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Declaration about Equality of the device and applicability of the original test report:

1. Summary:

FCC ID: PAXPMV107S
Model Number: PMV-107S
Test Report Number: "A-001-09-C" from Kansai Electronic Industry Development Center (KEC).

The new version of this device has other operating modes than the old version; all other specifications remain the same:

- Same hardware.
- Same antenna.
- Same frequency, signal characteristic and peak field strength.
- Same word (burst length).
- Same duty cycle in 100ms (maximal 1 word = 13.8ms) → Same Average field strength.

The following pages will include detailed information, why there is no need to do additional testing for this version.

2. Operating mode Explanation:

Old version	New version
<input type="checkbox"/> Rotating mode 	<input type="checkbox"/> Rotating mode
<input type="checkbox"/> Stationary mode 	<input type="checkbox"/> Stationary mode
<input type="checkbox"/> Pressure alert 	<input type="checkbox"/> Pressure alert (Rotating mode only)
	<input type="checkbox"/> Pressure alert (Stationary mode only)
	<input type="checkbox"/> Pressure alert after the pressure change (Stationary mode only)

As seen in the above timing characteristics, the operating modes only differ in the amount of words (bursts) and the pause between transmissions.

- **Rotating mode:** Normal mode during driving at a fast speed.
- **Stationary mode:** Normal mode during standing or driving at a very low speed.
- **Pressure Alert mode:** An alert will be activated, if there is a rapid change in the tire pressure.
- **Pressure alert (after the pressure change):** In the stationary mode, the device will change to this mode after a pressure alert, if no further pressure change is detected.

3. Certification of the different modes:

All modes of the old version fulfilled the requirements of §15.231(e) and therefore the device was certified under this rule part.

The additional Pressure alert mode (Stationary mode) doesn't fulfill the silent period requirement of §15.231(e).

This mode will be activated when there is a rapid tire pressure change and one word (=transmission length) will be sent, to warn the driver about the rapid tire pressure change.

If the tire pressure continues to change, a second alarm transmission will be started. Since this can happen in less than 10 seconds, this mode doesn't fulfill the §15.231(e) requirements.

Therefore this mode will be certified under §15.231(a) as an **automatic activated transmitter**.

If there is no further tire pressure change the device will go to the Pressure alert (after pressure change) mode, which fulfills §15.231(e) again.

4. Applicability of the original test report:

4.1. Field Strength Measurement (§15.231(b) and §15.231(e)):

Limit §15.231(b):	75.6 dBµV/m @ 3m (average)
Limit §15.231(e):	67.7 dBµV/m @ 3m (average)

Reported value (4.2 of the test report): 64.6 dBµV/m @ 3m (average)

Since the word (burst) length is for all modes identical and in all modes the maximum amount of words (burst) in 100ms is one, the field strength calculation factor from peak values to average values is the same for all modes.

This means that the average field strength of the old version and the new version will also be always the same.

→ No need to perform additional field strength measurements or calculations.

4.2. Transmission length (§15.231(a) (2)):

Limit: Not longer than 5 seconds.

Reported value (item 3.2 figure 1 of the test report): 13.75 ms

As stated earlier, in the alert mode (stationary mode), which will be certified under this rule part, the transmission only consists of one word (burst).

→ No need to perform additional transmission length measurements.

4.3. Maximum bandwidth (§15.231(c)):

Limit: 0.25% of the center frequency = 787.5 kHz

Reported value (item 5.2 of the test report): 134.66 kHz

The signal parameters are the same for all modes.

→ No need to perform additional bandwidth measurements.

4.4. Transmission length and silent period (§15.231(e)):

Limit: Transmission length: 1 second

Silent period: 30xtransmission length, but in no case less than 10 seconds.

Reported values (item 3.2 of the test report):

Transmission length: 770 ms

Silent period: 32.83 seconds

Because the worst case condition mode was tested (most words (bursts) and smallest silent period time), all modes that will be certified under §15.231(e) fulfill this requirement.

→ No need to perform additional transmission length or silent period measurements.

4.5. Spurious Emissions (§15.231(b) and §15.231(e)):

Limit §15.231(b): 55.6 dBµV/m @ 3m (average)

Limit §15.231(e): 47.7 dBµV/m @ 3m (average)

Reported value (4.2 of the test report): 40.9 dBµV/m @ 3m (average)

Because the spurious emissions were made with a special test software, that allows continues transmission, the results are not dependant on the operating mode.

→ No need to perform additional spurious emission measurements.

5. Conclusion:

The original test report already provides enough prove that the new version will also comply with the regulations.

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