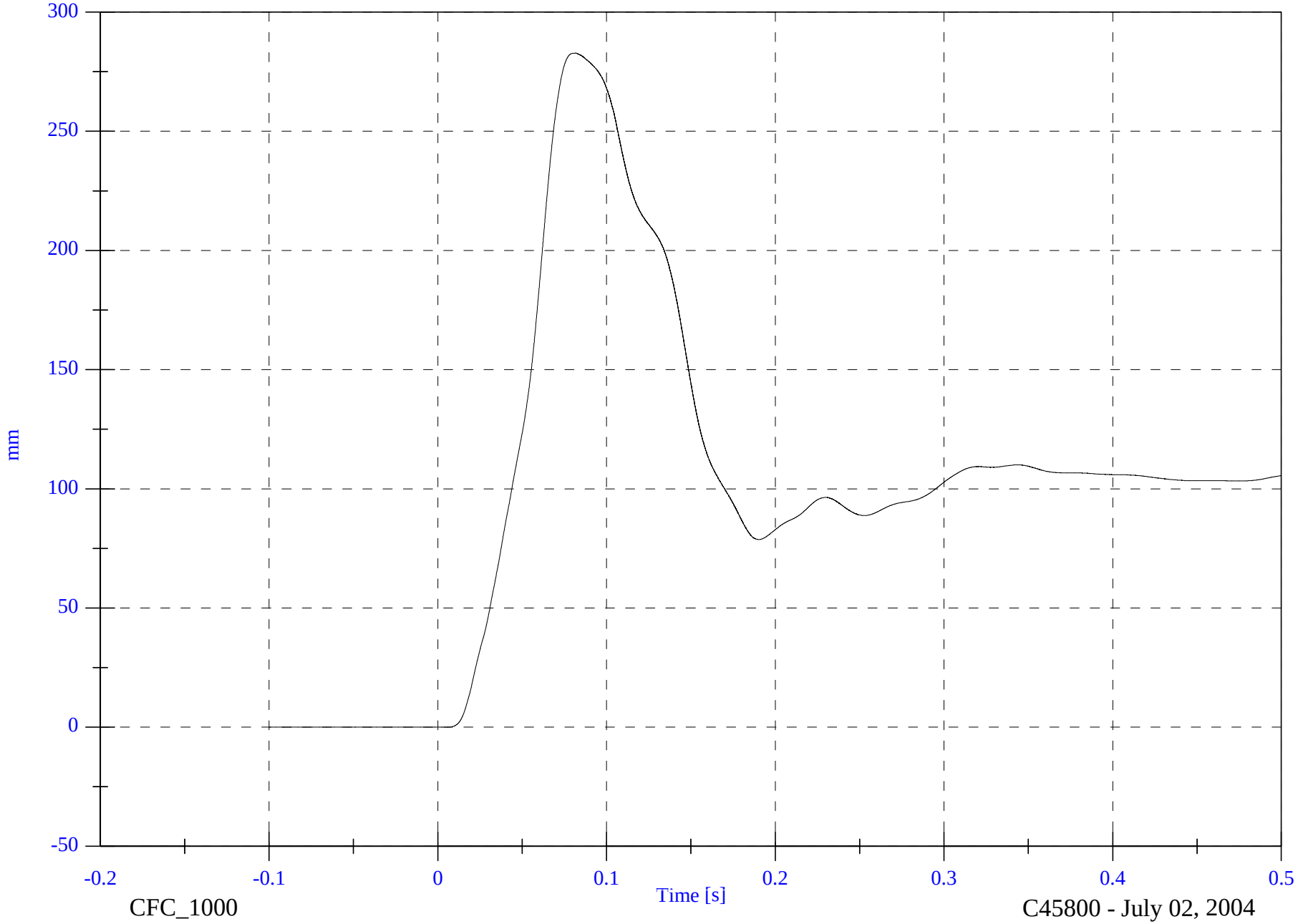
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Left Span Bar Displacement

Max: 282.8 [mm] at 0.081 [s]

Min: -0.0 [mm] at 0.006 [s]



B-114

8655-F301-22R

CFC_1000

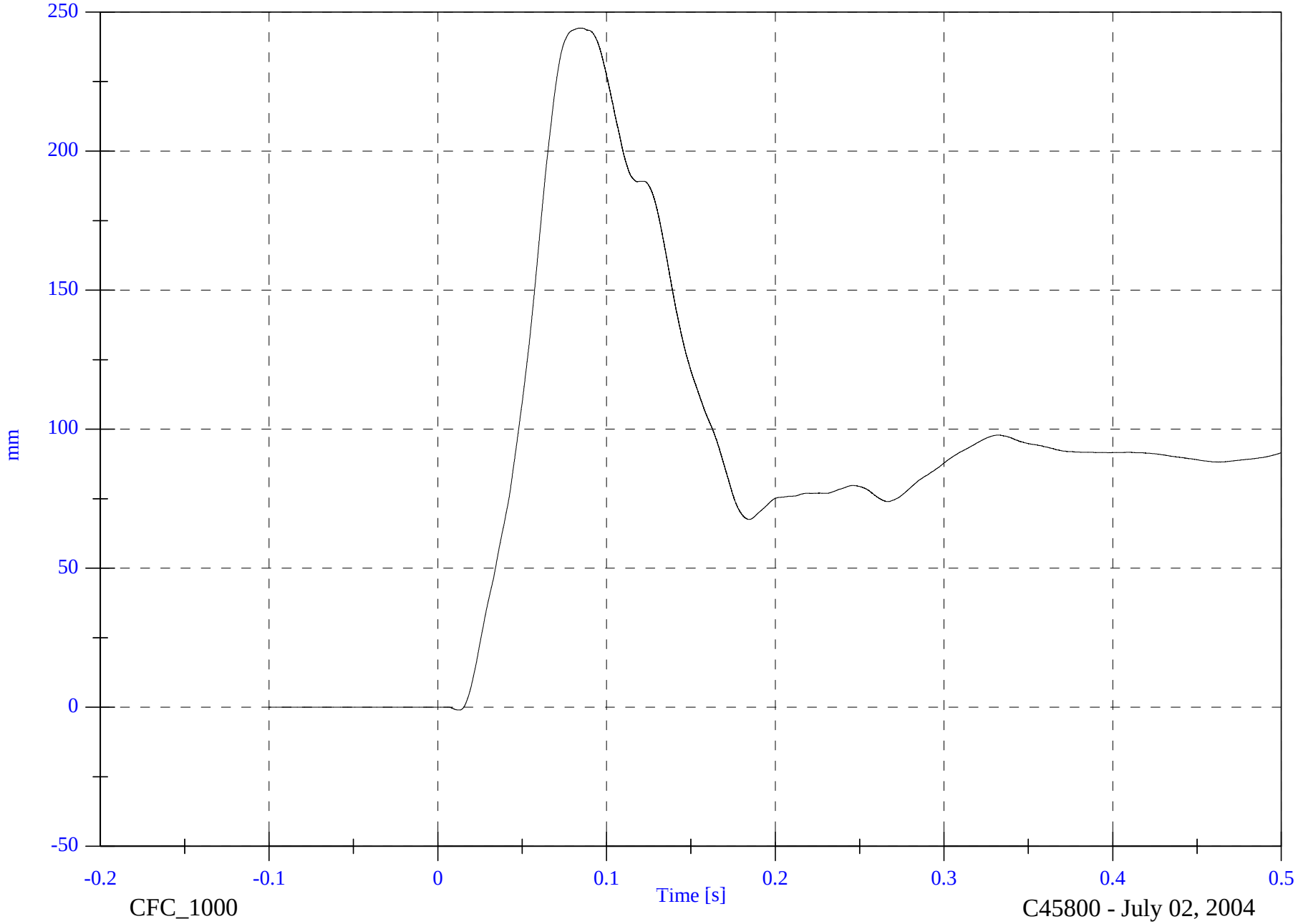
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P1 Right Span Bar Displacement

Max: 244.2 [mm] at 0.084 [s]

Min: -1.0 [mm] at 0.013 [s]



B-115

8655-F301-22R

CFC_1000

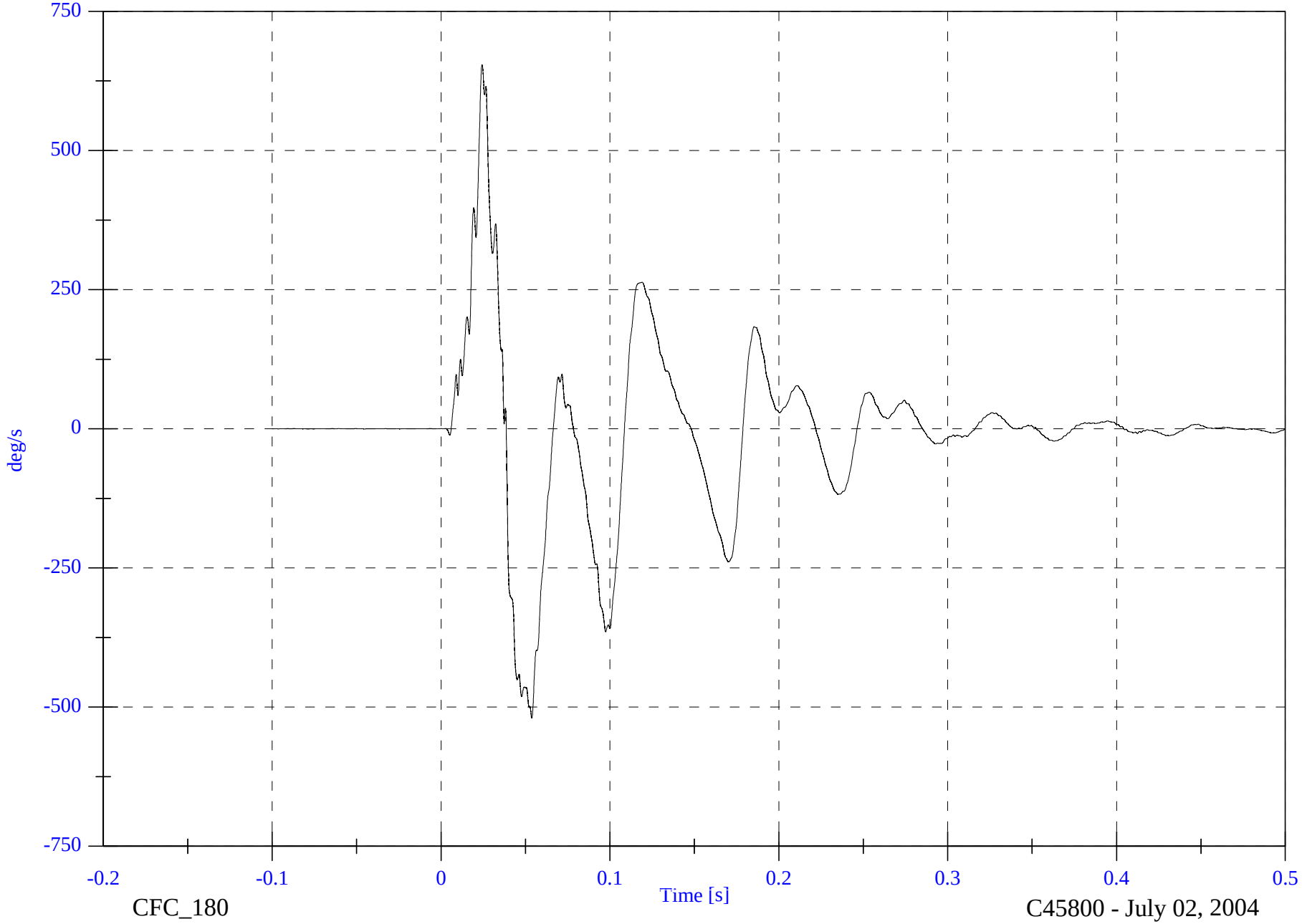
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Seat Avy

Max: 654.2 [deg/s] at 0.024 [s]

Min: -519.5 [deg/s] at 0.054 [s]



B-116

8655-F301-22R

CFC_180

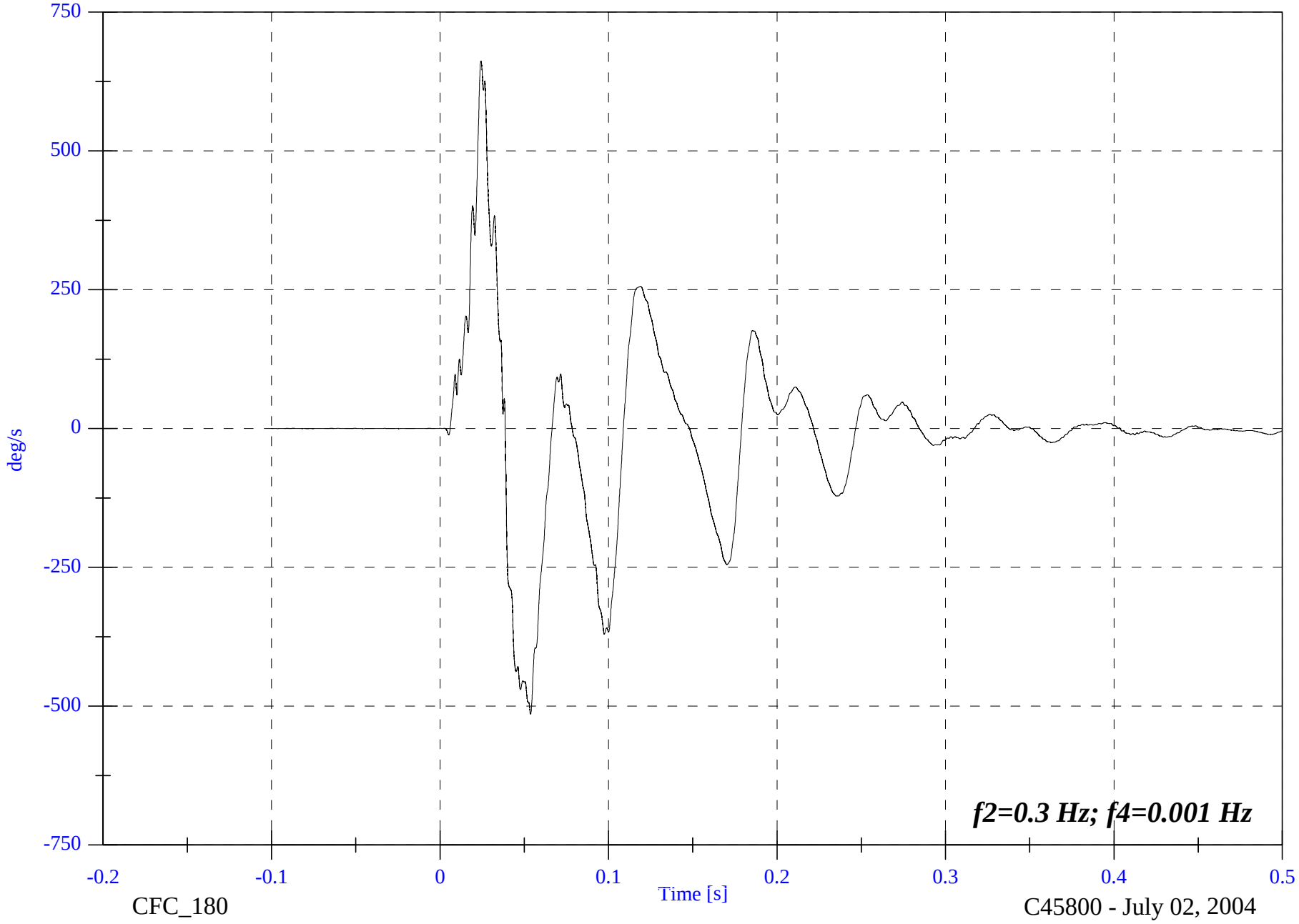
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Seat Comp Avy

Max: 662.1 [deg/s] at 0.024 [s]

Min: -514.1 [deg/s] at 0.054 [s]



B-117

8655-F301-22R

CFC_180

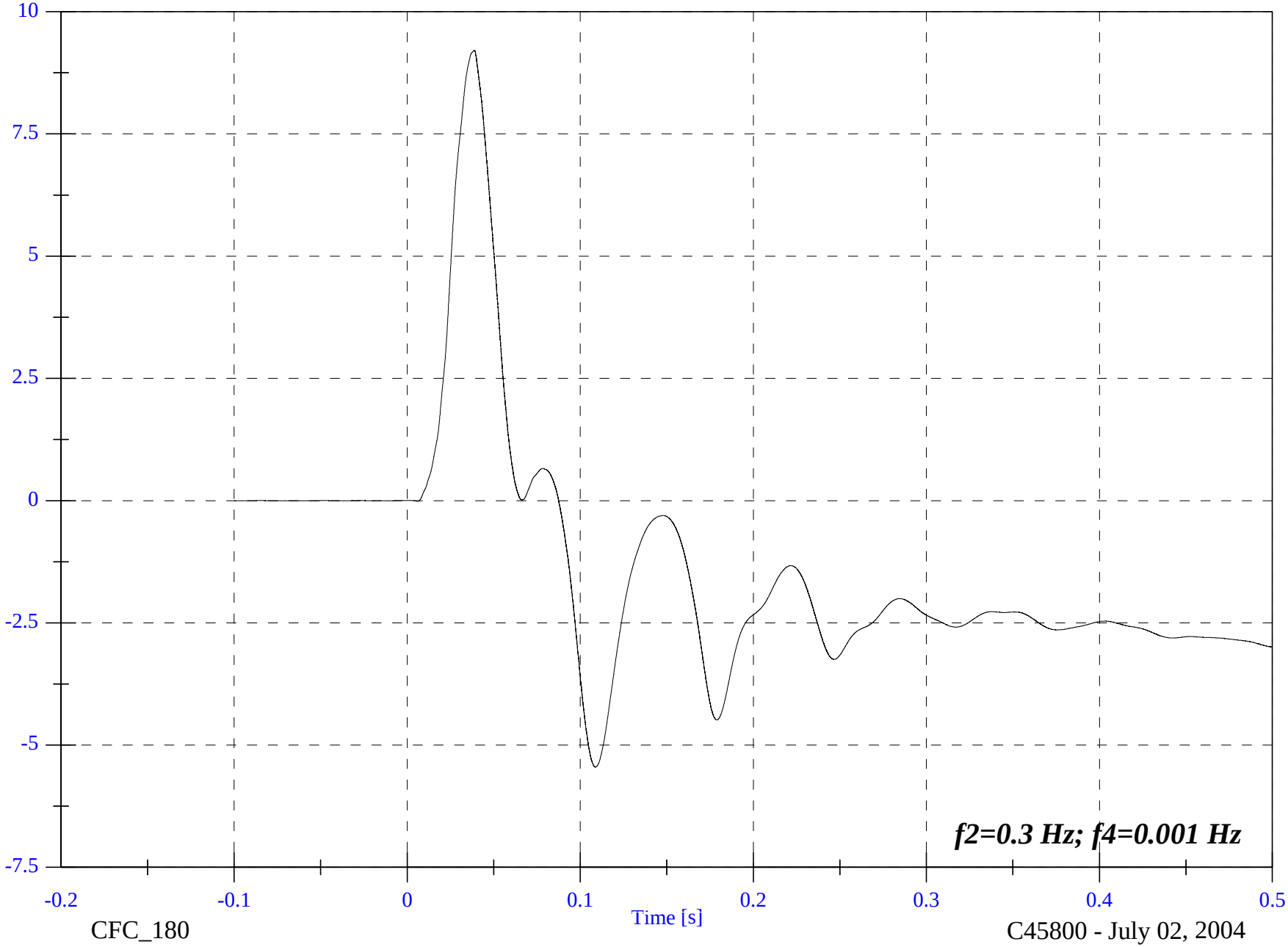
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Seat Comp ADy

Max: 9.2 [deg] at 0.039 [s]

Min: -5.4 [deg] at 0.109 [s]



B-118

8655-F301-22R

CFC_180

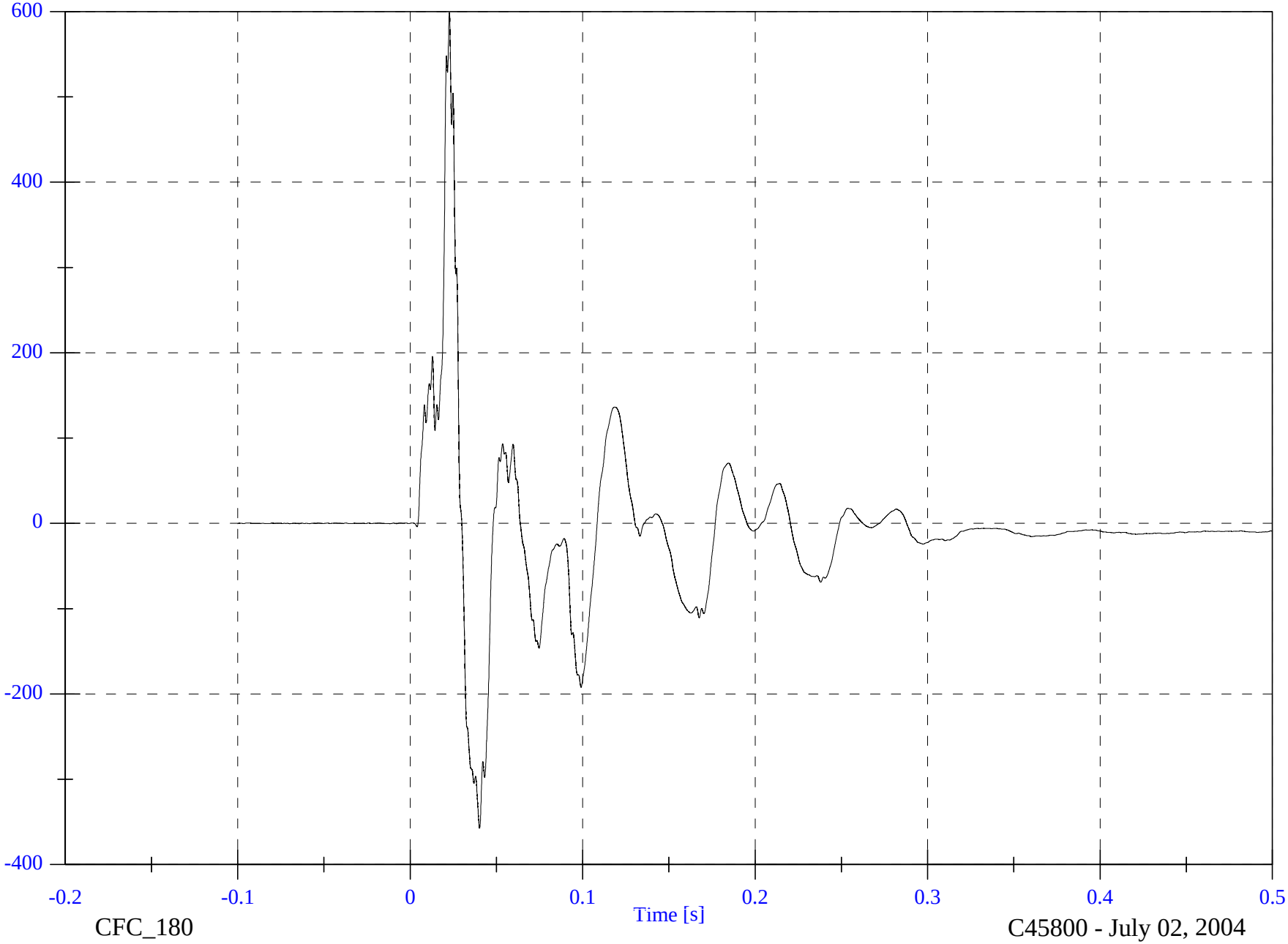
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Right Seat Avy

Max: 598.9 [deg/s] at 0.023 [s]

Min: -357.5 [deg/s] at 0.040 [s]



B-119

8655-F301-22R

CFC_180

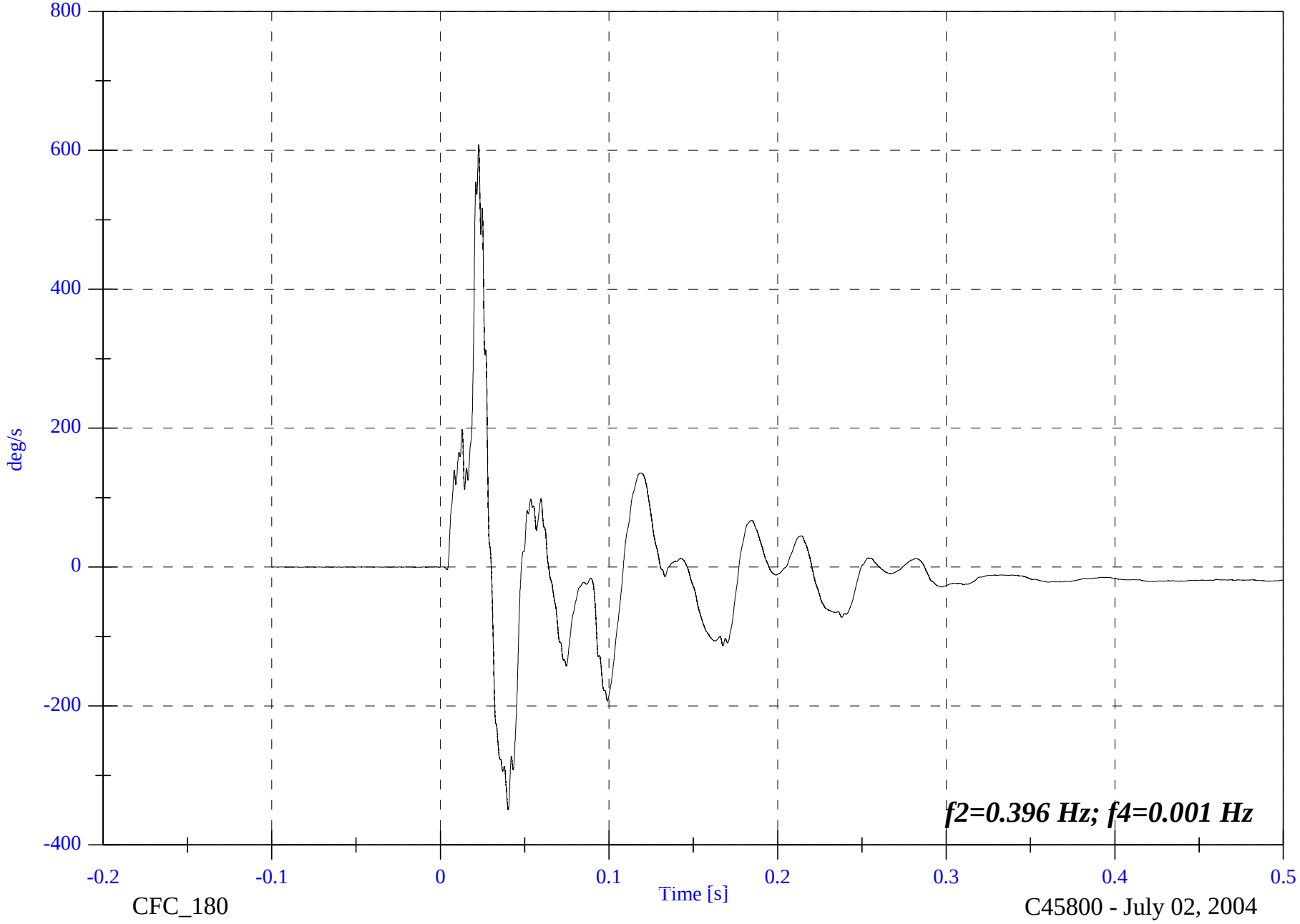
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Right Seat Comp Avy

Max: 608.0 [deg/s] at 0.023 [s]

Min: -349.4 [deg/s] at 0.040 [s]



B-120

8655-F301-22R

CFC_180

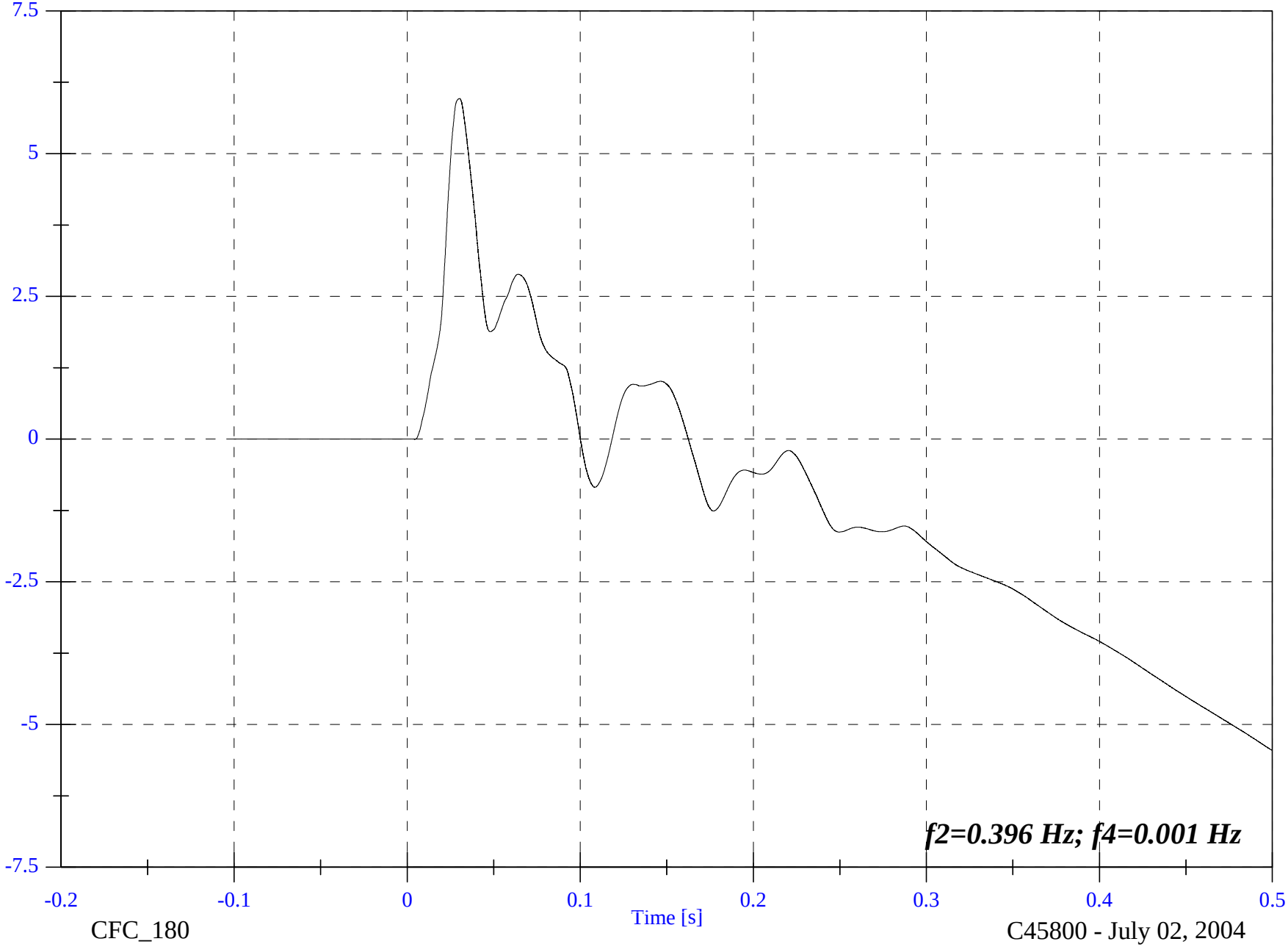
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Right Seat Comp ADy

Max: 6.0 [deg] at 0.030 [s]

Min: -5.5 [deg] at 0.500 [s]



B-121

8655-F301-22R

CFC_180

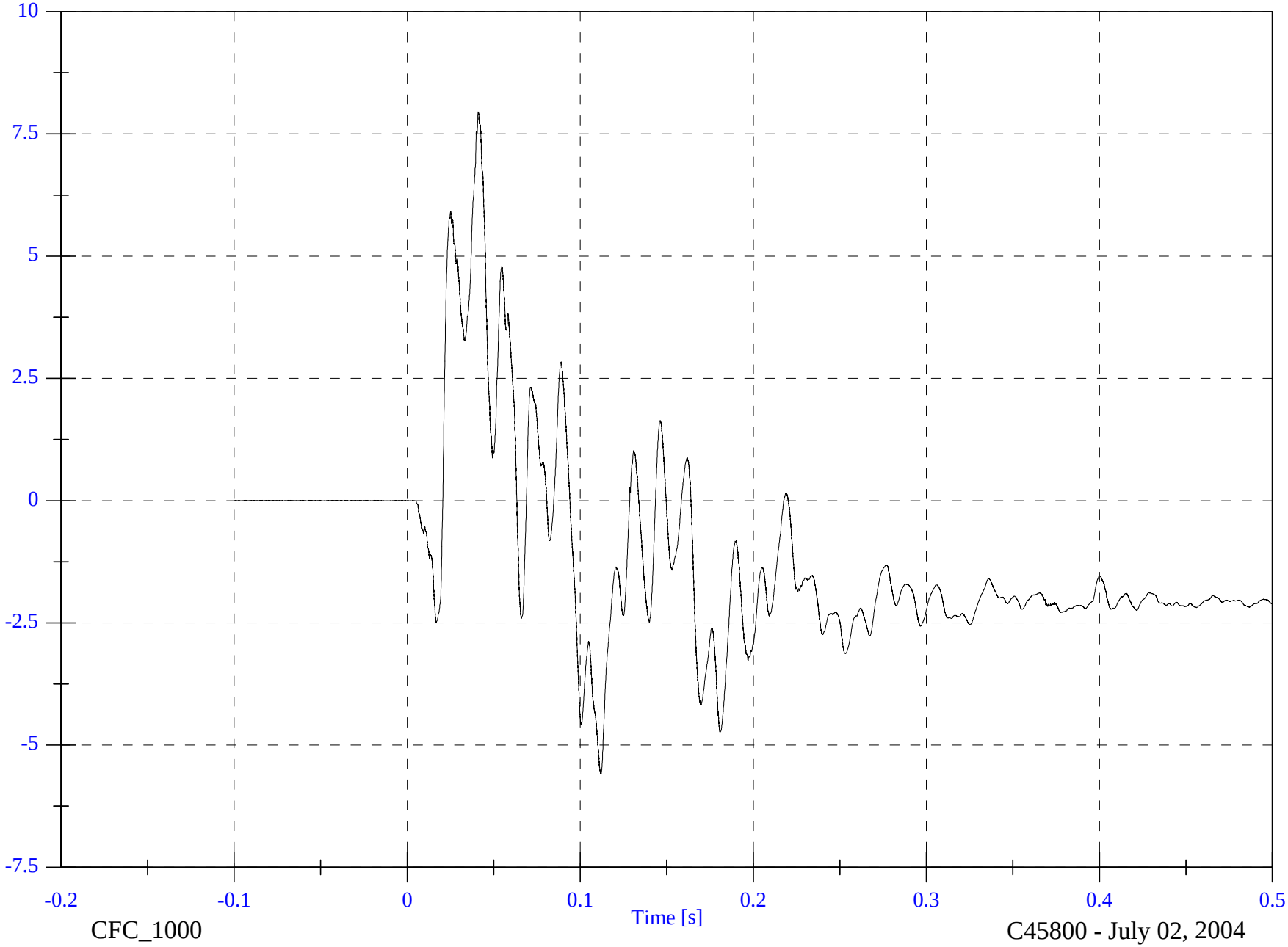
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Link Ady

Max: 8.0 [deg] at 0.041 [s]

Min: -5.6 [deg] at 0.112 [s]



B-122

8655-F301-22R

CFC_1000

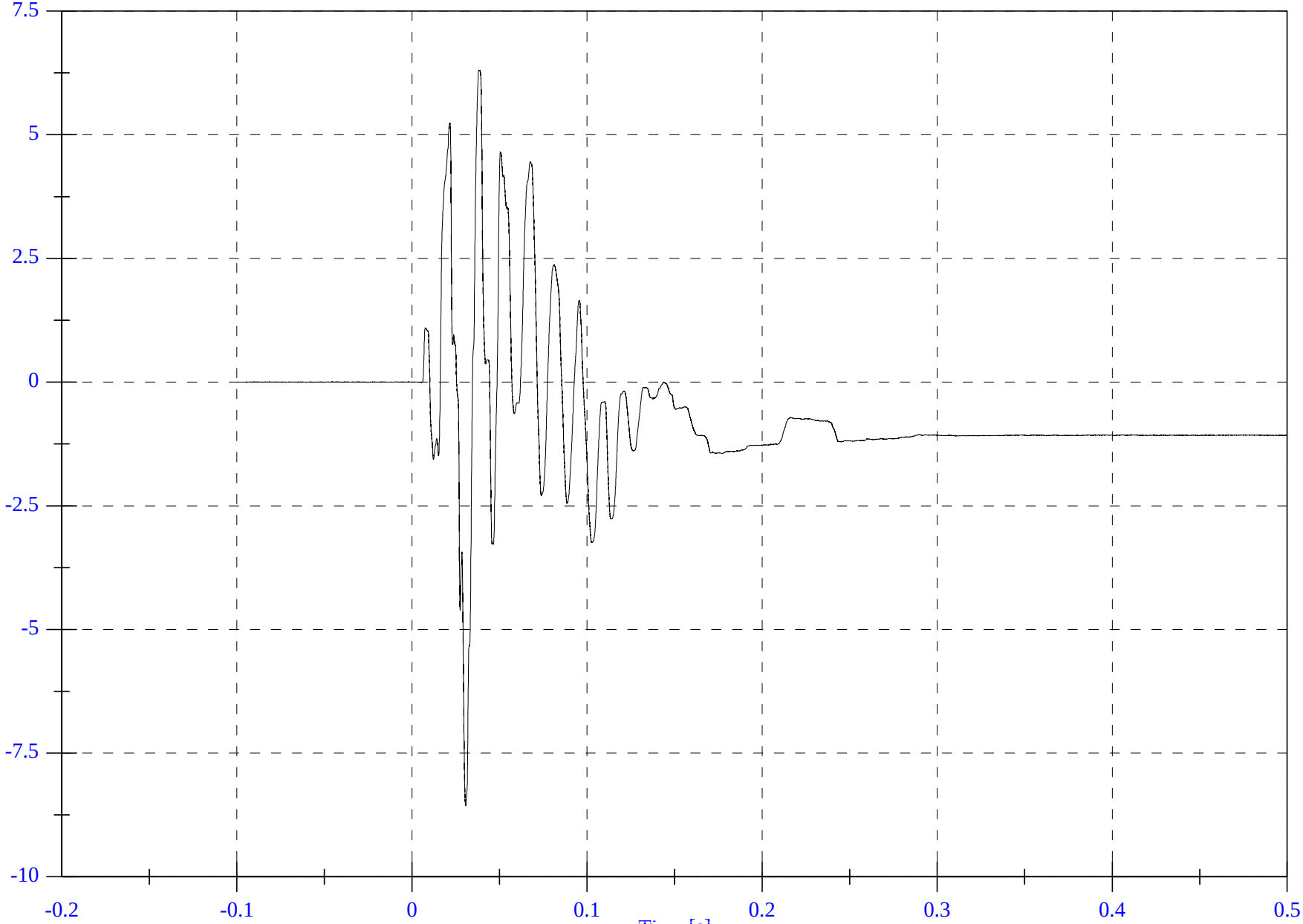
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Right Link Ady

Max: 6.3 [deg] at 0.038 [s]

Min: -8.6 [deg] at 0.031 [s]



B-123

8655-F301-22R

CFC_1000

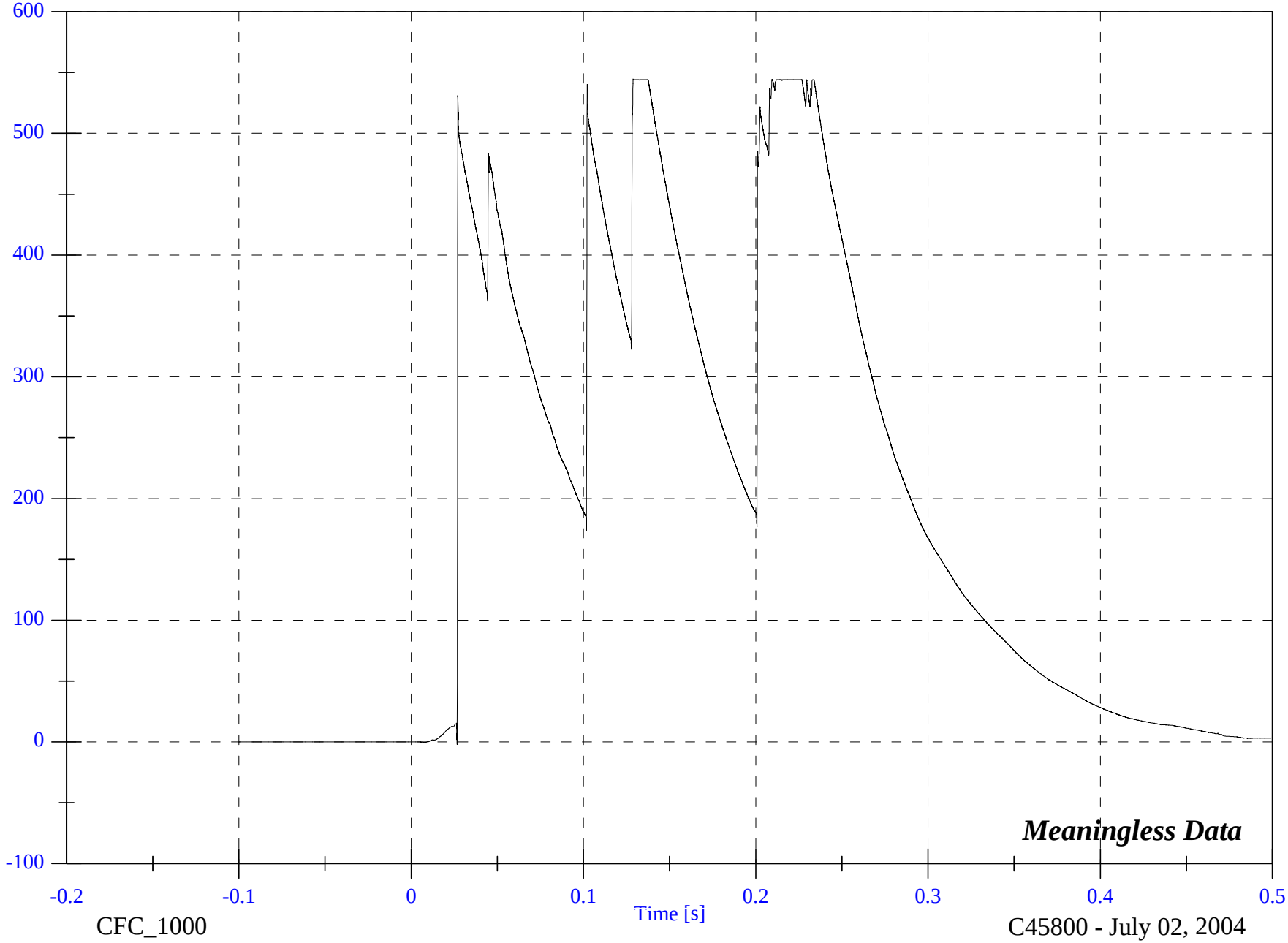
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Left Span Bar Displacement

Max: 544.6 [mm] at 0.129 [s]

Min: -2.2 [mm] at 0.027 [s]



B-124

8655-F301-22R

CFC_1000

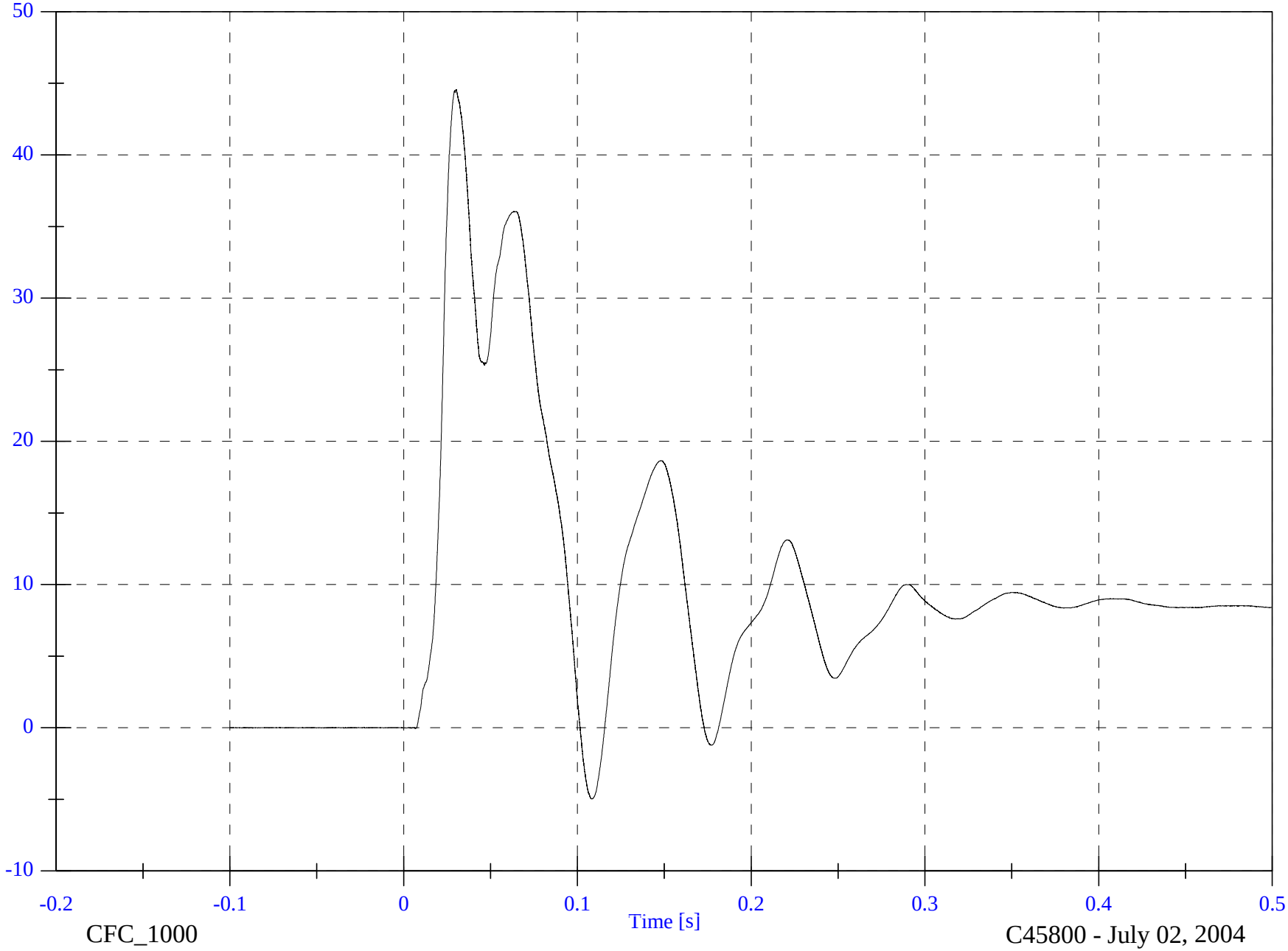
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

V2P3 Right Span Bar Displacement

Max: 44.6 [mm] at 0.030 [s]

Min: -5.0 [mm] at 0.109 [s]



B-125

8655-F301-22R

CFC_1000

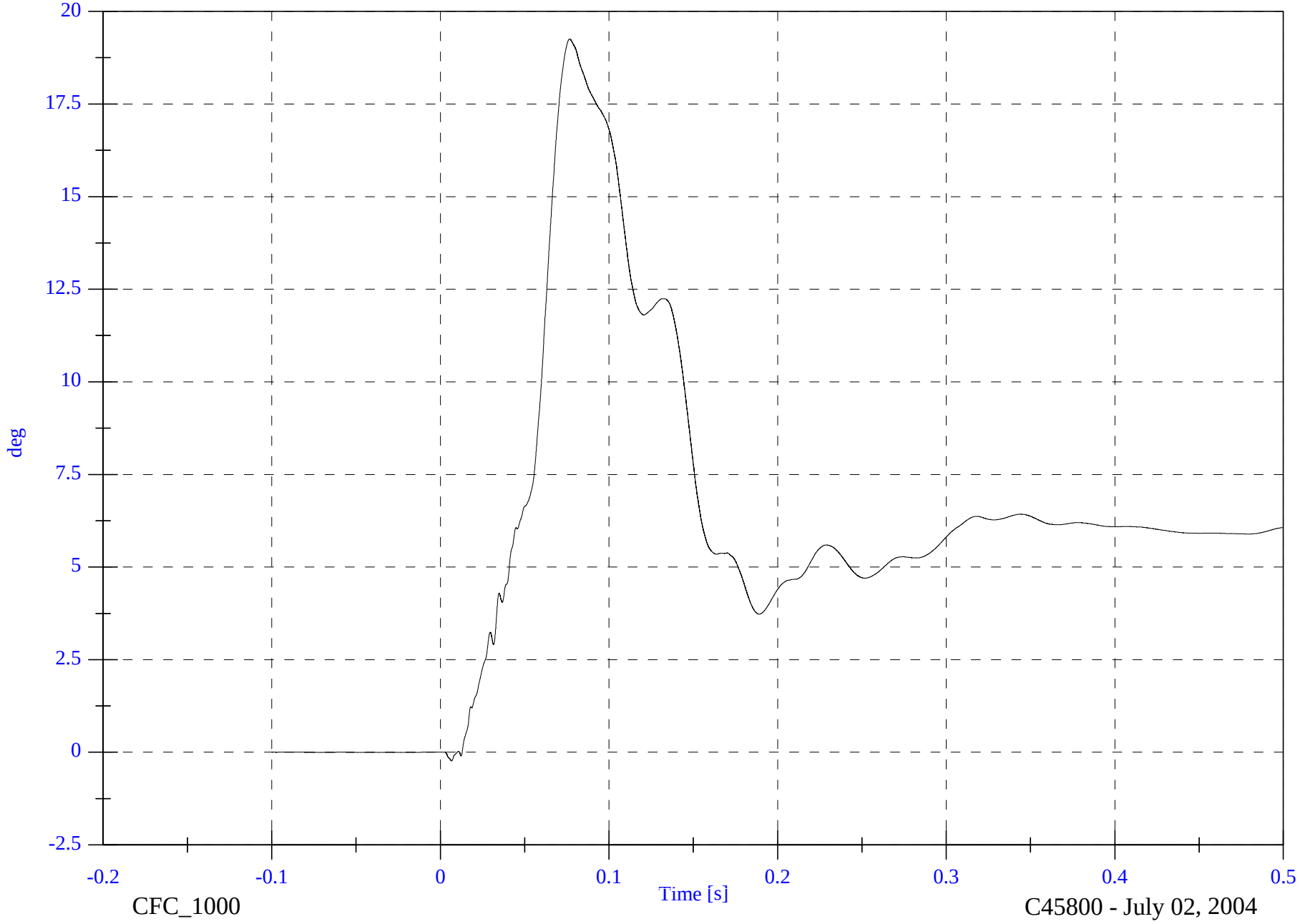
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Left Change in Seat Back Angle WRT Sill

Max: 19.3 [deg] at 0.077 [s]

Min: -0.2 [deg] at 0.007 [s]



CFC_1000

C45800 - July 02, 2004

B-126

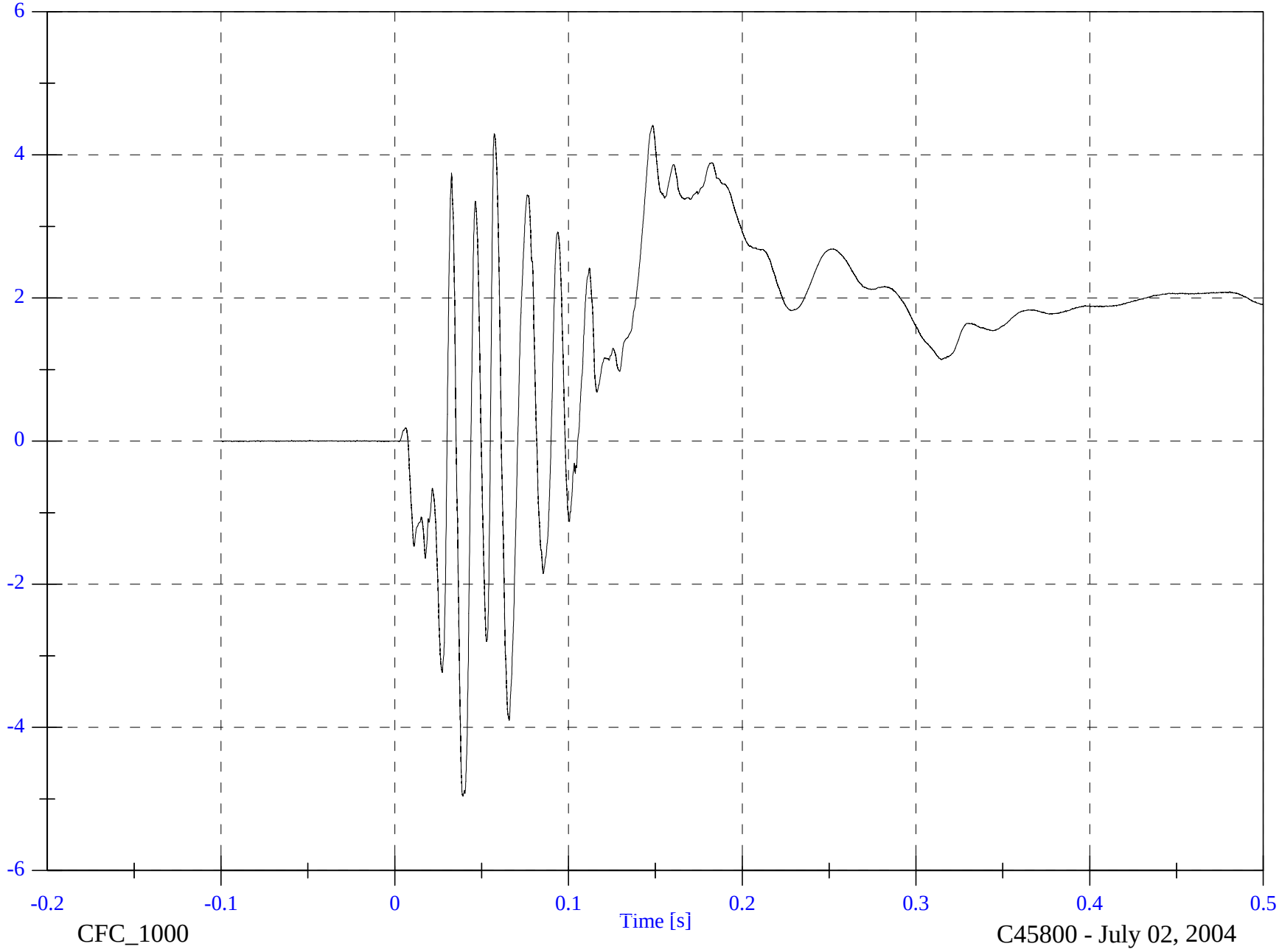
8655-F301-22R

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Left Change in String Angle

Max: 4.4 [deg] at 0.148 [s]

Min: -5.0 [deg] at 0.039 [s]



B-127

8655-F301-22R

CFC_1000

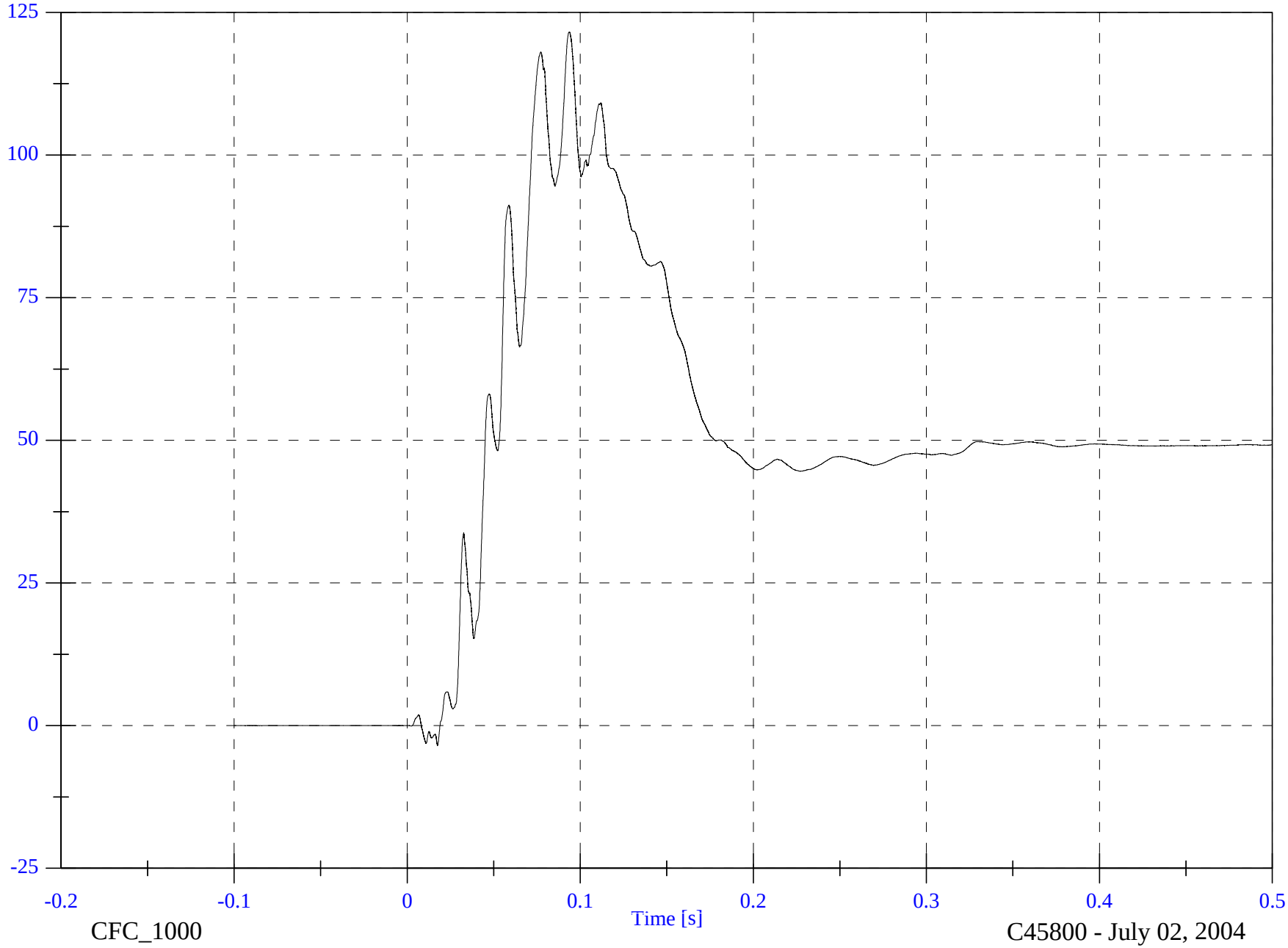
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Left Seat X Displacement

Max: 121.5 [mm] at 0.094 [s]

Min: -3.5 [mm] at 0.018 [s]



B-128

8655-F301-22R

CFC_1000

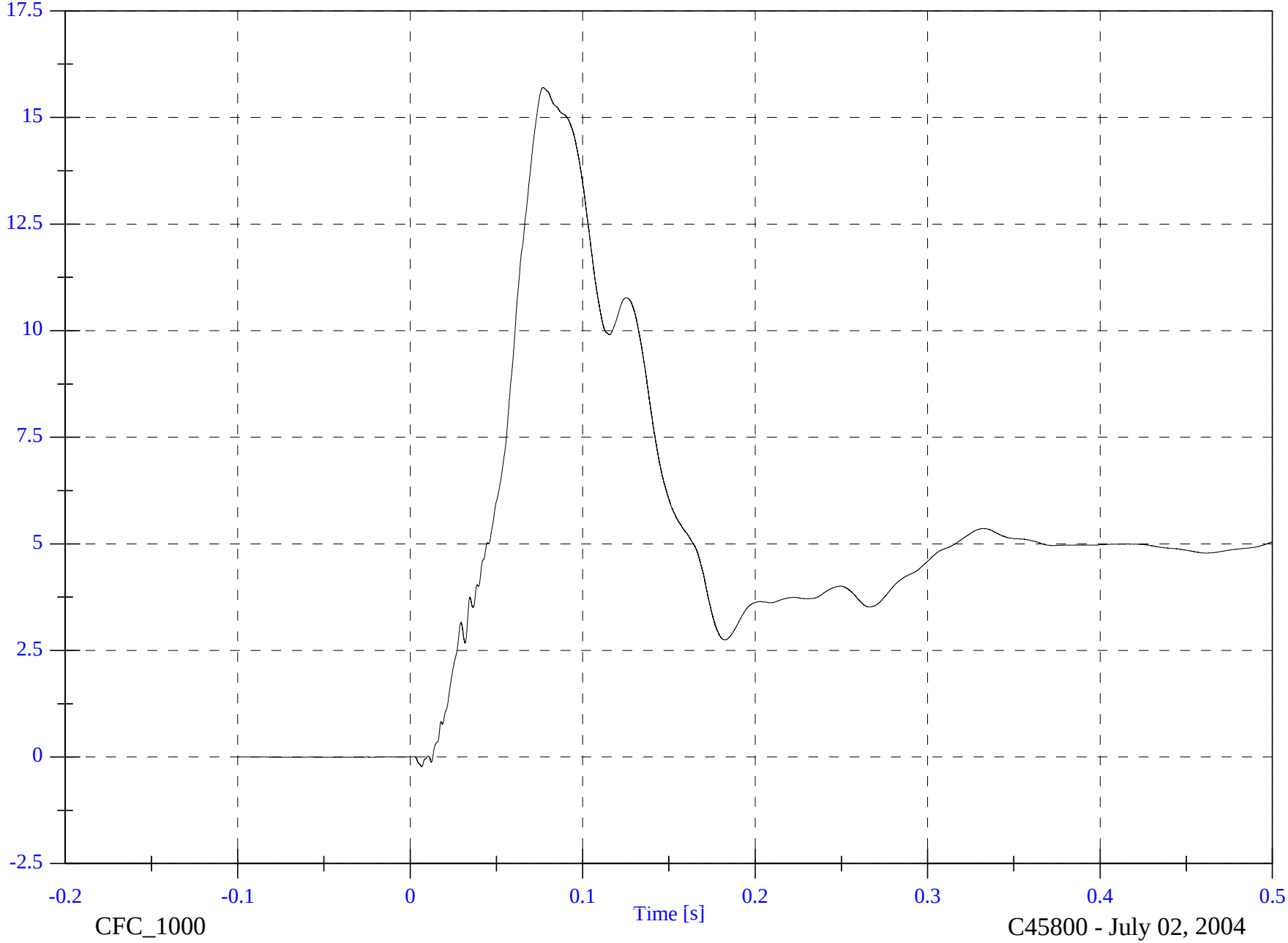
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Right Change in Seat Back Angle WRT Sill

Max: 15.7 [deg] at 0.077 [s]

Min: -0.2 [deg] at 0.007 [s]



B-129

8655-F301-22R

CFC_1000

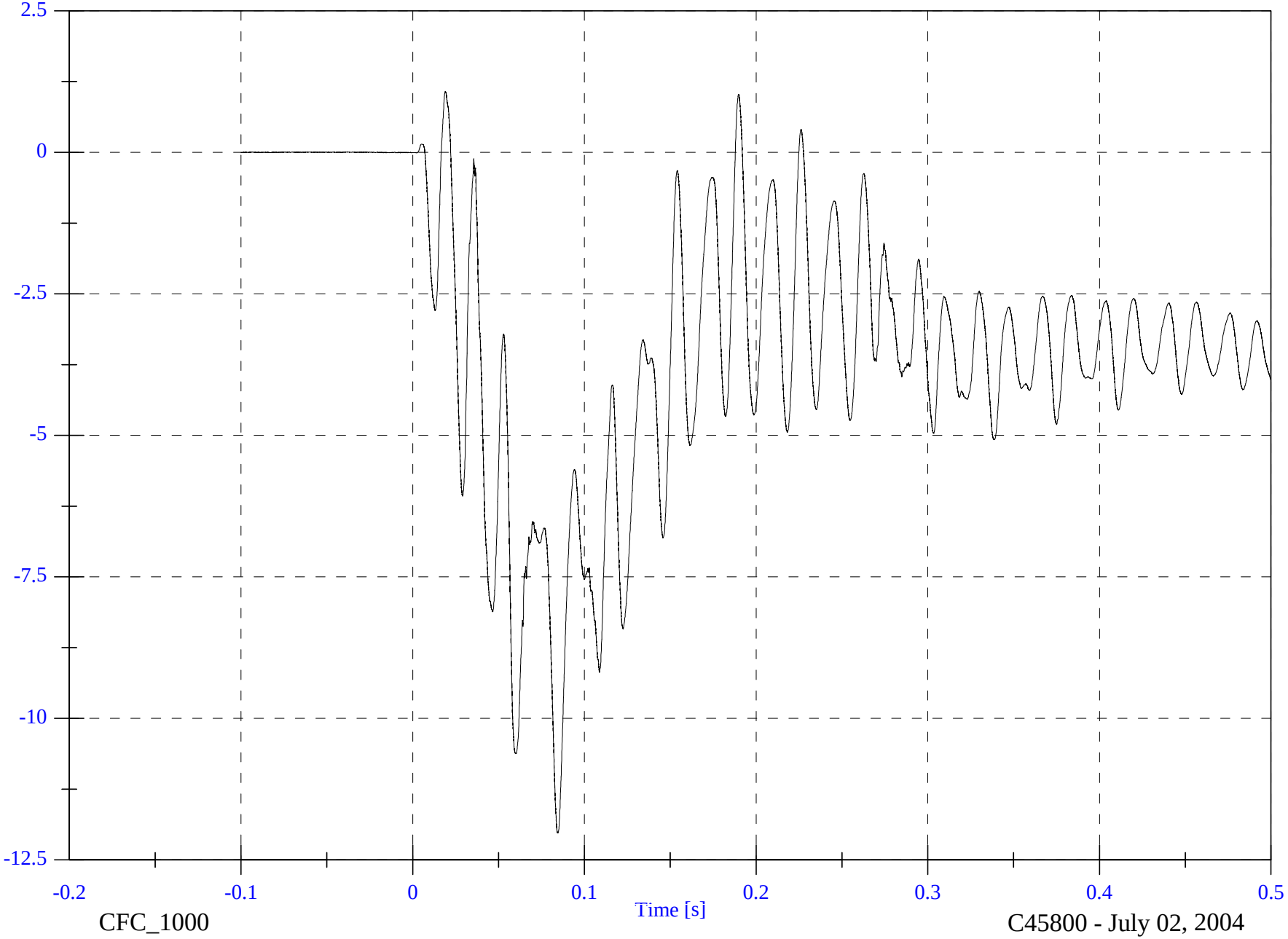
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Right Change in String Angle

Max: 1.1 [deg] at 0.019 [s]

Min: -12.0 [deg] at 0.085 [s]



B-130

8655-F301-22R

CFC_1000

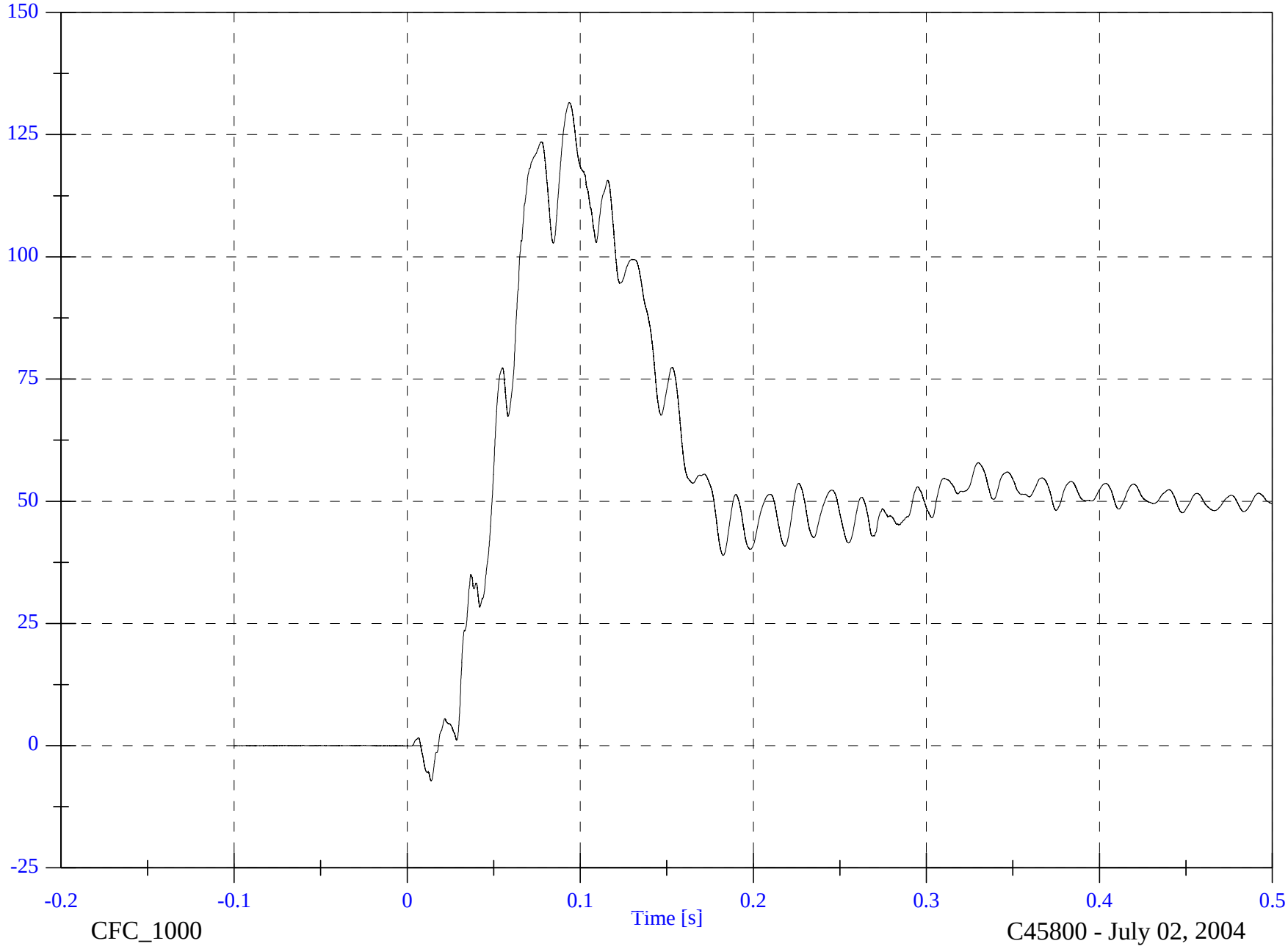
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P1 Right Seat X Displacement

Max: 131.5 [mm] at 0.093 [s]

Min: -7.2 [mm] at 0.014 [s]



B-131

8655-F301-22R

CFC_1000

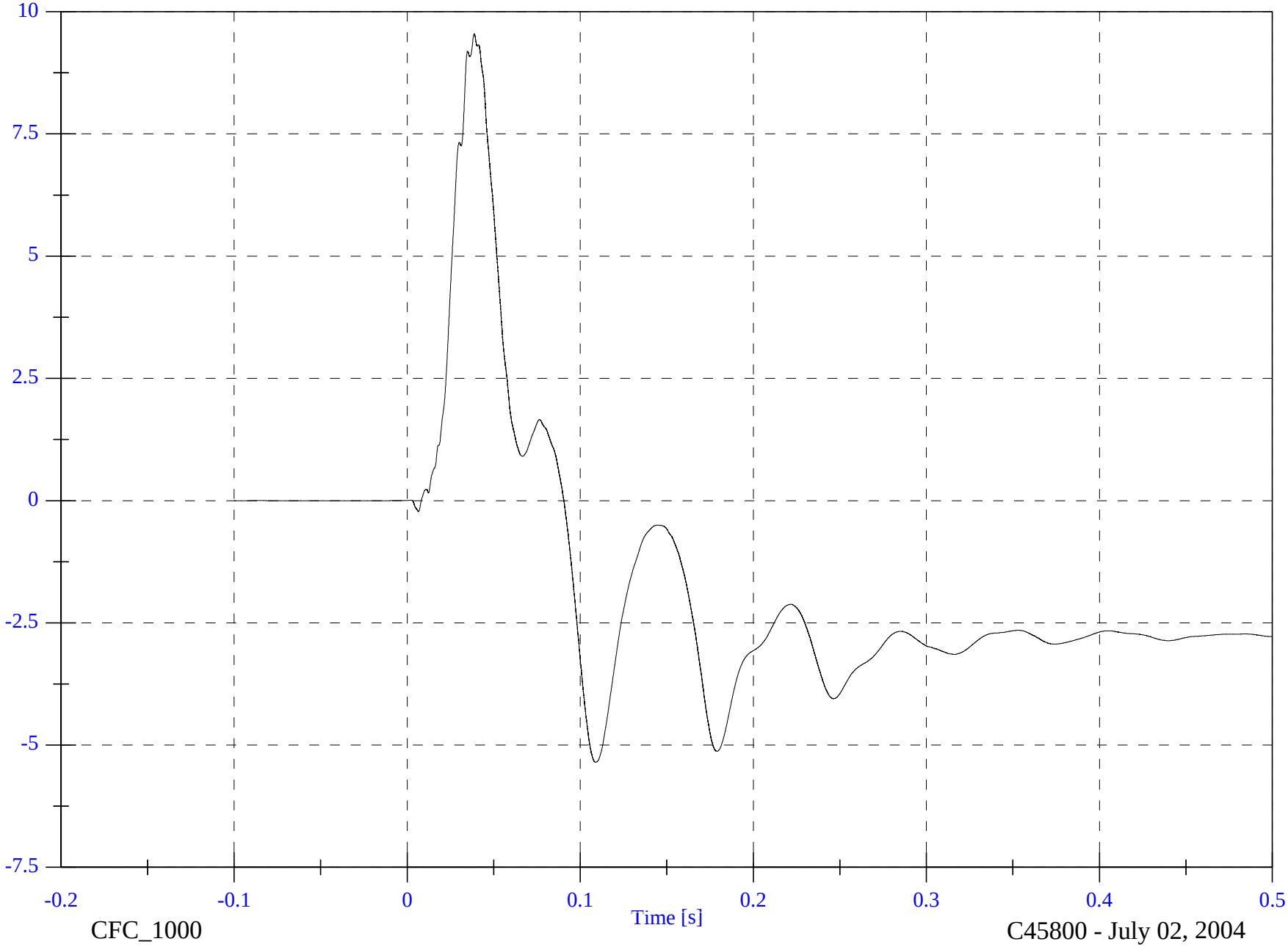
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Left Change in Seat Back Angle WRT Sill

Max: 9.5 [deg] at 0.039 [s]

Min: -5.3 [deg] at 0.109 [s]



B-132

8655-F301-22R

CFC_1000

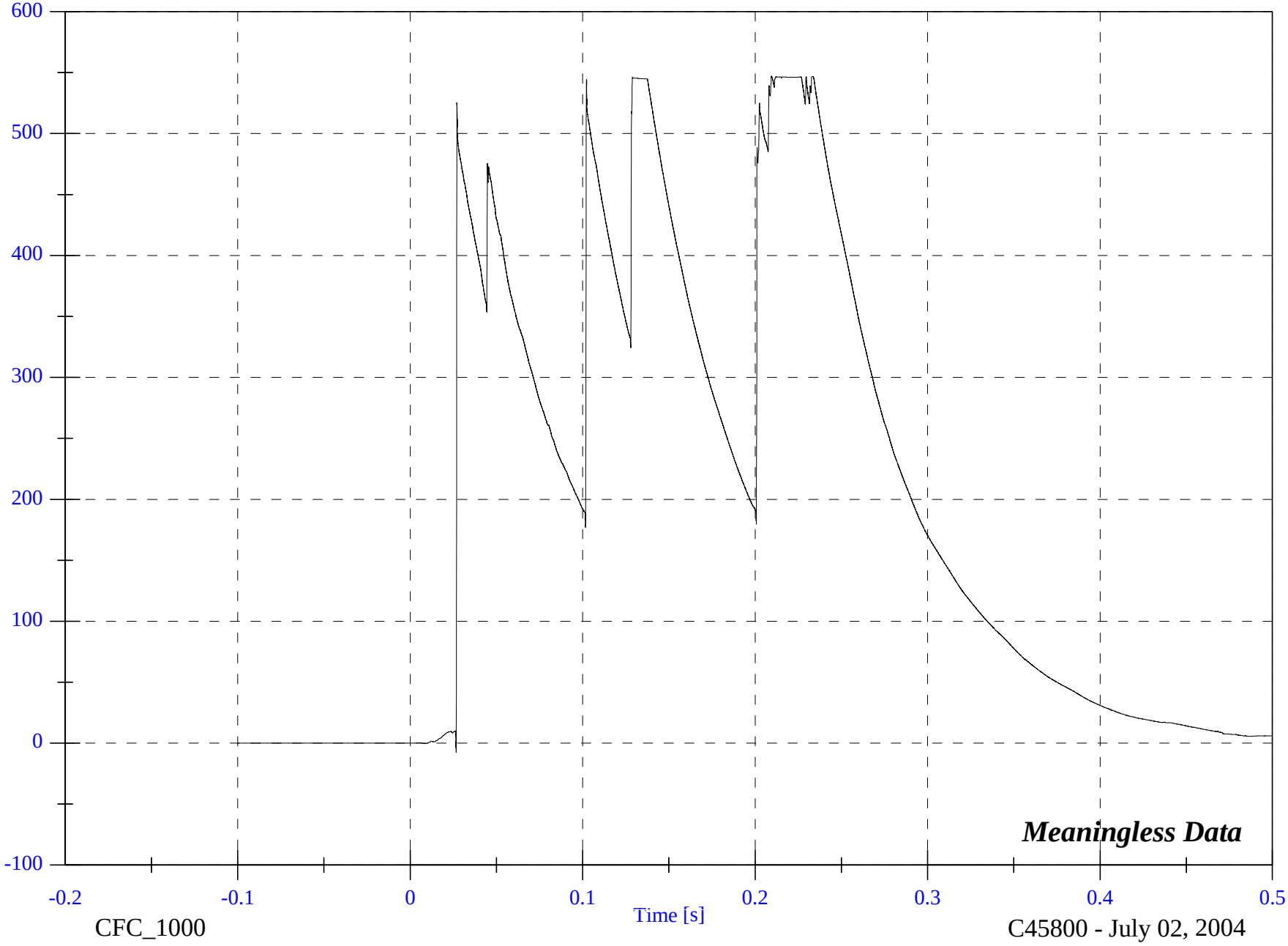
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Left Change in String Angle

Max: 547.0 [deg] at 0.209 [s]

Min: -7.7 [deg] at 0.027 [s]



B-133

8655-F301-22R

CFC_1000

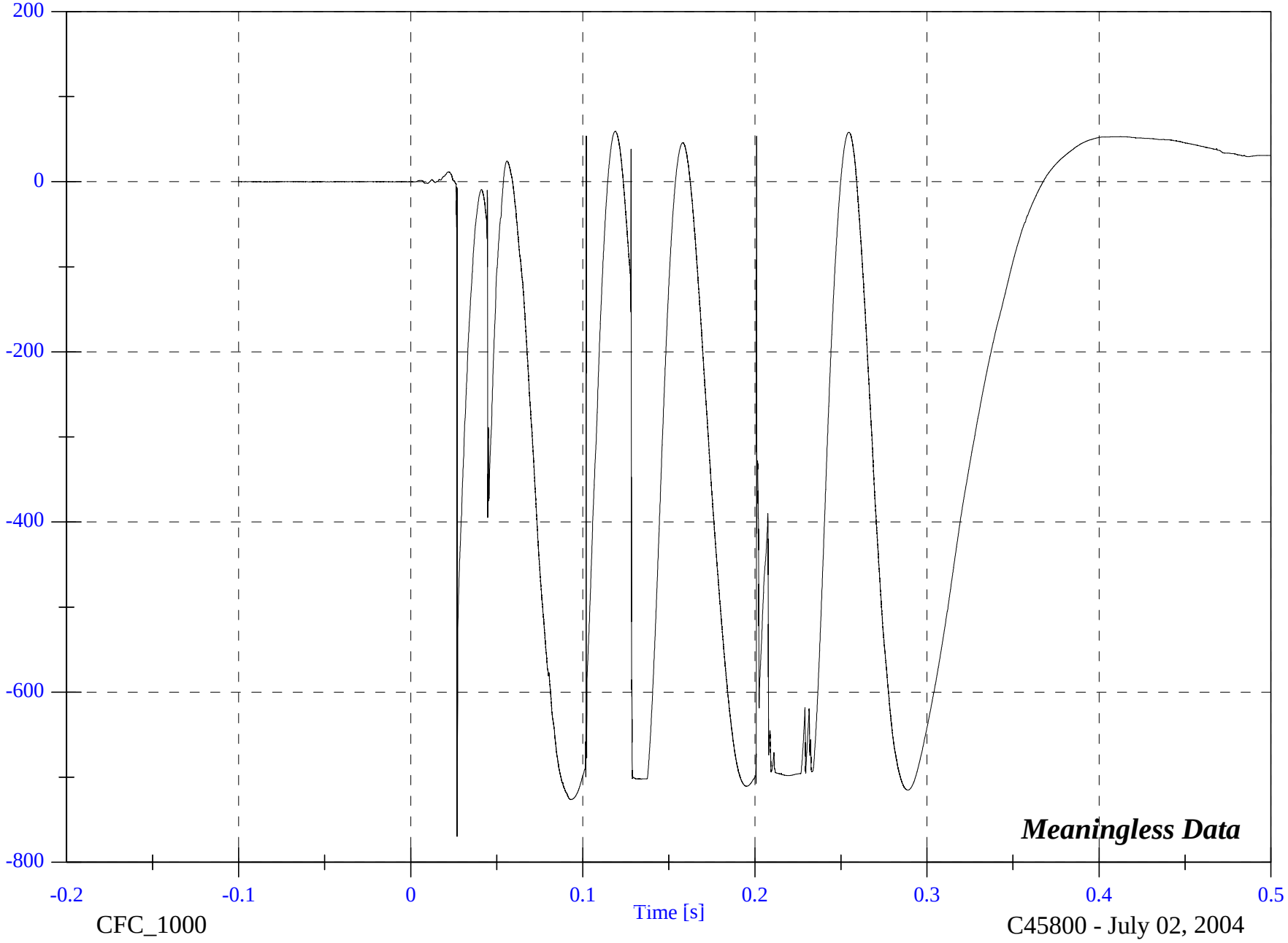
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Left Seat X Displacement

Max: 59.2 [mm] at 0.119 [s]

Min: -769.6 [mm] at 0.027 [s]



B-134

8655-F301-22R

CFC_1000

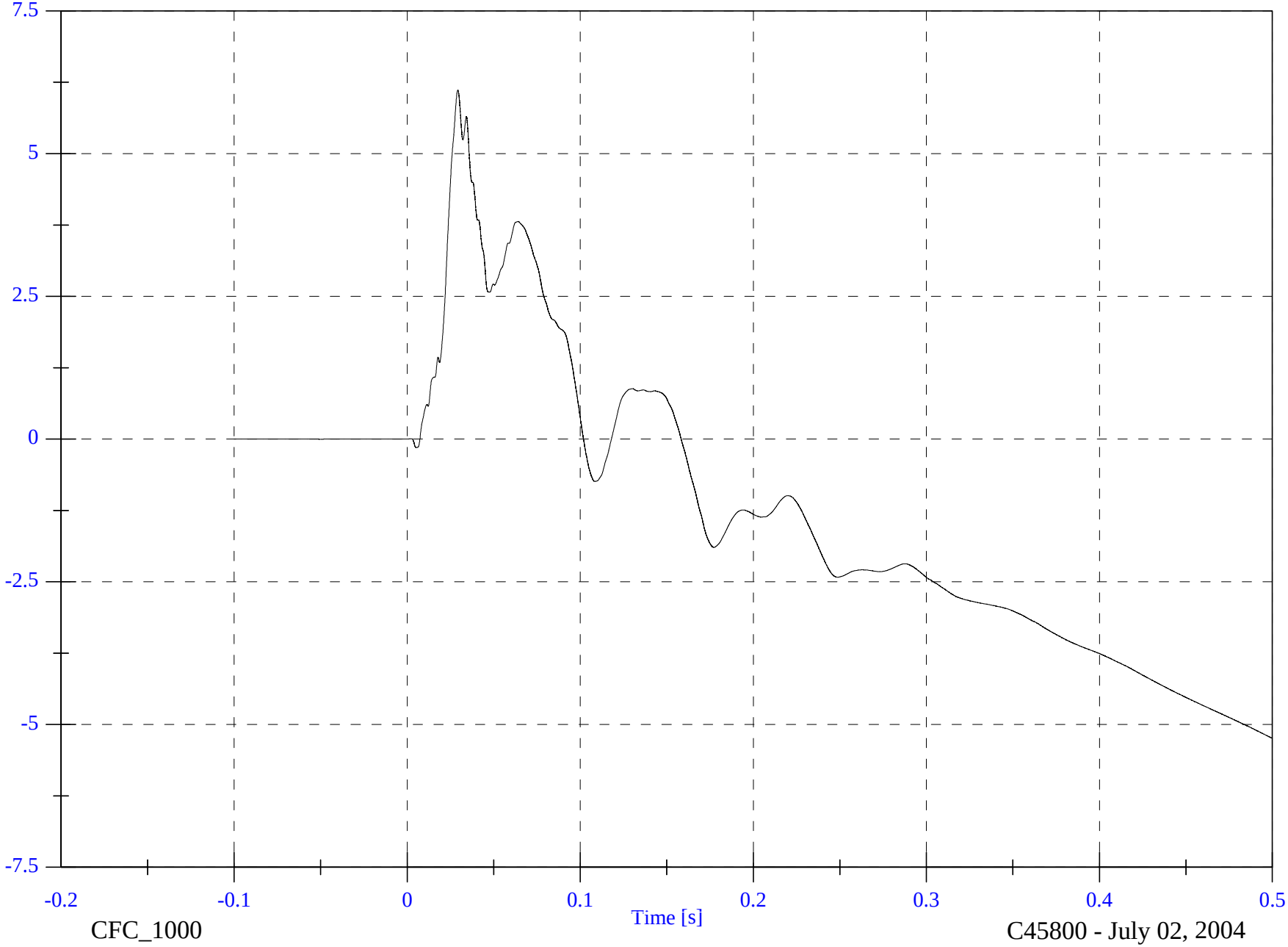
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Right Change in Seat Back Angle WRT Sill

Max: 6.1 [deg] at 0.029 [s]

Min: -5.2 [deg] at 0.500 [s]



B-135

8655-F301-22R

CFC_1000

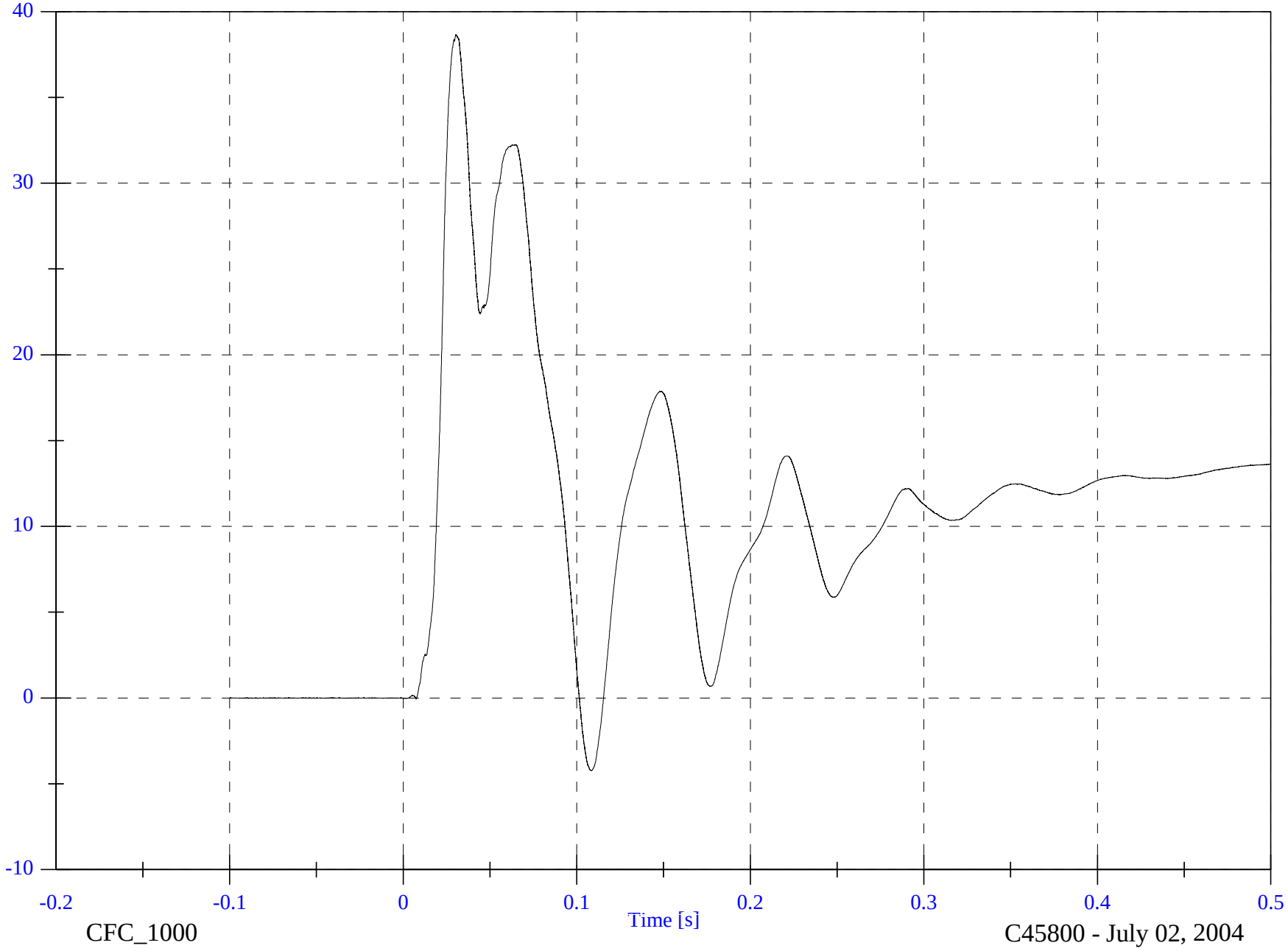
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Right Change in String Angle

Max: 38.7 [deg] at 0.030 [s]

Min: -4.2 [deg] at 0.109 [s]



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8655-F301-22R

CFC_1000

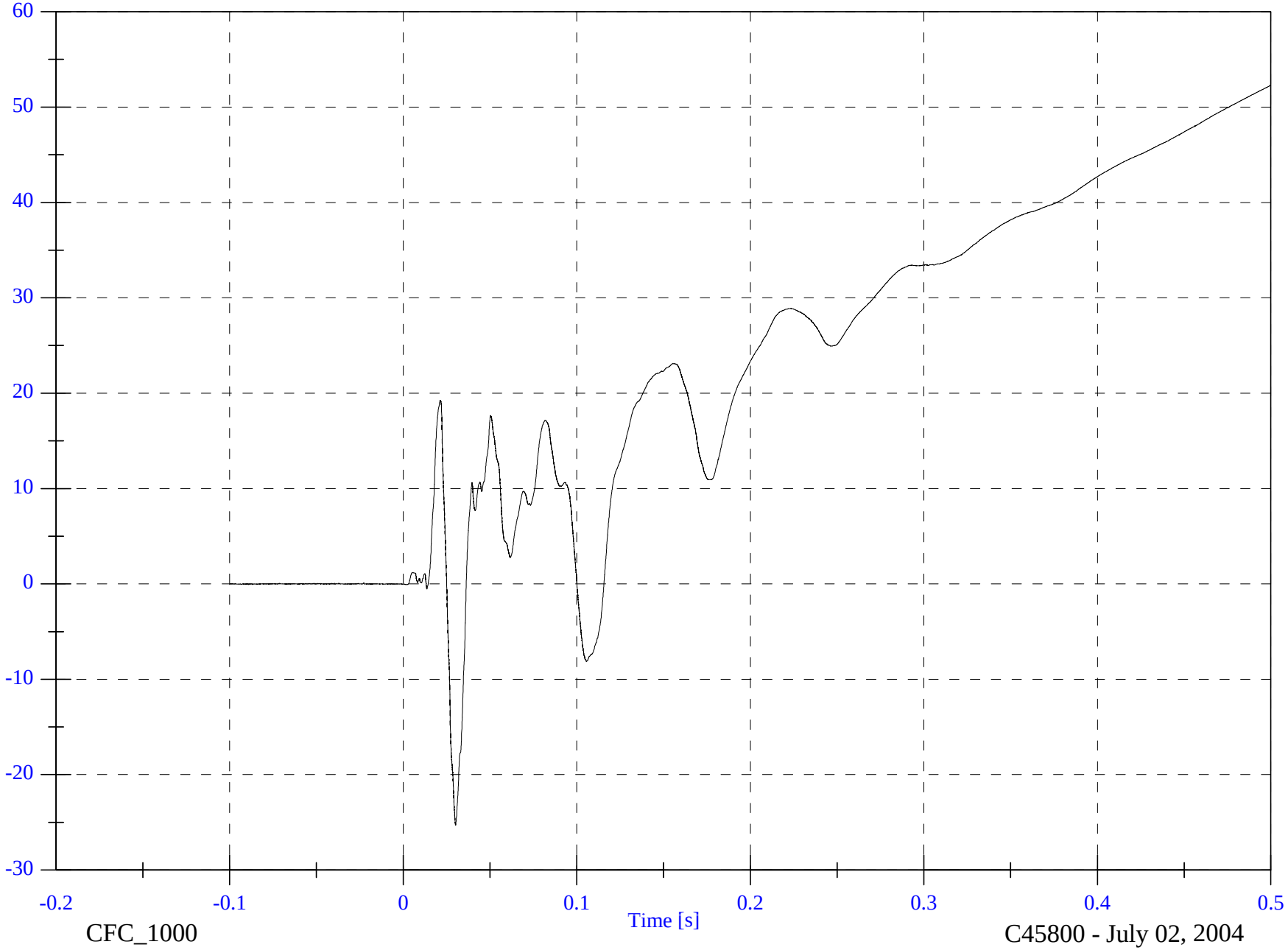
C45800 - July 02, 2004

2004 FMVSS 301 Test #5 - 2004 Volkswagen Touareg

P3 Right Seat X Displacement

Max: 52.3 [mm] at 0.500 [s]

Min: -25.3 [mm] at 0.030 [s]



CFC_1000

C45800 - July 02, 2004

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8655-F301-22R