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1 Table of Changes

Revision No.	Revision Date	Section	Page	Description of Change
R1	04/27/2026	2.1	3-4	Updated contact information
		3.1	7	X5 50e xDrive: EVAP Family name changed to VBMXR0180G6H
		3.1, 3.2, 6.2.1	6-9, 19	Test Grouping Changes for BEV following the updated requirements through EPA's final rule "Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards under the Clean Air Act", effective April 20, 2026.
		3.1, 4.1.1, 4.3, 6.2.1, 6.2.2	6-8, 10, 12, 19-20	750e xDrive Sedan included in Test Group VBMXJ03.0H65 (renamed due to vehicle class requirements: previously VBMXT03.0H65), Test Group VBMXV03.0H70 removed

2 Correspondence and Communications

2.1 Authorized Persons

2.1.1 Persons situated in the United States and authorized to communicate with EPA and CARB:

Name	First Name	Area of responsibility	Phone Number	E-Mail
Cozzarini	Christian	Vice President Research and Development USA	+1-201-893-1102	Christian.Cozzarini@bmwna.com
Bohn	Niels	HoD Powertrain, Charging, Emission Homologation	+1-551-242-6381	Niels.Bohn@bmwna.com
Bayer	Carlheinz	Manager Emission Homologation	+1-201-571-5193	Carlheinz.Bayer@bmwna.com
Miller	Timothy	Sr. OBD & Compliance Engineer	+1-201-571-5369	Timothy.Miller@bmwna.com
Uwague	Peace	OBD & Compliance Engineer	+1-201-571-5426	Peace.Uwague@bmwna.com
Dendler	Zachary	Sr. Engineer Emission Homologation	+1-201-571-0541	Zachary.Dendler@bmwna.com
Schank	Jason	Specialist Emission Homologation	+1-201-664-3181	Jason.Schank@bmwna.com
Michel	Edith	Engineer Emission Homologation	+1-551-236-9174	Edith.Michel@bmwna.com
Dohle	Robert	Engineer Emission Homologation	+1-201-686-6207	Robert.Dohle@bmwna.com
Schweizer	Michael	Engineer Emission Homologation	+1-201-307-3700	Michael.S.Schweizer@bmwna.com

The preceding representatives can be reached at:

BMW of North America, LLC
200 BMW Dr, Bldg. 150
Woodcliff Lake, NJ, 07677
Fax-No.: 201 / 571 – 5193

2.1.2 Persons situated in the manufacturer´s home office and authorized to communicate with EPA and CARB

Name	First Name	Area of responsibility	Phone Number	E-Mail
Post	Joachim	Member of Board of Management, Development	+49 - (0)151 / 601 - 31700	Joachim.Post@bmw.de
Boettger	Daniel	Senior Vice President Development Whole Vehicle	+49 - (0)151 / 601 - 21460	Daniel.Boettger@bmw.de
Uzunovic	Haris	Vice President Homologation, Conformity of Production, Technical Regulation, Development abroad	+49 - (0)151 / 601 - 22319	Haris.Uzunovic@bmw.de
Ofner	Bernd	HoD Homologation Environmental Regulations	+49 - (0)151 / 601 - 30907	Bernd.Ofner@bmw.de
Rueckert	Joachim	Manager Emission Certification USA	+49 - (0)151 / 601 - 10290	Joachim.Rueckert@bmw.de
Kargar	Ali	Engineer Emission Certification USA	+49 - (0)151 / 601 - 76893	Ali.Kargar@bmw.de
Heinle	Ludwig	Engineer Emission Certification USA	+49 - (0)151 / 601 - 56210	Ludwig.Heinle@bmw.de
Bodenmueller	Florian	Engineer Emission Certification USA	+49 - (0)151 / 601 - 49100	Florian.Bodenmueller@bmw.de
Meister	Emanuel	Engineer Emission Certification USA	+49 - (0)151 / 601 - 42567	Emanuel.Meister@bmw.de
Peter	Simon	Engineer Emission Certification USA	+49 - (0)151 / 601 - 36390	Simon.Peter@bmw.de
Edenhofer	Robert	Engineer OBD Certification USA	+49 - (0)151 / 601 - 38651	Robert.Edenhofer@bmw.de
Hartmann	Elk	Engineer OBD Certification USA	+49 - (0)151 / 601 - 48983	Elk.Hartmann@bmw.de

The preceding representatives can be reached at:

Bayerische Motoren Werke AG
Dept. EG-831
80788 Munich
Germany
Fax-No.: +49 - 89 / 382 – 32594

2.2 Certificate Information

2.2.1 Corporate Name and Address that should appear on the Certificate of Conformity and on the Executive Order

Bayerische Motoren Werke AG
80788 Munich
Germany

2.2.2 Name and Address of the person to whom the Certificate and the Executive Order should be mailed

Mr. Carlheinz Bayer
Manager Emission Homologation
BMW of North America LLC
200 BMW Dr, Bldg. 150
Woodcliff Lake, NJ, 07677

2.3 Primary Certification Contact

Refer to Section 1, Item 1.3 of the Application for Certification of respective Test Group.

3 Description Test Group, Durability Group, EVAP Family

3.1 MY2027 grouping overview

New Testgroup / Durability group

New Testing FEDV / EDV

Testgroup	Durability Group	EVAP Family	Model Name	Vehicles Class	FTP Standard	SFTP Standard [g/mi]	EVAP FEL	EVAP Standard	Introduction into commerce	Engine Displacement	Number of cylinders	Arrangement of cylinders [in-line, vshaped]	Fuel Used	Basis Fuel Metering System	HEV / PHEV / BEV	GS vehicle	GS Min	GS Max	GPF / cGPF / none	Type of refueling emission control system (integrated / non-integrated)	Working capacity - grams adsorption [g]	Fuel tank material	HC Fleece NO_x/no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i xDrive Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i Convertible	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i xDrive Convertible	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i Gran Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXV02.0B4P	V1P	VBMXR0150G60	430i xDrive Gran Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	HEV	9,8	8,2	10,9	cGPF	I	150	hdpe	no
VBMXJ02.0B4T	V3T	VBMXR0150G45	330 Sedan	LDV	Tier 4 Bin20	-- / --	300	300	12/26	1998	4	in-line	gasoline	DFI, MFI	HEV	7,2	6,2	8,2	cGPF	I	150	hdpe	no
VBMXJ02.0B4T	V3T	VBMXR0150G45	330 xDrive Sedan	LDV	Tier 4 Bin20	-- / --	300	300	12/26	1998	4	in-line	gasoline	DFI, MFI	HEV	7,2	6,2	8,2	cGPF	I	150	hdpe	no
VBMXJ02.0B4T	V3T	VBMXR0150G45	X3 xDrive30	LDT2	Tier 4 Bin20	-- / --	300	400	12/26	1998	4	in-line	gasoline	DFI, MFI	HEV	7,2	6,2	8,2	cGPF	I	150	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper C 4 Door	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper S 4 Door	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper C 2 Door	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper S 2 Door	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper C Convertible	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Cooper S Convertible	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	228 Gran Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	JCW 2 Door	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	JCW Convertible	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	228 xDrive Gran Coupe	LDV	Interim Tier 4 Bin20	-- / 0.040	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	X2 xDrive28i	LDT2	Interim Tier 4 Bin20	-- / 0.040	300	400	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	X1 xDrive28i	LDT2	Interim Tier 4 Bin20	-- / 0.040	300	400	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Countryman S ALL4 Untamed	LDT2	Interim Tier 4 Bin20	-- / 0.040	300	400	04/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0M4P	V3P	VBMXR0120U11	Countryman S ALL4	LDT2	Interim Tier 4 Bin20	-- / 0.040	300	400	04/26	1998	4	in-line	gasoline	DFI, MFI	---	8,1	7,1	9,4	GPF	I	120	hdpe	no
VBMXJ02.0T4P	V4P	VBMXR0120U11	M235 xDrive Gran Coupe	LDV	Interim Tier 4 Bin50	-- / 0.070	300	300	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,3	7,2	9,6	GPF	I	120	hdpe	no
VBMXJ02.0T4P	V4P	VBMXR0120U11	X2 M35i	LDT2	Interim Tier 4 Bin50	-- / 0.070	300	400	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,3	7,2	9,6	GPF	I	120	hdpe	no
VBMXJ02.0T4P	V4P	VBMXR0120U11	X1 M35i	LDT2	Interim Tier 4 Bin50	-- / 0.070	300	400	08/26	1998	4	in-line	gasoline	DFI, MFI	---	8,3	7,2	9,6	GPF	I	120	hdpe	no
VBMXJ02.0T4P	V4P	VBMXR0120U11	JCW Countryman ALL4	LDT2	Interim Tier 4 Bin50	-- / 0.070	300	400	04/26	1998	4	in-line	gasoline	DFI, MFI	---	8,3	7,2	9,6	GPF	I	120	hdpe	no
VBMXT03.0B58	V41	VBMXR0180G0X	X6 xDrive40i	LDT3	Interim Tier 4 Bin30	-- / 0.050	500	500	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	8,6	8,2	10,9	none	I	180	hdpe	no
VBMXT03.0B58	V41	VBMXR0180G0X	X7 xDrive40i	LDT4	Interim Tier 4 Bin30	-- / 0.050	500	500	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	8,6	8,2	10,9	none	I	180	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i Coupe	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i xDrive Coupe	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i Convertible	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i xDrive Convertible	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	540i xDrive Sedan	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	04/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i Gran Coupe	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M440i xDrive Gran Coupe	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M240i	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no
VBMXV03.0B5P	V2P	VBMXR0150G6F	M240i xDrive	LDV	Interim Tier 4 Bin30	-- / 0.050	350	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	4,7	6,3	cGPF	I	150	hdpe	no

New Testgroup / Durability group

New Testing FEDV / EDV

Testgroup	Durability Group	EVAP Family	Model Name	Vehicles Class	FTP Standard	SFTP Standard [g/mi]	EVAP FEL	EVAP Standard	Introduction into commerce	Engine Displacement	Number of cylinders	Arrangement of cylinders [in-line, vshaped]	Fuel Used	Basis Fuel Metering System	HEV / PHEV / BEV	GS vehicle	GS Min	GS Max	GPF / cGPF / none	Type of refueling emission control system (integrated / non-integrated)	Working capacity - grams adsorption [g]	Fuel tank material	HC Fleece No/no
VBMXJ03.0B5T	V2T	VBMXR0150G4F	X3 M50	LDT2	Tier 4 Bin30	-- / --	350	400	12/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	150	hdpe	no
VBMXJ03.0B5T	V2T	VBMXR0200G6X	X5 40	LDT3	Tier 4 Bin30	-- / --	500	500	12/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	200	hdpe	no
VBMXJ03.0B5T	V2T	VBMXR0150G4F	M350 xDrive	LDV	Tier 4 Bin30	-- / --	350	300	12/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	150	hdpe	no
VBMXJ03.0B5T	V2T	VBMXR0200G6X	X5 40 xDrive	LDT3	Tier 4 Bin30	-- / --	500	500	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	200	hdpe	no
VBMXJ03.0B5T	V2T	VBMXR0200G6X	740 Sedan	LDV	Tier 4 Bin30	-- / --	500	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	200	hdpe	no
VBMXJ03.0B5T	V2T	VBMXR0200G6X	740 xDrive Sedan	LDV	Tier 4 Bin30	-- / --	500	300	08/26	2998	6	in-line	gasoline	DFI, MFI	HEV	6,3	6,3	8,4	cGPF	I	200	hdpe	no
VBMXJ03.0H65	V2T	VBMXR0180G6H	X5 50e xDrive	LDT4	Tier 4 Bin30	-- / --	500	500	12/26	2998	6	in-line	gasoline	DFI, MFI	PHEV	6,3	6,3	8,4	cGPF	NIRCO	170	hdpe	no
VBMXJ03.0H65	V2T	VBMXR0180GXH	750e xDrive Sedan	LDV	Tier 4 Bin30	-- / --	500	300	12/26	2998	6	in-line	gasoline	DFI, MFI	PHEV	6,3	6,3	8,4	cGPF	NIRCO	180	steel	no
VBMXT04.4S68	V36	VBMXR0180G05	X6 M60i xDrive	LDT4	Interim Tier 4 Bin70	-- / 0.070	500	500	04/26	4395	8	vshaped	gasoline	DFI	HEV	5,2	4,7	6,3	none	I	180	hdpe	no
VBMXT04.4S68	V36	VBMXR0180G05	X7 M60i xDrive	LDT4	Interim Tier 4 Bin70	-- / 0.070	500	500	04/26	4395	8	vshaped	gasoline	DFI	HEV	5,2	4,7	6,3	none	I	180	hdpe	no
VBMXT00.0I2A	--	--	iX xDrive45	LDT4	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXT00.0I2B	--	--	iX xDrive60	LDT4	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXT00.0I2C	--	--	iX M70	LDT4	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXT04.4H09	V5P	VBMXR0170H09	XM Label	LDT4	Interim Tier 4 Bin30	-- / 0.050	500	500	08/26	4395	8	vshaped	gasoline	DFI	PHEV	7,3	6,2	8,2	GPF	--	170	steel	no
VBMXT04.4S6M	V39	VBMXR0180G05	X6 M Competition	LDT4	Interim Tier 4 Bin70	-- / 0.070	500	500	04/26	4395	8	vshaped	gasoline	DFI	HEV	8,2	6,2	8,2	none	--	180	hdpe	no
VBMXV00.0G6A	--	--	i5 eDrive40 Sedan	LDV	Tier 4 Bin0	-- / --	--	--	04/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0G7A	--	--	i7 xDrive50 Sedan	LDV	Tier 4 Bin0	-- / --	--	--	08/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0G7A	--	--	i7 xDrive60 Sedan	LDV	Tier 4 Bin0	-- / --	--	--	08/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0G6C	--	--	i5 M60 xDrive Sedan	LDV	Tier 4 Bin0	-- / --	--	--	08/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0G6B	--	--	i5 xDrive40 Sedan	LDV	Tier 4 Bin0	-- / --	--	--	04/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXT00.0G65	--	--	iX5 60 xDrive	LDT4	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0U2A	--	--	Countryman SE ALL4	LDV	Tier 4 Bin0	-- / --	--	--	04/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N0A	--	--	i3 40 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N0A	--	--	iX3 40 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N0A	--	--	iX4 40 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N5A	--	--	iX3 40	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N5C	--	--	i3 50 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N5C	--	--	iX3 50 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	04/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV00.0N5C	--	--	iX4 50 xDrive	LDV	Tier 4 Bin0	-- / --	--	--	12/26	--	--	--	electric	---	BEV	--	--	--	--	--	--	--	--
VBMXV02.0B4D	V41	VBMXR0150G60	530i Sedan	LDV	Interim Tier 4 Bin30	-- / 0.050	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	10,6	8,2	10,9	none	I	150	hdpe	no
VBMXV02.0B4D	V41	VBMXR0150G60	530i xDrive Sedan	LDV	Interim Tier 4 Bin30	-- / 0.050	300	300	04/26	1998	4	in-line	gasoline	DFI, MFI	HEV	10,6	8,2	10,9	none	I	150	hdpe	no
VBMXV03.0H5P	V2P	VBMXR0170G0H	550e xDrive Sedan	LDV	Interim Tier 4 Bin50	-- / 0.070	500	300	04/26	2998	6	in-line	gasoline	DFI, MFI	PHEV	6,3	4,7	6,3	cGPF	NIRCO	180	steel	no

New Testgroup / Durability group

New Testing FEDV / EDV

Testgroup	Durability Group	EVAP Family	Model Name	Vehicles Class	FTP Standard	SFTP Standard [g/mi]	EVAP FEL	EVAP Standard	Introduction into commerce	Engine Displacement	Number of cylinders	Arrangement of cylinders [in-line, vshaped]	Fuel Used	Basis Fuel Metering System	HEV / PHEV / BEV	GS vehicle	GS Min	GS Max	GPF / cGPF / none	Type of refueling emission control system (integrated / non-integrated)	Working capacity - grams adsorption [g]	Fuel tank material	HC Fleece No./no
VBMXV03.0SM3	V35	VBMXR0150G3F	M4 Competition Coupe	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M4 Competition M xDrive Coupe	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M4 Coupe	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M4 Competition M xDrive Convertible	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M3 Competition M xDrive Sedan	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M3 Competition Sedan	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M3 Sedan	LDV	Interim Tier 4 Bin70	–/0.070	450	300	04/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M3 CS Sedan	LDV	Interim Tier 4 Bin70	–/0.070	450	300	08/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M2 M xDrive Coupe	LDV	Interim Tier 4 Bin70	–/0.070	450	300	08/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV03.0SM3	V35	VBMXR0150G3F	M2 Coupe	LDV	Interim Tier 4 Bin70	–/0.070	450	300	08/26	4395	6	vshaped	gasoline	DFI	--	9,5	7,4	9,8	none	I	150	hdpe	no
VBMXV04.4H9X	V39	VBMXR0170H09	M5 Sedan	LDV	Interim Tier 4 Bin70	–/0.070	500	300	04/26	4395	6	vshaped	gasoline	DFI	PHEV	8,2	6,2	8,2	none	NIRCO	180	steel	no
VBMXV04.4H9X	V39	VBMXR0170H09	M5 Touring	LDV	Interim Tier 4 Bin70	–/0.070	500	300	04/26	4395	6	vshaped	gasoline	DFI	PHEV	8,2	6,2	8,2	none	NIRCO	180	steel	no
VRRGV00.0R2B	--	--	Black Badge Spectre	LDV	Tier 4 Bin0	-- / --	--	--	08/26	--	--	--	electric	--	BEV	--	--	--	--	--	--	--	--
VRRGV00.0R2B	--	--	Spectre	LDV	Tier 4 Bin0	-- / --	--	--	08/26	--	--	--	electric	--	BEV	--	--	--	--	--	--	--	--
VRRGV06.7N74	V1T	VRRGR0170RR1	Phantom	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Phantom Extended	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Black Badge Ghost	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Ghost	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Ghost Extended	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Black Badge Cullinan	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no
VRRGV06.7N74	V1T	VRRGR0170RR1	Cullinan	LDV	Tier 4 Bin70	–/–	500	300	04/26	6749	12	vshaped	gasoline	DFI	--	9,9	8,6	11,4	GPF	I	170	hdpe	no

3.2 xEV grouping overview

Grouping BEV MY 2027

Model	Test Group	Electric Engine				Battery								
		front		rear		capacity pack	energy capacity pack	nominal voltage pack	minimum voltage pack	minimum voltage cell	number of modules	number of battery cells	type of cell	chemistry identifier SAE J2984
		construction asynchron. synchron.	peak power max torque [kW / Nm]	construction asynchron. synchron.	peak power max torque [kW / Nm]	[Ah]	[kWh]	[V]	[V]	[V]				
iX xDrive45	VBMXT00.0I2A	synchron.	190kW / 365Nm	synchron.	200kW / 400Nm	303,0	100,35	332,1	252,0	2,80	10	450	prismatic	Li MM(NCA) - C.F
iX xDrive60	VBMXT00.0I2B	synchron.	190kW / 365Nm	synchron.	230kW / 400Nm	303,0	111,50	369,0	280,0	2,80	11	500	prismatic	Li MM(NCA) - C.F
iX M70	VBMXT00.0I2C	synchron.	190kW / 365Nm	synchron.	360kW / 650Nm	303,0	111,50	369,0	280,0	2,80	11	500	prismatic	Li MM(NCA) - C.F
i5 eDrive40 Sedan	VBMXV00.0G6A	---	---	synchron.	250kW / 400Nm	210,6	83,90	398,5	302,4	2,80	7	324	prismatic	Li MM(NCA) - C.F
i5 xDrive40 Sedan	VBMXV00.0G6B	synchron.	190kW / 365Nm	synchron.	230kW / 400Nm	210,6	83,90	398,5	302,4	2,80	7	324	prismatic	Li MM(NCA) - C.F
i5 M60 xDrive Sedan	VBMXV00.0G6C	synchron.	192kW / 365Nm	synchron.	250kW / 430Nm	210,6	83,90	398,5	302,4	2,80	7	324	prismatic	Li MM(NCA) - C.F
i7 xDrive50 Sedan	VBMXV00.0G7A	synchron.	190kW / 365Nm	synchron.	230kW/ / 400Nm	324,5	118,10	364,0	250,0	2,50	5	1000	cylindrical	Li MM(NRMC)-CSi.F
i7 xDrive60 Sedan		synchron.	190kW / 365Nm	synchron.	230kW / 400Nm	324,5	118,10	364,0	250,0	2,50	5	1000	cylindrical	Li MM(NRMC)-CSi.F
iX5 60 xDrive	VBMXT00.0G65	asynchron.	184kW / 305Nm	synchron.	240kW / 500Nm	210,0	147,80	704,6	480,0	2,50	--	960	cylindrical	Li MM (NRMC)-C.F
Countryman SE ALL4	VBMXV00.0U2A	synchron.	140kW / 247Nm	synchron.	140kW / 247Nm	232,0	66,45	286,3	218,4	2,80	--	156	prismatic	Li MM(NMC) - C.F
i3 40 xDrive	VBMXV00.0N0A	asynchron.	123kW / 255Nm	synchron.	195kW/ / 345Nm	129,40	86,90	671,6	460,0	2,50	--	736	cylindrical	Li MM (NRMC)-C.F
iX3 40 xDrive		asynchron.	123kW / 255Nm	synchron.	195kW/ / 345Nm	129,40	86,90	671,6	460,0	2,50	--	736	cylindrical	Li MM (NRMC)-C.F
iX4 40 xDrive		asynchron.	123kW / 255Nm	synchron.	195kW/ / 345Nm	129,40	86,90	671,6	460,0	2,50	--	736	cylindrical	Li MM (NRMC)-C.F
i3 50 xDrive	VBMXV00.0N5C	asynchron.	123kW / 255Nm	synchron.	240kW / 435Nm	162,30	113,38	698,9	480,0	2,50	--	960	cylindrical	Li MM(NRMC) - CSi.F
iX3 50 xDrive		asynchron.	123kW / 255Nm	synchron.	240kW / 435Nm	162,30	113,38	698,9	480,0	2,50	--	960	cylindrical	Li MM(NRMC) - CSi.F
iX4 50 xDrive		asynchron.	123kW / 255Nm	synchron.	240kW / 435Nm	162,30	113,38	698,9	480,0	2,50	--	960	cylindrical	Li MM(NRMC) - CSi.F
iX3 40	VBMXV00.0N5A	---	---	synchron.	240kW / 435Nm	129,40	86,90	671,6	460,0	2,50	--	736	cylindrical	Li MM (NRMC)-C.F
Black Badge Spectre	VRRGV00.0R2B	synchron.	190kW / 365Nm	synchron.	360kW / 650Nm	324,5	118,10	364,0	250,0	2,50	5	1000	cylindrical	Li MM(NRMC)-CSi.F
Spectre		synchron.	190kW / 365Nm	synchron.	360kW / 650Nm	324,5	118,10	364,0	250,0	2,50	5	1000	cylindrical	Li MM(NRMC)-CSi.F

Grouping PHEV MY 2027 (part electric drivetrain)

Model	Test Group = Battery Durability Family = Battery Monitor Family	Electric Engine				Battery								
		front		rear		capacity pack	energy capacity pack	nominal voltage pack	minimum voltage pack	minimum voltage cell	number of modules	number of battery cells	type of cell	chemistry identifier SAE J2984
		construction asynchron. synchron.	peak power max torque [kW / Nm]	construction asynchron. synchron.	peak power max torque [kW / Nm]	[Ah]	[kWh]	[V]	[V]	[V]				
X5 xDrive 50e	VBMXJ03.0H65	- -	- -	synchron.	145kW / 280Nm	93,0	29,48	316,8	237,6	2,70	6	88	prismatic	Li MM(NMC) - C.F
750e xDrive Sedan		- -	- -	synchron.	145kW / 280Nm	63,5	22,08	347,5	268,8	2,80	3	96	prismatic	Li MM(NMC) - C.F
XM Label	VBMXT04.4H09	- -	- -	synchron.	145kW / 280Nm	93,0	29,48	316,8	237,6	2,70	6	88	prismatic	Li MM(NMC) - C.F
550e xDrive Sedan	VBMXV03.0H5P	- -	- -	synchron.	145kW / 280Nm	63,5	22,08	347,5	268,8	2,80	3	96	prismatic	Li MM(NMC) - C.F
M5 Sedan	VBMXV04.4H9X	- -	- -	synchron.	145kW / 280Nm	63,5	22,08	347,5	268,8	2,80	3	96	prismatic	Li MM(NMC) - C.F
M5 Touring		- -	- -	synchron.	145kW / 280Nm	63,5	22,08	347,5	268,8	2,80	3	96	prismatic	Li MM(NMC) - C.F

4 Description of vehicles covered by certificate and test parameters

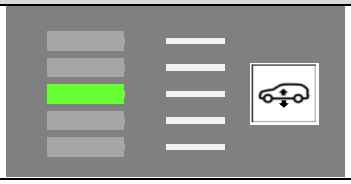
4.1 Vehicle parameters

Please refer to Section 12 of the respective vehicle's application for certification.

4.1.1 Models with Engine Start-Stop (ESS)

Test Group	Traction	Default to "ESS active"
VBMXJ02.0M4P	ICE	yes
VBMXJ02.0T4P	ICE	yes
VBMXV03.0SM3	ICE	yes
VRRGV06.7N74	ICE	yes
VBMXJ02.0B4T	HEV (48V)	yes
VBMXJ03.0B5T	HEV (48V)	yes
VBMXT03.0B58	HEV (48V)	yes
VBMXT04.4S6M	HEV (48V)	yes
VBMXV02.0B4P	HEV (48V)	yes
VBMXV03.0B5P	HEV (48V)	yes
VBMXT04.4S68	HEV (48V)	yes
VBMXV02.0B4D	HEV (48V)	yes
VBMXJ03.0H65	PHEV	yes
VBMXT04.4H09	PHEV	yes
VBMXV03.0H70	PHEV	yes
VBMXV04.4H9X	PHEV	yes

4.1.2 Models available with variable ride height system

Test Group	Models available with variable ride height system	Mode, in which LDT requirements are fulfilled
VBMXT03.0B58	X6 xDrive40i	
	X7 xDrive40i	
VBMXT04.4S68	X6 M60i xDrive	
	X7 M60i xDrive	
VBMXT00.0I2A	iX xDrive45	
VBMXT00.0I2B	iX xDrive60	
VBMXT00.0I2C	iX M70	
VBMXT00.0G65	iX5 60 xDrive	Highest available setting
VBMXJ03.0H65	X5 xDrive50e	
VBMXJ03.0B5T	X5 40	
	X5 40 xDrive	

4.2 Test parameters

4.2.1 Engine starting procedures

For vehicles with ignition lock, insert the key all the way into lock. Press the start/stop button while disengaging the brake pedal or clutch (only for manual transmission).

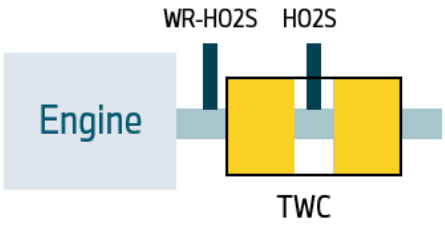
For vehicles without ignition lock, place the key inside the vehicle. Press the start/stop button while pressing the brake pedal. Do not press the accelerator pedal.

Ignition on: Press the start/stop button without engaging the brake pedal.

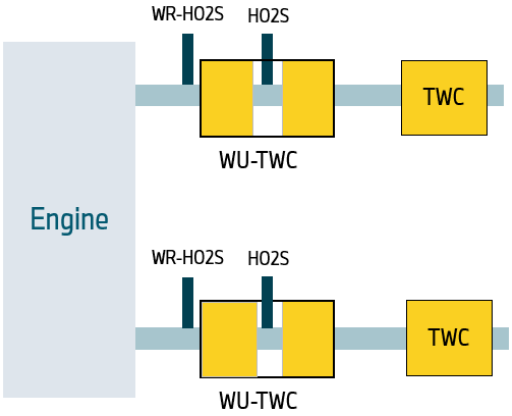
4.2.2 Shift schedules

All models with manual transmission were tested using the standard shift points (15/25/40/45/50 mph) according to OMS Advisory Circular 72A, February 10, 1984.

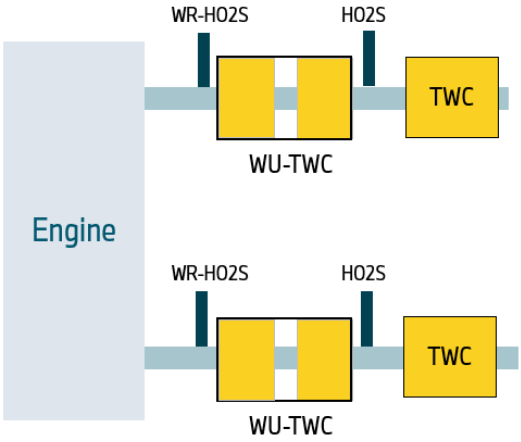
4.3 Exhaust system specification



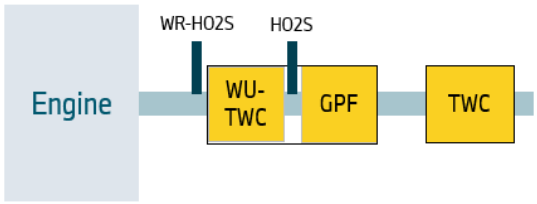
Test Group	Engine	VECI Label
VBMXV02.0B4D	B48B20O2	TWC, WR-HO2S, HO2S, DFI, MFI, TC, CAC
VBMXT03.0B58	B58B30M2	



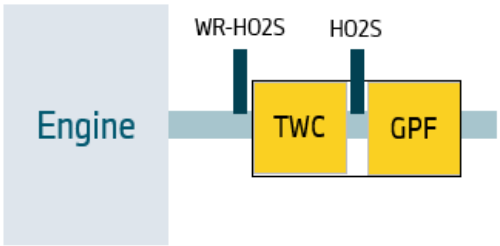
Test Group	Engine	VECI Label
VBMXV03.0SM3	S58B30O0 S58B30T0	2WU-TWC, 2TWC, 2WR-HO2S, 2HO2S, DFI, 2TC, CAC



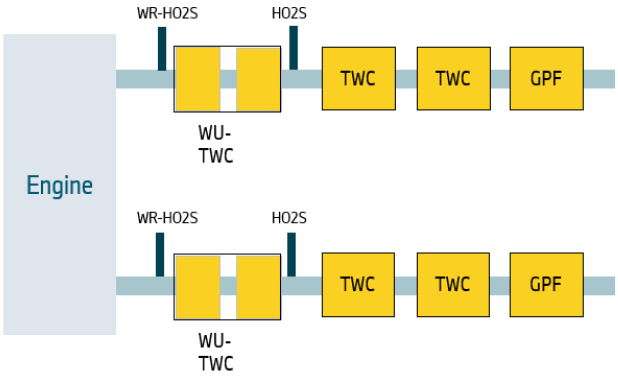
Test Group	Engine	VECI Label
VBMXT04.4S68	S68B44T0 ULEV70	2WU-TWC, 2TWC, 2WR-HO2S, 2HO2S, DFI, 2TC, 2CAC
VBMXT04.4S6M		
VBMXV04.4H9X		



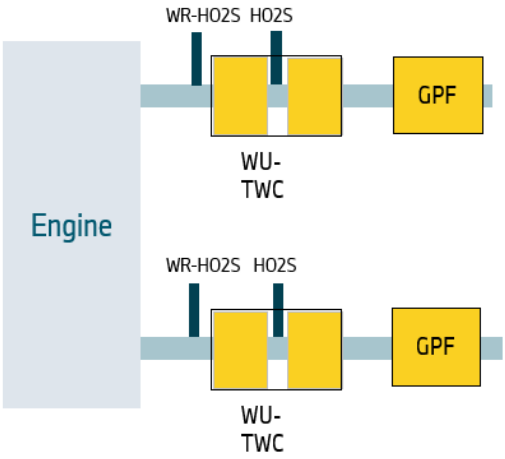
Test Group	Engine	VECI Label
VBMXJ02.0M4P	B48A20M2	WU-TWC+GPF, TWC, WR-HO2S, HO2S, DFI, MFI, TC, CAC
VBMXJ02.0M4P	B48A20O2	WU-TWC+GPF, TWC, WR-HO2S, HO2S, DFI, MFI, TC, CAC
VBMXJ02.0T4P	B48A20T2	WU-TWC+GPF, TWC, WR-HO2S, HO2S, DFI, MFI, TC, CAC



Test Group	Engine	VECI Label
VBMXV02.0B4P	B48B20O2	TWC+GPF, WR-HO2S, HO2S, DFI, MFI, TC, CAC
VBMXV03.0B5P	B58B30M2	
VBMXJ02.0B4T	B48B20O3	
VBMXV03.0H5P	B58B30U2	
VBMXJ03.0B5T	B58B30M3	
VBMXJ03.0H65		



Test Group	Engine	VECI Label
VBMXT04.4H09	S68B44T0 SULEV 30	2WU-TWC, 2TWC(2), 2GPF, 2WR-HO2S, 2HO2S, DFI, 2TC, 2CAC



Test Group	Engine	VECI Label
VRRGV06.7N74	N74B68M2	2WU-TWC, 2GPF, 2WR-HO2S, 2HO2S, DFI, 2TC, 2CAC

5 Other Information

5.1 Results of OBD PVE testing

The OBD PVE J1, J2 and J3 data submitted to CARB require an electronic format that is not suitable for this application. Upon request, BMW will provide these reports in their original format alongside any information necessary to understand their content.

5.2 Service manuals, service bulletins

As an alternative to providing copies of the service information, BMW grants EPA access to the BMW website which is used to provide this information to BMW dealers.

5.3 Dyno mode functionality

5.3.1 Motivation

Various safety and driver assistance systems, which are active during real world driving, can potentially cause safety issues when operating a vehicle on a dynamometer. To avoid these issues, vehicles must manually be set to dyno mode prior to dyno operation.

5.3.2 Initiation of dyno mode (example)

Verify that vehicle is in Position "P".

i. Without pressing the brake, press the Start/Stop button to turn ignition on (Figure 1).
ii. Wait until all Control Message disappear (red box in Figure 1).
iii. Press and hold trip button (red circle in Figure 1) on right hand side of the instrument cluster until special menu appears (Figure 2).
iv. Press button twice to scroll to '03 Start Roller' (Figure 3).
v. Press and hold trip button for a few seconds until 'mode (ESC OFF)?' is displayed (Figure 4).
vi. Press trip button once more to activate dynamometer mode. Message 'Test mode end: switch off ignition' confirms that dyno mode is active (Figure 5).
vii. Perform drive cycle

Figure 1: ignition ON

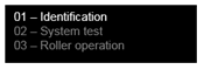


Figure 2: special menu

Figure 3: 03 – Start Roller

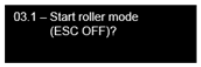


Figure 4: 03.1 – Start Roller Mode

Figure 5: dyno mode activated

Active dyno mode is indicated in the instrument cluster: "Test mode end: switch off ignition."

A vehicle specific description will be provided with each confirmatory test vehicle's handout.

5.3.3 Relevant driver assistance systems

The following sections describe the relevant assistance systems and corresponding control modules, and, how they are impacted by an active dyno mode.

5.3.3.1 DSC (dynamic stability control system) and IB (integrated braking system)

Many safety-related functionalities are controlled by the DSC control unit (in former models) or the IB control unit (newer models) which process vehicle

state information based on various sensor inputs such as acceleration and wheel speed sensors. A dynamometer generates a combination of signals that are either not plausible or indicative of an emergency. The DSC/IB is the control module mainly impacted by an active dyno mode. It informs all other control modules about the intended dyno operation and transmits a substitute vehicle speed signal (the wheel speed qualifiers are being set so that the wheel speed monitoring does not detect an error). The substitute vehicle speed signal is generated from the wheel speed signals of the main driven axle(s). In dyno mode, the DSC/IB itself deactivates stability control interventions and autonomous brake interventions to prevent dangerous situations on the dyno (e.g., autonomous emergency brake 0.6g may be activated because of obstacles in front of the vehicle with a high differential speed). Any brake activation not initiated by the driver can damage either the vehicle, the dyno or can ultimately force the vehicle out of its fixed position on the dyno.

Additionally, the DSC/IB continuously monitors certain parameters which can automatically disable dyno mode if

- the steering angle change is larger than +/- 3°
- the yaw angle change is larger than 0.1 rad
- the longitudinal acceleration is larger than 5 m/s².

These disabling criteria ensure that dyno mode is deactivated before a vehicle is operated under real-world conditions.

The DSC/IB control unit is responsible for the functionality generally known as enhanced stability control (ESC), which is federally required per FMVSS 126. DTC (Dynamic Traction Control) is an additional functionality of the DSC/IB module to increase traction on slippery surfaces by modifying wheel torque through brake activation and engine torque limitation. Both functionalities are disabled during active dyno mode to prevent safety-critical situations on the dyno.

5.3.3.2 DxE (engine control unit)

With the substitute vehicle speed signal from the DSC/IB, the engine start/stop system functionality on the dyno is identical to real-world operation.

5.3.3.3 LMV (longitudinal torque distribution module)

In 4WD vehicles, the LMV closes the clutch in case of a single-axle-dyno operation. The cardan shaft to the front/rear axle needs to be removed in advance to prevent any damage to the transfer gear box.

The LMV cannot detect single-axle-dyno operation. It is triggered by the dyno mode to maintain lubrication and prevent any damage to the transfer gear box.

5.3.3.4 EHC (height control system)

If a vehicle is equipped with an automatic ride height control system, the height variation is deactivated during active dyno mode to prevent the car from becoming loose from its fixation and avoid safety critical situations on the dyno.

5.3.3.5 Gearbox control module (automatic transmission)

The gearbox control module uses the dyno mode information to keep the shifting maps identical to real-world behavior and to maintain normal mode of operation of the gearbox.

Depending on the dyno configuration (single-axle-dyno or double-axle dyno), the gearbox needs to compensate e.g., for a changed behavior of the DSC/IB or e.g., for the fact that the effective vehicle braking torque needs to be provided by only one axle (this leads to a higher overall braking torque signal, which does not correlate to the vehicle deceleration of the vehicle on the dyno).

5.3.3.6 Driver assistance systems

All sensors of the driver assistance systems (e.g., radar, cameras, night vision) flag their transmitted signals as invalid when they receive the dyno mode information. They let all receivers know not to take any action based upon this information to prevent safety critical situations (e.g., an autonomous brake could be initiated if the camera detects an obstacle on the dyno in front of the vehicle with a high differential speed).

5.3.3.7 Recuperation modes (BEV)

BMW BEV models offer an optional selection of different recuperation modes. The Dyno Mode activates a recuperation mode in the middle of the selectable range. The recuperation modes allow customers to vary the deceleration feedback of the gas pedal (“one-pedal feeling”).

During every deceleration event, independent of the selection of the recuperation mode, recuperation is used up to its maximum. Any additional deceleration demand requires the brake pedal to be pushed. The different recuperation modes are not affecting the overall recuperated energy.

5.3.4 Important general information:

Operating vehicles on a dyno without activating the dyno mode will not result in real-world representative test results, even though e.g., wheel speed signals are replicated. Implausible sensor signals, caused by the dyno operation, will result in implausible output signals from various control modules.

Additionally, it is explicitly not recommended to operate vehicles on a dyno without active dyno mode because:

- Autonomous emergency brake (0.6g braking) can be activated.
- Vehicle control interventions (wheel individual braking interventions) can lead to unpredictable situations.
- Engine start/stop functionality can be reduced due to implausible correlation between vehicle speed and wheel speed signals (engine control module runs plausibility check routines)

If any dyno test is conducted without the activation of dyno mode, BMW cannot be held responsible for any incident potentially causing damage to the vehicle, dyno or personnel.

6 Confidential Information