

Transmitted by the expert from China

Informal document **GRB-60-15**
(60th GRB, 1-3 September 2014,
agenda item 4(a))

China Proposal for a harmonized M1 classification and limits



CHINA AUTOMOTIVE TECHNOLOGY & RESEARCH CENTER

Comparison ECE R51.03 (adopted by GRB) versus Draft GB1495 for M1 Category Only

UN-ECE R51.03 Adopted by GRB (Sep 2014)				
Veh. Cat	Vehicles used for the carriage of passengers	Phase 1	Phase 2	Phase 3
		7/2016 NT 7/2022 NR	7/2020 NT 7/2022 NR	7/2024 NT 7/2026 NR
M1	PMR \leq 120kW/t	72	70	68
	120kW/t < PMR \leq 160kW/t	73	71	69
	PMR > 160kW/t	75	73	71
	PMR > 200kW/t, no. of seats \leq 4, R-point height < 450mm from the ground	75	74	72

NT = New Type / NR = New Registration

6.2.2.1 For vehicle types of category M1 derived from N1 vehicle types having a technically permissible maximum laden mass above 2.5 tons and a R-point height greater than

Looks very different and almost incompatible, but ...

6.2.2.2 dB(A) for M3 and N3 vehicles category and 1 dB for any other vehicle category. For vehicle types of category M1 the increased limit values for off-road vehicles are only valid if the technically permissible maximum laden mass > 2 tons.

6.2.2.3 Limit values shall be increased by 2 dB(A) for wheelchair accessible vehicles of category M1 constructed or converted specifically so that they accommodate one or more persons seated in their wheelchairs when travelling on the road, and armoured vehicles, as defined in 2.5.2 of the consolidated resolution R.E.3.

Draft GB1495-20XX (August 2014)			
Veh. Cat	Vehicles used for the carriage of passengers	Phase 1	Phase 2
		7/2016 NT 7/2018 NR	7/2019 NT 7/2021 NR
M1*	GVW \leq 2500 kg	72	71
	GVW > 2500 kg	73	72

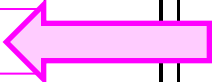
*Vehicle types of Category M1 (GVM \leq 2500kg) which is driven with multi-axles or rear axle of mid(rear)-engine during noise measurement, its limits should be increased by

*Vehicle types of Category M1 (GVM \leq 2500kg), and vehicle types of Category M1 (PMR>160kW/t), its limits should be increased by 2dB(A);

*Increased by 1 dB(A) for M1 (GVW > 2 500kg) with more than one axle drive during the test or with rear axle drive;

*Vehicle types of Category M1 (GVM>2500kg), and vehicle types of Category M1 (PMR>160kW/t), its limits should be increased by 1dB(A);

Comparison ECE R51.03 (adopted by GRB) versus Draft GB1495 for M1 Category Only

ECE R51.03 (M1 Category ONLY)			GB1495 (M1 Category ONLY)	
M1 A	PMR \leq 120kW/t	72	72 (73)	GVW \leq 2500 kg; Vehicle types of Category M1 (GVM \geq 2500kg) rear axle drive and mid(rear)-engine its limits should be increased by 1dB(A); GVW > 2500 kg
M1 B	120kW/t < PMR \leq 160kW/t	73		
M1 C	PMR > 160kW/t	75	74 (75)	*Vehicle types of Category M1 (GVM \geq 2500kg), with (PMR>160kW/t), its limits should be increased by 2dB(A); *Vehicle types of Category M1 (GVM>2500kg), with (PMR>160kW/t), its limits should be increased by 1dB(A);
M1 D	PMR > 200kW/t, no. of seats \leq 4, R-point height < 450mm from the ground	75	74 (75)	*Vehicle types of Category M1 (GVM \geq 2500kg) rear axle drive and mid(rear)-engine its limits should be increased by 1dB(A)
M1 derived from N1	For vehicle types of category M1 derived from N1 vehicle types having a <u>technically permissible maximum laden mass above 2.5 tons</u> and a R-point height greater than 850 mm from the ground, the limits of vehicles types of category N1 having a technically permissible maximum laden mass above 2.5 tons apply.	74	74	GVW > 2500 kg, and with rear axle drive
Offroad	For vehicle types <u>designed for off-road use</u> , the limit values shall be increased by 2 dB(A) for M3 and N3 vehicles category and <u>1 dB</u> for any other vehicle category. For vehicle types of category M1 the increased limit values for off-road vehicles are only valid if the <u>technically permissible maximum laden mass > 2 tons</u> .	+1 dB	+1 dB	Vehicle types with multiaxle drive the limit values shall be increased by +1 dB(A)
M1 SPV	Limit values shall be increased by 2 dB(A) for <u>wheelchair accessible</u> vehicles of category M1 constructed or converted specifically so that they accommodate one or more persons seated in their wheelchairs when travelling on the road, and <u>armoured vehicles</u> , as defined in 2.5.2 of the consolidated resolution R.E.3.	+2 dB		No Specifications
M1/N1 CN Multivan Multitruck	Missing elements for the needs of China 		74	For vehicle types of category M1 and N1 having a maximum technically permissible laden mass of less than or equal to 2.5 tons, a R-point height greater than 800mm from the ground and a mid engine where the center of gravity is at least 300mm behind the front axle and with rear axle drive, the limits of the vehicle types of category N1 having a maximum technically permissible laden mass above 2.5 tons apply.

The differences in limits per specific vehicle subcategory of M1 are very little.
Why not making a final step for a full harmonization?

How to Arrive to a Compromise

ECE R51.03 AND GB 1495 (M1 Category ONLY)		
M1 A	PMR \leq 120kW/t	72
M1 B	120kW/t < PMR \leq 160kW/t	73
M1 C	PMR > 160kW/t	75
M1 D	PMR > 200kW/t, no. of seats \leq 4, R-point height < 450mm from the ground	75
M1 derived from N1	For vehicle types of category M1 derived from N1 vehicle types having a technically permissible maximum laden mass above 2.5 tons and a R-point height greater than 850 mm from the ground, the limits of vehicles types of category N1 having a technically permissible maximum laden mass above 2.5 tons apply.	74
Offroad	For vehicle types designed for off-road use , the limit values shall be increased by 2 dB(A) for M3 and N3 vehicles category and 1 dB for any other vehicle category. For vehicle types of category M1 the increased limit values for off-road vehicles are only valid if the technically permissible maximum laden mass > 2 tons .	+1 dB
M1 SPV	Limit values shall be increased by 2 dB(A) for wheelchair accessible vehicles of category M1 constructed or converted specifically so that they accommodate one or more persons seated in their wheelchairs when travelling on the road, and armoured vehicles , as defined in 2.5.2 of the consolidated resolution R.E.3.	+2 dB
M1/N1 CN Multivan Multitruck	For vehicle types of category M1 and N1 having a maximum technically permissible laden mass of less than or equal to 2.5 tons, a R-point height greater than 800mm from the ground and a mid engine where the center point of gravity is at least 300mm behind the front axle and with rear axle drive, the limits of the vehicle types of category N1 having a maximum technically permissible laden mass above 2.5 tons apply.	74

With an adoption of the special amendment for M1 and N1 Multivans and Multitrucks by GRB, China can take over the complete classification for M1 to GB1495

Thank you for your attention