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Road vehicles — Multimedia data exchange format for impact tests

Véhicules routiers — Format d'échange de données multimédia pour les essais de choc

Related electronic document F

Active Safety Recommendation

Rev 20220316

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1 Normative references

The following referenced documents are necessary for the application of this document.

ISO 8855, *Road vehicles — Vehicle dynamics and road-holding ability — Vocabulary*

ISO 19206, *Road vehicles — Test devices for target vehicles, vulnerable road users and other objects, for assessment of active safety functions —Part 1:Requirements for passenger vehicle rear-end targets*

ISO 19206, *Road vehicles — Test devices for target vehicles, vulnerable road users and other objects, for assessment of active safety functions —Part 2:Requirements for pedestrian targets*

ISO 19206, *Road vehicles — Test devices for target vehicles, vulnerable road users and other objects, for assessment of active safety functions —Part 4:Requirements for bicyclist targets*

2 Hints

For active safety tests a set of specific environments can be described in a general way. Recommendation for the usage of the MME format in the exchange of data between the test laboratories and the customers are summarized in the following pages.

2.1 MME Descriptors

2.1.1 Test object

In active safety tests the interaction between 2 or more test objects are described. In all scenarios the Subject Vehicle is engaged, which test object code is 1.

The other objects could be targets like vehicles, vulnerable road users and/or parts of the test rig like lines. The test object code for all targets is 2.

In most cases the test object T for the test rig resp. testing ground is not explicitly named or listed.

2.1.2 Type of the test

Value	Description	Test objects		Remark
		Code	Class	
BSD	Blind Spot Detection	1	Subject Vehicle	
		2	Vehicle Target	
C2C	Car to Car	1	Subject Vehicle	
		2	Vehicle Target	
DHL	Dynamic Head Light	1	Subject Vehicle	
LSS	Lane Support Systems	1	Subject Vehicle	
SAS	Speed Assist Systems	1	Subject Vehicle	
VRU	Vulnerable Road User	1	Subject Vehicle	
		2	Pedestrian or Cyclist Target	
...	...			

2.1.3 Subtype of the test

The values for 'Subtype of the test' can be expanded by the exchanging partners. The table contains recommendation for a subset of the types of test listed in 2.1.2.

Type of the test	Subtype of the test	Scenario	Usecase
C2C	CCC_AEB	Car-to-Car Crossing	
	CCC_FCW	Car-to-Car Crossing	Forward Collision Warning
	CCF_AEB	Car-to-Car Crossing	Autonomous Emergency Braking
	CCRb_AEB	Car to Car Rear breaking	Autonomous Emergency Braking
	CCRb_CIB	Car to Car Rear breaking	Crash Imminent Braking
	CCRb_DBS	Car to Car Rear breaking	Dynamic Brake Support
	CCRb_FCW	Car to Car Rear breaking	Forward Collision Warning
	CCRm_AEB	Car to Car Rear moving	Autonomous Emergency Braking
	CCRm_CIB	Car to Car Rear moving	Crash Imminent Braking
	CCRm_DBS	Car to Car Rear moving	Dynamic Brake Support
	CCRm_ESS	Car to Car Rear moving	Emergency Steering Support
	CCRm_FCW	Car to Car Rear moving	Forward Collision Warning
	CCRs_AEB	Car to Car Rear stationary	Autonomous Emergency Braking
	CCRs_CIB	Car to Car Rear stationary	Crash Imminent Braking
	CCRs_DBS	Car to Car Rear stationary	Dynamic Brake Support
	CCRs_ESS	Car to Car Rear stationary	Emergency Steering Support
	CCRs_FCW	Car to Car Rear stationary	Forward Collision Warning
	CCFtab_AEB	Car to Car Front turn across path	Autonomous Emergency Braking
	CCFhos_AEB	Car-to-Car Front Head-On	Autonomous Emergency Braking
	CCFhol_AEB	Car-to-Car Front Head-On	Autonomous Emergency Braking
	FP-STP_CIB	False Positive - Steel Trench Plate	Crash Imminent Braking
	FP-STP_AEB	False Positive - Steel Trench Plate	Autonomous Emergency Braking
	FP-STP_DBS	False Positive - Steel Trench Plate	Dynamic Brake Support
	FP-CCRb_AEB	False Positive – Car to Car Rear breaking	Autonomous Emergency Braking
	FP-CCRb_FCW	False Positive – Car to Car Rear breaking	Forward Collision Warning
VRU	CBFA_AEB	Car to Bicyclist Farside Adult	Autonomous Emergency Braking
	CBLA_AEB	Car to Bicyclist Longitudinal Adult	Autonomous Emergency Braking
	CBLA_ESS	Car to Bicyclist Longitudinal Adult	Emergency Steering Support
	CBLA_FCW	Car to Bicyclist Longitudinal Adult	Forward Collision Warning
	CBNA_AEB	Car to Bicyclist Nearside Adult	Autonomous Emergency Braking
	CBNAO_AEB	Car to Bicyclist Longitudinal Adult Obstructed	Autonomous Emergency Braking
	CBTA_AEB	Car-to-Bicyclist Turning Adult	Autonomous Emergency Braking
	CMFtap_AEB	Car-to-Motorcyclist Front Turn Across Path	Autonomous Emergency Braking
	CMRb_AEB	Car-to-Motorcyclist Rear Braking	Autonomous Emergency Braking
	CMRb_FCW	Car-to-Motorcyclist Rear Braking	Forward Collision Warning
	CMRs_AEB	Car-to-Motorcyclist Rear Stationary	Autonomous Emergency Braking

	CMRs_FCW	Car-to-Motorcyclist Rear Stationary	Forward Collision Warning
	CPFA_AEB	Car to Pedestrian Farside Adult	Autonomous Emergency Braking
	CPFOA_AEB		Autonomous Emergency Braking
	CPLA_AEB	Car to Pedestrian Longitudinal Adult	Autonomous Emergency Braking
	CPLA_ESS	Car to Pedestrian Longitudinal Adult	Emergency Steering Support
	CPLA_FCW	Car to Pedestrian Longitudinal Adult	Forward Collision Warning
	CPNA_AEB	Car to Pedestrian Nearside Adult	Autonomous Emergency Braking
	CPNA_FCW	Car to Pedestrian Nearside Adult	Forward Collision Warning
	CPNAO_AEB	Car to Pedestrian Nearside Adult Obstructed	Autonomous Emergency Braking
	CPNC_AEB	Car to Pedestrian Nearside Child	Autonomous Emergency Braking
	CPNCO_AEB	Car to Pedestrian Nearside Child Obstructed	Autonomous Emergency Braking
	CPNDOC_AEB		Autonomous Emergency Braking
	CPNSOC_AEB		Autonomous Emergency Braking
	CPRAm_AEB	Car-to-Pedestrian Reverse Adult moving	Autonomous Emergency Braking
	CPRA _s _AEB	Car-to-Pedestrian Reverse Adult stationary	Autonomous Emergency Braking
	CPRC _m _AEB	Car-to-Pedestrian Reverse Child moving	Autonomous Emergency Braking
	CPRC _s _AEB	Car-to-Pedestrian Reverse Child stationary	Autonomous Emergency Braking
	CPTA_AEB	Car to Pedestrian Turning Adult	Autonomous Emergency Braking
	CSFA_AEB	Car to Scooter Farside Adult	Autonomous Emergency Braking
	CVFA_AEB	Car to VRU Farside Adult	Autonomous Emergency Braking
	CVNA_AEB	Car to VRU Nearside Adult	Autonomous Emergency Braking
LSS	BN_LDW	Bot dots None	Lane Departure Warning
	DC_LDW	Dashed Curve	Lane Departure Warning
	DDR_ELK	Dashed Dashed Right	Emergency Lane Keeping
	DN_LDW	Dashed None	Lane Departure Warning
	DN_LKA	Dashed None	Lane Keeping Assist
	DS_LKA	Dashed Solid	Lane Keeping Assist
	NDR_ELK	None Dashed Right	Emergency Lane Keeping
	NDR_LKA	None Dashed Right	Lane Keeping Assist
	NNR_ELK	None None Right	Emergency Lane Keeping
	SD_LKA	Solid Dashed	Lane Keeping Assist
	SDR_ELK	Solid Dashed Right	Emergency Lane Keeping
	SN_ELK	Solid None	Emergency Lane Keeping
	SN_LDW	Solid None	Lane Departure Warning
	SN_LKA	Solid None	Lane Keeping Assist
BSD	C2B_OU	Car to Bicyclist Overtaking Unintentional	
	C2C_M	Car to Car Merging	
	C2C_OI	Car to Car Overtaking Intentional	
	C2C_On	Car to Car Oncoming	
	C2C_OU	Car to Car Overtaking Unintentional	
	C2C_Ov	Car to Car Overtaking	

	C2TW_M	Car to Two Wheeler Merging	
	C2TW_OI	Car to Two Wheeler Overtaking Intentional	
	C2TW_On	Car to Two Wheeler Oncoming	
	C2TW_OU	Car to Two Wheeler Overtaking Unintentional	
	C2TW_Ov	Car to Two Wheeler Overtaking	
	C2TW_OvF	Car to Two Wheeler Overtaking farlane	
	RCTA_diag	diagonal	
	RCTA_perp	perpendicular	
	TW2C_Ov	Two Wheeler to Car Overtaking	
DHL			
SAS	SCF_Acceleration	Speed Control Function	Acceleration
	SCF_Deceleration	Speed Control Function	Deceleration
	SCF_Kickdown	Speed Control Function	Kickdown
	SCF_Overrun	Speed Control Function	Overrun
	SLIF_Display	Speed Limit Information Function)	Display
	SLIF_Warning	Speed Limit Information Function)	Warning

2.1.4 Regulation

The value of the descriptor regulation in the MME file is a comma separated list of keys each composed by 3 parts separated by ‘_’ (ASCII 95).

The first part describes the *Family* which represents a group of regulations or procedures like UN-R, GTR, EuroNCAP.

The second is the subpart which could be the *Number* of the regulation or an abbreviation of the procedure like 127, VRU, LSS.

The third part gives a specification of the *Version* number or year of publication like 8.7, IV, 2022.

A list of examples gives the following table.

Value	Remark
EuroNCAP_VRU_3.0.2	Version 3.0.2 of the EuroNCAP test protocol for AEB VRU systems
CNCAP_C2C_2021	Version from 2021 of the China NCAP test protocol for car to car scenarios
USNCAP_DBS_2015	Version from 2015 of the NHTSA test protocol for dynamic brake support
CIASI_C2C_2017	Version from 2017 of the CIASI test protocol for car to car scenarios
ANCAP_LSS_3.0.2	Version 3.0.2 of the ANCAP test protocol for lane support systems
IIHS_VRU_II	Version II of the pedestrian AEB test protocol of the IIHS - or alternatively:
IIHS_VRU_2019	Version II from 2019 of the pedestrian AEB test protocol of the IIHS
...	...

2.2 Reference Coordinate Systems

All channels are measured or calculated in specific reference coordinate systems. For MME 2.x the coordinate system Id is part of the extended channel code. The related reference system has to be agreed between the exchanging partners. The reference systems used in active safety tests can be reduced to the following table.

Id	Characteristic	Directions	Description	Remark
1DY	SV dynamic	X Y Z	Dynamic coordinate system fixed to the SV	Vehicle coordinate system according ISO 8855. Moving direction is X
2DY	Target dynamic	X Y Z	Dynamic coordinate system fixed to the target	Analog to a vehicle coordinate system according ISO 8855. Moving direction is X
LOC	Steering Wheel	1 2 3	Local Coordinate system of the steering wheel (1 = Longitudinal)	Only the rotation around the longitudinal axis of the steering system is used.
LOC	Path System	X Y Z	Local coordinate system of the path	Only the lateral deviation from the path is used.
NED	NorthEastDown	1 2 3	Stationary earth-fixed axis system (1 = North, 2 = East, 3 = Down)	Typically from GPS based systems with units [m].
TST	Testground Static	X Y Z	Stationary earth-fixed axis system with an origin that is fixed in the ground plane	Derived from NED system by moving the origin to a point at the test ground and rotating the X axis to the main driving direction.

To clarify:

For velocities in the dynamic coordinate systems 1DY and 2DY calculated by integration of accelerations or differentiation of distances the X, Y and Z-directions of the current orientation are assumed.

2.3 Channel Codes

The channel code consists of 16 characters, composed of a sequence of codes with a fixed length and specific order, defining test object, position, main location, fine locations, physical dimension, direction and filter class

EXAMPLE **1 0 VEHC 00 DI 00 VE X P**

Meaning:	Test object	= 1	Subject Vehicle
	Position	= 0	Undefined
	Main location	= VEHC	The whole vehicle
	Fine location 1	= 00	Undefined
	Fine location 2	= DI	Difference (relative)
	Fine location 3	= 00	Undefined
	Dimension	= VE	Velocity
	Direction	= X	X-direction
	Filter class	= P	Prefiltered

No filter classes are defined for active safety signals. Therefore all channels which could be filtered should have the filter class **P** (Prefiltered). Data sets which not could be filtered like Event or Time Channels should have the filter class **0**. The filter class has to be **S** (Special) when Acceleration, Force or Angular Velocity Channels are filtered according to the specification given in the regulation.

2.3.1 Naming of Bus Signals

Bus signals can be named with the Main location 2BUS. To distinguish between different signals the Fine locations can be used. When bus signals are equivalent to named channels the code of the named channel with the Fine location **RD** (redundant) is recommended.

2.3.2 Main Locations for Vulnerable Road Users

Test devices for targets, vulnerable road users and other objects are described in ISO 19206 Part 1, 2 and 4. Especially for vulnerable road users the number of different targets will grow in the future.

Here is a list of ISO Main Locations for these targets:

	Group	Type	ISO ML code	Description	Comment
Animals	AN	MS	ANMS	Moose	
	AN	RO	ANRO	Roe	
	AN	WB	ANWB	Wild boar	
	AN	DR	ANDR	Deer	
	AN	HS	ANHS	Horse	
	AN	CW	ANCW	Cow	
	AN	DG	ANDG	Dog	
	AN	CT	ANCT	Cat	
	AN	BB	ANBB	Big Bird	walking Bird (e.g. Duck, Chicken, Goose,...)
Toys	TY	RC	TYRC	Ride-On Car	= e.g. Bobby Car
	TY	RB	TYRB	Running Bike	

	TY	TC	TYTC	Tricycle	
	TY	SS	TYSS	Selfbalancing Scooter	= e.g. Hoverboard or Hover Scooter
Two Wheeler	TW	CA	TWCA	Cyclist Adult	
	TW	CC	TWCx	Cyclist Child x years old	tbd: replace x by age when target is available
	TW	EB	TWEB	Electric Cyclist / Pedelec	EuroNCAP target PTW
	TW	MB	TWMB	Motorbike / PTW	EuroNCAP target PTW
	TW	SC	TWSC	Scooter Adult	CNCAP e-Scooter or Motor scooter
	TW	KS	TWKS	Kick Scooter	adult rider on (electric) kick scooter
	TW	Kx	TWKx	Kick Scooter Child x years old	child rider on (electric) kick scooter tbd: replace x by age when target is available
	TW	SW	TWSW	Segway or similar	
	TW	WC	TWWC	Wheelchair	
Pedestrian	PD	AD	PDAD	Adult / Adult Midsize 50%	
	PD	AF	PDAF	Adult Female 5%	
	PD	AL	PDAL	Adult Large 95%	
	PD	Cx	PDCx	Child x years old	tbd: replace x by age when target is available
	PD	C1	PDC1	Child 1 year old	existing target PDCx
	PD	C2	PDC2	Child 2 yeras old	existing target PDCx
	PD	C7	PDC7	Child 7 years old	existing target PDCx
	PD	AW	PDAW	Adult Senior with 4-wheeled walker	
	PD	SB	PDSB	Skateboarder	
	PD	IS	PDIS	Inlineskater	

2.3.3 Codes for Test Type C2C

A list of examples gives the following table.

Channel Code	Unit	RefSys	Description
10PEAC000000000P	1	LOC	Accelerator Pedal Relative Position
10PEAC00RW00000P	1	LOC	Accelerator Pedal Command
10PEBR000000DS0P	m	LOC	Brake Pedal Position
10PEBR000000FO0P	N	LOC	Brake Pedal Force
10PEBR00RW00000P	1	LOC	Brake Pedal Command
10STWL000000AV1P	rad/s	LOC	VUT Steering Wheel Angle Velocity
10TFCW000000EV00	1	-	FCW acoustical
10TTTC000000TI00	s	-	TTC
10TTTC010000TI00	s	-	TTC with Acceleration
10VEHC000000ACXP	m/(s*s)	1DY	VUT Longitudinal Acceleration
10VEHC000000AVZP	rad/s	1DY	VUT Yaw Rate
10VEHC000000DSXP	m	TST	VUT Position X
10VEHC000000DSYP	m	TST	VUT Position Y
10VEHC000000VEXP	m/s	1DY	VUT Longitudinal Velocity
10VEHC00DI00DCYP	m	LOC	VUT Lateral Path Error
10VEHC00DI00DSXP	m	1DY	Headway Distance VUT - Target
10VEHC00DI00DSYP	m	1DY	Lateral Distance VUT - Target
20VEHC000000ACXP	m/(s*s)	2DY	Target Longitudinal Acceleration
20VEHC000000AVZP	rad/s	2DY	Target Yaw Rate
20VEHC000000DSXP	m	TST	Target Position X
20VEHC000000DSYP	m	TST	Target Position Y
20VEHC000000VEXP	m/s	2DY	Target Longitudinal Velocity
20VEHC000000VEYP	m/s	2DY	Target Lateral Velocity
20VEHC00DI00DCYP	m	LOC	Target Lateral Path Error
...			
Examples for the usage of bus signals:			
10TTTCRD0000TI00	s	-	Bus Signal TTC
10VEHCRD0000ACXP	m/(s*s)	1DY	Bus Signal VUT Requested Acceleration
102BUS010000000P	1	-	Bus Signal 1 Raw
102BUS010000EV00	1	-	Bus Signal 1
102BUS020000EV00	1	-	Bus Signal 2
102BUS030000000P	1	-	Bus Signal 3 Raw
102BUS030000EV00	1	-	Bus Signal 3
...			

2.3.4 Codes for Test Type VRU

A list of examples gives the following table.

Channel Code	Unit	RefSys	Description
10PEAC00000000P	1	LOC	Accelerator Pedal Relative Position
10PEAC00RW00000P	1	LOC	Accelerator Pedal Command
10PEBR0000000DS0P	m	LOC	Brake Pedal Position
10PEBR0000000FO0P	N	LOC	Brake Pedal Force
10STWL0000000AV1P	rad/s	LOC	VUT Steering Wheel Angle Velocity
10TFCW0000000EV00	1	-	FCW acoustical
10VEHC0000000ACXP	m/(s*s)	1DY	VUT Longitudinal Acceleration
10VEHC0000000AVZP	rad/s	1DY	VUT Yaw Rate
10VEHC0000000DSXP	m	TST	VUT Position X
10VEHC0000000DSYP	m	TST	VUT Position Y
10VEHC0000000VEXP	m/s	1DY	VUT Longitudinal Velocity
10VEHC00DI000DCYP	m	LOC	VUT Lateral Path Error
10VEHC00DI000DSXP	m	1DY	Headway Distance VUT - Target
10VEHC00DI000DSYP	m	1DY	Lateral Distance VUT - Target
20CYCL0000000DSXP	m	TST	Cyclist Position X
20CYCL0000000DSYP	m	TST	Cyclist Position Y
20CYCL0000000VEXP	m/s	2DY	Cyclist Longitudinal Velocity
20CYCL0000000VEYP	m/s	2DY	Cyclist Lateral Velocity
20CYCL00DI000DCYP	m	LOC	Cyclist Lateral Path Error
20PEDA0000000DSXP	m	TST	Pedestrian (adult) Position X
20PEDA0000000DSYP	m	TST	Pedestrian (adult) Position Y
20PEDA0000000VEXP	m/s	2DY	Pedestrian (adult) Longitudinal Velocity
20PEDA0000000VEYP	m/s	2DY	Pedestrian (adult) Lateral Velocity
20PEDA00DI000DCYP	m	LOC	Pedestrian (adult) Lateral Path Error
20PEDC0000000DSXP	m	TST	Pedestrian (child) Position X
20PEDC0000000DSYP	m	TST	Pedestrian (child) Position Y
20PEDC0000000VEXP	m/s	2DY	Pedestrian (child) Longitudinal Velocity
20PEDC0000000VEYP	m/s	2DY	Pedestrian (child) Lateral Velocity
20PEDC00DI000DCYP	m	LOC	Pedestrian (child) Lateral Path Error
...			
Examples for the usage of bus signals:			
10TTTCRD00000TI00	s	-	Bus Signal TTC
10VEHCRD00000ACXP	m/(s*s)	1DY	Bus Signal VUT Requested Acceleration
102BUS010000000P	1	-	Bus Signal 1 Raw
102BUS0100000EV00	1	-	Bus Signal 1
102BUS0200000EV00	1	-	Bus Signal 2
102BUS030000000P	1	-	Bus Signal 3 Raw
102BUS0300000EV00	1	-	Bus Signal 3
...			

2.3.5 Codes for Test Type LSS

A list of examples gives the following table.

Channel Code	Unit	RefSys	Description
10TLCR000000TI00	s	-	TLC
10TLCRFRLE00EV00	1	-	Line Crossing Time LHS
10TLCRFRRI00EV00	1	-	Line Crossing Time RHS
10TLDW000000EV00	1	-	LDW Activation Time
10TLDW010000EV00	1	-	LDW Vibration
10TLKA000000EV00	1	-	LKA Activation Time
10VEHC000000ACXP	m/(s*s)	1DY	VUT Longitudinal Acceleration
10VEHC000000ACYP	m/(s*s)	1DY	VUT Lateral Acceleration
10VEHC000000AVZP	rad/s	1DY	VUT Yaw Rate
10VEHC000000DSXP	m	TST	VUT Position X
10VEHC000000DSYP	m	TST	VUT Position Y
10VEHC000000VEXP	m/s	1DY	VUT Longitudinal Velocity
10VEHC000000VEYP	m/s	1DY	VUT Lateral Velocity
10VEHC00DI00DCYP	m	LOC	Lateral Path Error VUT
10VEHC00DI00DSYP	m	1DY	Lateral Displacement
11WHEL000000DSXP	m	TST	VUT Front Left Wheel Position X - needed?
11WHEL000000DSYP	m	TST	VUT Front Left Wheel Position Y - needed?
13WHEL000000DSXP	m	TST	VUT Front Right Wheel Position X - needed?
13WHEL000000DSYP	m	TST	VUT Front Right Wheel Position Y - needed?
20VEHC000000ACXP	m/(s*s)	2DY	Target Longitudinal Acceleration
20VEHC000000AVZP	rad/s	2DY	Target Yaw Rate
20VEHC000000DSXP	m	TST	Target Position X
20VEHC000000DSYP	m	TST	Target Position Y
20VEHC000000VEXP	m/s	2DY	Target Longitudinal Velocity
...			
Examples for the usage of bus signals:			
10TLKARD0000000P	1	-	Bus Signal LKA Requested
10TLKARD000000EV00	1	-	Bus Signal LKA Approval
10VEHCRDDI00DSYP	m	1DY	Bus Signal Lateral Displacement
...			

3 Examples

3.1 Examples for MME 1.6

3.1.1 Example of a test information file MME 1.6

Filename: 21C2C-123M.mme

```

Data format edition number :1.6
Laboratory name            :NOVALUE
Laboratory contact name    :NOVALUE
Laboratory contact phone   :NOVALUE
Laboratory contact fax     :NOVALUE
Laboratory contact email   :NOVALUE
Laboratory test ref. number :21C2C-123M_CARID_20210414_145239
Customer name              :NOVALUE
Customer test ref. number  :NOVALUE
Customer project ref. number:NOVALUE
Customer order number      :NOVALUE
Customer cost unit         :NOVALUE
Customer test engineer name :NOVALUE
Customer test engineer phone:NOVALUE
Customer test engineer fax  :NOVALUE
Customer test engineer email:NOVALUE
Title                      :NOVALUE
Medium No./number of media :1/1
Timestamp                  :2021-04-14 08:41:35
Type of the test           :C2C
Subtype of the test        :CCRs_AEB
Regulation                 :EuroNCAP_C2C_2020
Reference temperature      :NOVALUE
Relative air humidity      :NOVALUE
Date of the test           :12-04-2021
Number of test objects     :2
Name of test object 1      :VUT
Velocity test object 1     :4.17
Mass test object 1         :NOVALUE
Driver position object 1   :NOVALUE
Impact side test object 1  :FR
Type of test object 1      :1
Class of test object 1     :SV
Code of test object 1      :NOVALUE
Ref. number of test object 1:NOVALUE
Name of test object 2      :GVT
Velocity test object 2     :0
Mass test object 2         :NOVALUE
Driver position object 2   :NOVALUE
Impact side test object 2  :NOVALUE
Type of test object 2      :2
Class of test object 2     :VT
Code of test object 2      :NOVALUE
Ref. number of test object 2:NOVALUE

```

3.1.2 Example of a channel information file MME 1.6

Filename: 21C2C-123M.chn

```
Instrumentation standard :NOVALUE
Number of channels       :16
Name of channel 001      :10VEHC000000ACXP / VUT Longitudinal Acceleration
Name of channel 002      :10VEHC000000VEXP / VUT Longitudinal Velocity
Name of channel 003      :10VEHC000000VEYP / VUT Lateral Velocity
Name of channel 004      :10VEHC000000AVZP / VUT Yaw Rate
Name of channel 005      :10VEHC00DI00DCYP / Lateral path error VUT
Name of channel 006      :10STWL000000MO1P / VUT Steering Wheel Torque
Name of channel 007      :10TLDW000000EV00 / LDW Activation Time
Name of channel 008      :10TLKA000000EV00 / LKA Activation Time
Name of channel 009      :10VEHC00DI00DSYP / Distance Line - VUT Lateral
Name of channel 010      :11WHEL000000DSXP / VUT Front Left Wheel Position X
Name of channel 011      :11WHEL000000DSYP / VUT Front Left Wheel Position Y
Name of channel 012      :13WHEL000000DSXP / VUT Front Right Wheel Position X
Name of channel 013      :13WHEL000000DSYP / VUT Front Right Wheel Position Y
Name of channel 014      :20VEHC000000ACXP / GVT Longitudinal Acceleration
Name of channel 015      :20VEHC000000VEXP / GVT Longitudinal Velocity
Name of channel 016      :20VEHC000000AVZP / GVT Yaw Rate
```

3.1.3 Example of a channel data file MME 1.6

Filename: 21C2C-123M.008

```
Test object number      :1
Data source              :transducer
Data status              :ok
Name of the channel      :X-Position of the VUT
Laboratory channel code  :10VEHC000000DSXP
Customer channel code    :VUT Position X
Reference channel        :implicit
Reference channel name    :NOVALUE
Channel code             :10VEHC000000DSXP
Channel frequency class  :NOVALUE
Unit                     :m
Reference system         :TST
Transducer type          :NOVALUE
Pre-filter type          :NOVALUE
Cut off frequency        :NOVALUE
Channel amplitude class  :NOVALUE
Sampling interval        :0.01
Bit resolution           :NOVALUE
Time of first sample     :0.01
Number of samples        :2406
Start offset interval    :NOVALUE
End offset interval      :NOVALUE
Offset post test         :NOVALUE
Transducer id            :NOVALUE
Transducer natural frequency: NOVALUE
Transducer damping ratio :NOVALUE
0.01
0.02
0.03
...
```

3.2 Examples for MME 2.1

3.2.1 Example of a test information file MME 2.1

Filename: 21C2C-123M.mme

```

Data format edition number :2.1
Timestamp                  :2021-04-14T06:41:35+02:00
Laboratory name            :NOVALUE
Laboratory contact name    :NOVALUE
Laboratory contact phone   :NOVALUE
Laboratory contact fax     :NOVALUE
Laboratory contact email   :NOVALUE
Laboratory test ref number :21C2C-123M_CARID_20210414_145239
Customer name              :NOVALUE
Customer test ref number   :NOVALUE
Customer project ref number :NOVALUE
Customer order number      :NOVALUE
Customer cost unit         :NOVALUE
Customer contact name      :NOVALUE
Customer contact phone     :NOVALUE
Customer contact fax       :NOVALUE
Customer contact email     :NOVALUE
Title                      :NOVALUE
Type of the test           :C2C
Subtype of the test        :CCRs_AEB
Regulation                 :EuroNCAP_C2C_2020
Reference temperature      :NOVALUE
Relative air humidity      :NOVALUE
Date of the test           :12-04-2021
Number of test objects     :2
#Begin of testobjects
Type                       :1
Filename                   :21C2C-123M_1.mmi
#End of testobject
#Begin of testobject
Type                       :2
Filename                   :21C2C-123M_2.mmi
#End of testobject

```

3.2.2 Examples of object information files MME 2.1

Filename: 21C2C-123M_1.mmi

```

Name                       :VUT
Velocity                   :4.17
Mass                      :NOVALUE
Driver position            :NOVALUE
Impact side test          :FR
Class                     :SV
Code                      :NOVALUE
Ref number                :NOVALUE
Offset                    :NOVALUE

```

Filename: 21C2C-123M_2.mmi

Name	:GVT
Velocity	:0
Mass	:NOVALUE
Driver position	:NOVALUE
Impact side test	:NOVALUE
Class	:VT
Code	:NOVALUE
Ref number	:NOVALUE
Offset	:NOVALUE

3.2.3 Example of a channel information file MME 2.1

Filename: 21C2C-123M_Channel.mmi

Number of channels	:16
Data origin	:T
#Begin of channel	
Extended channel code	:10VEHC000000ACXP_1DYT
Channel code	:10VEHC000000ACXP
Reference system id	:1DY
#End of channel	
#Begin of channel	
Extended channel code	:10VEHC00DI00DCYP_LOCT
Channel code	:10VEHC00DI00DCYP
Reference system id	:LOC
#End of channel	
#Begin of channel	
Extended channel code	:10VEHC00DI00DSXP_1DYT
Channel code	:10VEHC000000DSXP
Reference system id	:1DY
#End of channel	
#Begin of channel	
Extended channel code	:10VEHC000000DSXP_TSTT
Channel code	:10VEHC000000DSXP
Reference system id	:TST
#End of channel	
#Begin of channel	
Extended channel code	:10VEHC000000DSYP_TSTT
Channel code	:10VEHC000000DSYP
Reference system id	:TST
#End of channel	
...	

3.2.4 Example of a channel data file MME 2.1

Filename: 21C2C-123M_10VEHC000000DSXP_TSTT.mmd

Data structure	:Channel
Instrumentation standard	:NOVALUE
Data source	:transducer
Data status	:ok
Unit	:m
Name of the channel	:10VEHC000000DSXP
Laboratory channel code	:10VEHC000000DSXP
Customer channel code	:VUT Position X
Reference channel	:implicit
Reference channel name	:NOVALUE
Uuid	:NOVALUE
Transducer type	:NOVALUE
Transducer id	:NOVALUE
Transducer natural frequency	:NOVALUE
Transducer damping ratio	:NOVALUE
Calibration date	:NOVALUE
Calibration due date	:NOVALUE
Bit resolution	:NOVALUE
Cut off frequency	:NOVALUE
Channel frequency class	:Prefiltered
Channel amplitude class	:NOVALUE
Prefilter type	:NOVALUE
Sampling interval	:0.01
Time of first sample	:0.01
Number of samples	:2406
Start offset interval	:NOVALUE
End offset interval	:NOVALUE
Offset post test	:NOVALUE
#Start of data	
0.01	
0.02	
0.03	
...	