

| PEMS TEST FAMILY | Make | commercial name | transmission | variant | version | Type Approval Measurements      |                                |                                |                                |                               |                              |                               |                              |                              |                      |                               | RDE-max                      |                                      |                                    |                                   | test driven by | cold test | warm test |                                 |
|------------------|------|-----------------|--------------|---------|---------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|----------------------|-------------------------------|------------------------------|--------------------------------------|------------------------------------|-----------------------------------|----------------|-----------|-----------|---------------------------------|
|                  |      |                 |              |         |         | NOx_total_E<br>mroad<br>[mg/km] | CO_total_E<br>mroad<br>[mg/km] | PN_total_E<br>Emroad<br>[#/km] | NOx_urban<br>Emroad<br>[mg/km] | CO_urban<br>Emroad<br>[mg/km] | PN_urban<br>Emroad<br>[#/km] | NOx_total_C<br>ear<br>[mg/km] | CO_total_C<br>ear<br>[mg/km] | PN_total_C<br>lear<br>[#/km] | NOX_Clear<br>[mg/km] | CO_urban_C<br>lear<br>[mg/km] | PN_urban<br>_Clear<br>[#/km] | Complete RDE trip:<br>NOx<br>[mg/km] | Complete RDE trip:<br>PN<br>[#/km] | Urban RDE trip:<br>NOx<br>[mg/km] |                |           |           | Urban RDE trip:<br>PN<br>[#/km] |
| 1-WBA-D6         | BMW  | 520d            | Manual       | JC31    | ??1???? | 19.7                            | 43.5                           |                                | 26.6                           | 24.6                          |                              | 30.1                          | 36.4                         |                              | 78.4                 | 77.7                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | TS             |           |           |                                 |
| 1-WBA-D6         | BMW  | 520d xDrive     | Automatic    | JCS1    | ??1???? | 26.9                            | 15.4                           |                                | 42.9                           | 12.2                          |                              | 29.3                          | 24.4                         |                              | 46.4                 | 34.4                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | TS             |           |           |                                 |
| 1-WBA-D6         | BMW  | X3 xDrive20d    | x            | TX31    | ??1???? | n.a.                            | n.a.                           |                                | n.a.                           | n.a.                          |                              | 11.9                          | 12.6                         |                              | 19.6                 | 43.6                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | TS             |           |           |                                 |
| 1-WBA-D6         | BMW  | X3 xDrive18d    | Automatic    | TX11    | ??W???? | 8.9                             | 0.0                            | 1.1E+09                        | 21.1                           | 0.0                           | 5.4E+08                      | 23.2                          | 0.0                          | 1.4E+09                      | 54.2                 | 0.0                           | 1.1E+09                      | n.a.                                 | n.a.                               | n.a.                              | n.a.           | TS        |           | x                               |
| 1-WBA-D6         | BMW  | X3 sDrive18d    | Automatic    | TX11    | ??W???? | 12.3                            | 0.0                            | 1.2E+09                        | 13.8                           | 0.0                           | 6.0E+08                      | 18.6                          | 0.0                          | 1.6E+09                      | 31.4                 | 0.0                           | 1.5E+09                      | n.a.                                 | n.a.                               | n.a.                              | n.a.           | TS        |           | x                               |
| 1-WBA-D6         | BMW  | 520d            | Automatic    | JC31    | ??W???? | 22.9                            | 3.1                            | 1.7E+09                        | 12.2                           | 6.9                           | 1.7E+09                      | n.a.                          | n.a.                         |                              | n.a.                 | n.a.                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | TS             |           | x         |                                 |
| 1-WBA-D6         | BMW  | 520d            | Automatic    | JC31    | ??W???? | 57.4                            | 39.6                           | 1.8E+09                        | 26.0                           | 18.5                          | 1.7E+09                      | n.a.                          | n.a.                         |                              | n.a.                 | n.a.                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | TS             |           | x         |                                 |
| 1-WBA-D6         | BMW  | 520d xDrive     | Automatic    | JM91    | ??W???? | 29.6                            | 20.4                           | 3.0E+09                        | 32.8                           | 14.9                          | 3.8E+09                      | 39.7                          | 43.4                         | 3.9E+09                      | 38.7                 | 17.0                          | 5.6E+09                      | n.a.                                 | n.a.                               | n.a.                              | n.a.           | TS        |           | x                               |
| 1-WBA-D6         | BMW  | 520d xDrive     | Automatic    | JM91    | ??W???? | 56.5                            | 18.4                           | 6.6E+09                        | 26.4                           | 17.0                          | 1.2E+10                      | 62.1                          | 33.6                         | 2.4E+10                      | 39.5                 | 26.5                          | 6.7E+10                      | n.a.                                 | n.a.                               | n.a.                              | n.a.           | TS        |           | x                               |
| 1-WBA-D6         | BMW  | 520d            | Automatic    | JC31    | ??W???? | 47.6                            | 7.6                            | 1.8E+09                        | 22.8                           | 11.4                          | 1.8E+09                      | n.a.                          | n.a.                         |                              | n.a.                 | n.a.                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | BMW            |           | x         |                                 |
| 1-WBA-D6         | BMW  | 520d            | Automatic    | JC32    | ??W???? | 79.4                            | 119.0                          | 8.5E+09                        | 30.7                           | 46.4                          | 3.9E+09                      | n.a.                          | n.a.                         |                              | n.a.                 | n.a.                          | n.a.                         | n.a.                                 | n.a.                               | n.a.                              | BMW            |           | x         |                                 |
| 1-WBA-D6         | BMW  | X3 xDrive20d    | Automatic    | TX31    | ??W???? | 65.7                            | 92.8                           | 3.2E+11                        | 64.7                           | 0.0                           | 5.5E+10                      | 51.0                          | 114.8                        | 3.5E+11                      | 36.1                 | 11.2                          | 9.5E+10                      | n.a.                                 | n.a.                               | n.a.                              | n.a.           | BMW       |           | x                               |