State	Pressure Sample Interval (seconds)	Stimulus	Transmit Mode	Transmit Interval (seconds)	Transmit # Frames
Off	30	ΔP ≥69 kPa (+/-)	Exiting Off	Single event, when required	3
		LF Activation	Exiting Off		16
		≥17 G Accel	None		0
Stationary	30	ΔP ≥8.25 kPa	Learn-Pressure Triggered	Single event, when required	6
		LF Activation	Learn-LF Triggered		16
		LF Activation (TBD)	Entering Off		3
		≥17 G Accel	Rolling		6
Rolling	30 + Rolling Delay Value	ΔP ≥8.25 kPa	Re-Measure	Single event, when required	6
		≥17 G Accel	Rolling	**Every 10 sec** (First 15 times); Every 2nd sample	6
		<17 G Accel	None		0
Alert Stationary	1	ΔP ≥8.25 kPa	Learn-Pressure Triggered	Single event, when required	6
		LF Activation	Learn-LF Triggered		16
		≥17 G Accel	None	N/a	0
Alert Rolling	1	ΔP ≥8.25 kPa	Re-Measure	Single event, when required	6
		<17 G Accel	None	n/a	0

3.2.1.5.1. OFF STATE

The TPS shall provide an Off State where no transmission occurs and pressure sampling occurs once every 30 seconds. Sensors shall leave the supplier's factory in the Off State and should remain in that condition until activated into another valid mode.

3.2.1.5.1.1. EXITING OFF MODE – PRESSURE DELTA

The sensor shall exit Off State when a pressure change of at least 69kPa is sensed, transmit an 'Exiting Off' Mode message, and transition into the Stationary State.

Every time the sensor exits the Off Mode, it shall calculate a Rolling Delay Value (calibratable value between 0 and 2 seconds in 10 millisecond increments; default value of 0 seconds) that will apply to both the measurement and the transmission intervals in the Rolling Mode. The sensor shall retain that value until it enters Off Mode again.

3.2.1.5.1.2. EXITING OFF MODE – LF TRANSMISSION

The sensor shall exit the Off State when a valid LF transmission is received, transmit an 'Exiting Off' Mode message, and transition into the Stationary State.

The 'Exiting Off' Mode message may be followed by a 'Learn Mode – LF Triggered' message.

A valid LF transmission shall be defined as a 125kHz continuous-tone RF signal with a field strength of 5 A/m measured 150 mm from the source. The TPS shall transmit a 'Learn Mode – LF Triggered' Mode message within 0.5 to 5.0 seconds (calibratable; default value 2.5 seconds) of exposure to the 125kHz field.

Every time the sensor exits the Off Mode, it shall calculate a Rolling Delay Value (calibratable value between 0 and 2 seconds in 10 millisecond increments; default value of 0 seconds) that will apply to both the measurement and the transmission intervals in the Rolling Mode. The sensor shall retain that value until it enters Off Mode again.

3.2.1.5.1.3. ACCELEROMETER INPUT

The sensor shall ignore all accelerometer inputs while in the Off State, to avoid inadvertent wakeup.

3.2.1.5.2. STATIONARY STATE

The TPS shall provide a Stationary State where pressure sampling occurs every 30 seconds.

3.2.1.5.2.1. ROLLING MODE

The TPS shall exit Stationary State when it detects a rotational g-force that exceeds 17 G (roughly 40 kph on an 18" wheel.)

Upon exiting Stationary State in this way, the TPS shall transmit a 'Rolling' Mode message no sooner than 30 seconds since its last transmission (immediately if possible), and transition into the Rolling State.

3.2.1.5.2.2. LEARN MODE – LF TRIGGERED

When a valid LF transmission is received, the TPS shall transmit a 'Learn Mode – LF Triggered' Mode message, and remain in the Stationary State.

3.2.1.5.2.3. LEARN MODE – PRESSURE TRIGGERED

If, during any measurement sample, the current pressure sample is different by ± 8.25kPa (minimum) from the last transmitted pressure value, a data re-measurement shall occur immediately. If the pressure has indeed changed, the sensor shall transmit a 'Learn Mode – Pressure Triggered' Mode message, and transition into the Alert Stationary State.

3.2.1.5.3. ROLLING STATE

The TPS shall provide a Rolling State where pressure sampling occurs every 30 seconds and pressure transmission occurs with every 2nd pressure sample.

For the first 15 transitions from the Stationary State to the Rolling State, the sensor shall transmit pressure **at least once every 10 seconds**. This transition counter shall reset after every Learn Mode – LF Triggered message is sent.

The TPS shall exit Rolling State when it detects a rotational g-force that is less than 17 G (roughly 40 kph on an 18" wheel), and transition into the Stationary State.

3.2.1.5.3.1. RE-MEASURE DATA MODE

If, during any measurement sample, the current pressure sample is different by ± 8.25kPa (minimum) from the last transmitted pressure value, a data re-measurement shall occur immediately. If the pressure

has indeed changed, the sensor shall transmit a 'Re-Measure Data' Mode message, and transition into the Alert Rolling State.

3.2.1.5.4.   ALERT STATIONARY STATE

The TPS shall provide an Alert Stationary State where pressure sampling occurs every 1 second for a period of 8 seconds and 'Learn Mode – Pressure Triggered' transmission occurs when the current pressure sample is different by ± 8.25kPa (minimum) from the last transmitted pressure value.

With every pressure transmission, the sensor shall start a new 8-second period of pressure sampling.

If the pressure does not change during an 8-second interval, the sensor shall return to the Stationary State.

The TPS shall exit Alert Stationary State when it detects a rotational g-force that is greater than 17 G (roughly 40 kph on an 18" wheel), transition into the Alert Rolling State, and begin a new 8-second period of sampling.

3.2.1.5.4.1. LEARN MODE – LF TRIGGERED

When a valid LF transmission is received, the TPS shall transmit a 'Learn Mode – LF Triggered' Mode message and transition into the Stationary State.

3.2.1.5.4.2. LEARN MODE – PRESSURE TRIGGERED

If, during any measurement sample, the current pressure sample is different by ± 8.25kPa (minimum) from the last transmitted pressure value, the sensor shall transmit a 'Learn Mode – Pressure Triggered' Mode message, start a new 8-second period of sampling, and remain in the Alert Stationary State.

3.2.1.5.5.   ALERT ROLLING STATE

The TPS shall provide an Alert Rolling State where pressure sampling occurs every 1 second for a period of 8 seconds and 'Re-Measure Mode' transmission occurs when the current pressure sample is different by ± 8.25kPa (minimum) from the last transmitted pressure value.

With every pressure transmission, the sensor shall start a new 8-second period of pressure sampling.

If the pressure does not change during an 8-second interval, the sensor shall return to the Rolling State.

The TPS shall exit Alert Rolling State when it detects a rotational g-force that is less than 17 G (roughly 40 kph on an 18" wheel), transition into the Alert Stationary State, and begin a new 8-second period of sampling.