

# 1SYSTEM®

## Release Notes - ECU

from

# bf1systems

### 1 Modifications

| Date       | Modifications       | Author | Version | Modified Sheets | Approved |            |        |
|------------|---------------------|--------|---------|-----------------|----------|------------|--------|
|            |                     |        |         |                 | By       | Date       | Signed |
| 9/12/2024  | New Document        | GA     | v2.19   | All             | GU       | 16/12/2024 | GU     |
| 01/05/2025 | v2.20 & v2.21 added | GU     | v2.21   | All             | GA       | 14/05/2025 | GA     |
| 10/09/2025 | v2.22 added         | GA     | v2.22   | All             | GU       | 10/09/2025 | GU     |
| 17/02/2026 | v2.23 added         | GU     | v2.23   | All             | GA       | 18/02/2026 | GA     |

[1SYSTEM@bf1systems.com](mailto:1SYSTEM@bf1systems.com)

## 2 History

### v2.23 – 17<sup>th</sup> February 2026

- Fixed - ECU configuration can become corrupted if ECU reset / powered off during Non-Volatile Memory writes.
- Fixed - Firmware updates failure when CAR\_DATA CAN message is present on the bus.
- CAN messages with a DLC less than 8 are now handled with zero byte padding.
- Firmware configuration defaults modified to disable FIA / CFG\_CTRL messaging by default (firmware updates / pre configuration load).

### v2.22 – 12<sup>th</sup> September 2025

- Allow pressure reference limit to be set via CAN signal (P\_Ref\_set).
- Allow predefined blowfish keys to be used for different race series (FIA\_NTTechnicalBody).
- Flat tyre warning threshold increased to 3000 mbar.
- ECU position pin select read timing extended.

### v2.21 – 28<sup>th</sup> April 2025

- Improvements for robustness and resilience

### v2.20 – 22<sup>nd</sup> April 2025 (Not released)

- Robustness and Resilience update.

**Robustness** – When setting ‘Duplicate wheel sensor detection mode’ is enabled, will allow each ECU to communicate with the other ECUs fitted and confirm which wheel sensor has been detected and therefore not allow more than one ECU to detect the same wheel sensor. When enabled, the RSSI thresholds are set to -90 by default (not updatable by the user).

**Resilience** – When setting ‘Missing ECU detection mode’ is set to ‘ONE’ a pre-determined ECU can be used as a proxy receiver for the wheel sensor on the corner of the missing ECU.

Each ECU can be set to act as the proxy for the wheel sensor on either the same axle or on the same side of the vehicle. For the best results, the sensor with the strongest signal for the axle or side should be chosen.

The data in Figure 1 shows the wheel sensor on the FR is stronger than the RL so the FR wheel sensor should be selected as the proxy.

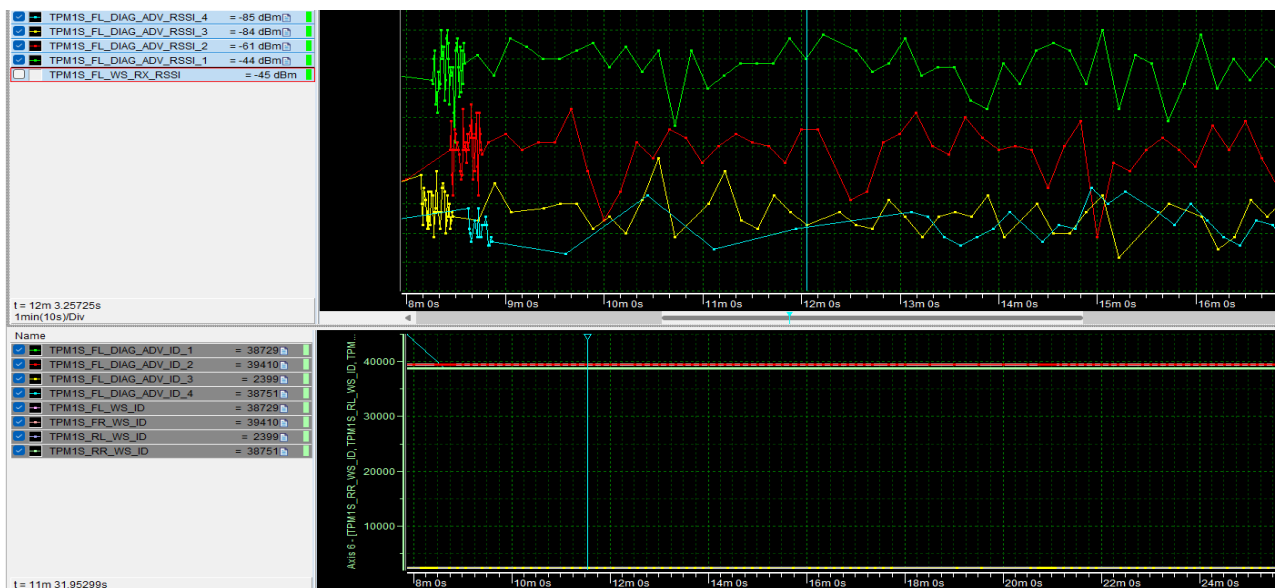


Figure 1 - Proxy position selection

NOTE: When the ‘Missing ECU detection mode’ is set to ‘ONE’ the Robustness settings will be enabled by default.

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v2.19 – 21<sup>st</sup> August 2024

- Handle TPMS OEM data packet. Not relevant for Motorsport applications.
- Combined error signal in XX\_WS\_INFO message. Not relevant for Motorsport applications.

v2.18 – 21<sup>st</sup> December 2023

- Receive all WS data when Vehicle ID is set to zero.
- Keep last wheel sensor reported data when sensor timeout sets not detected.
- Exception for pressure, which goes to maximum value.

v2.17 – 21<sup>st</sup> July 2023

- CAN data Tx improved for higher data quantities.
- Standard TPMS CAN Authentication (Blowfish CRC) implementation. WEC & IMSA only.
- Diagnostic message configuration bug fix.
- Improved spare wheel handling. Relevant for vehicles that carry spare wheels.
- XTAL temperature compensation improvements.

v2.16 – 13<sup>th</sup> January 2023

- Manual wheel positioning added.
- Add customer part number to improve data pack release management.
- Initial support for OEM products. Not relevant for Motorsport applications.

v2.15 – 29<sup>th</sup> September 2022

- Warning Threshold Message signature is configurable.
- ECU core temperature is signalled on CAN interface.
- Separate thresholds are configurable for TPMS & IR sensors.
- Calibrated tyre pressure is held, and related warnings remain active while stationary.
- Wheel sensor type is signalled on CAN interface.
- Wheel sensor diagnostic information reported to one of 8 CAN message mux IDs.

v2.14 – 22<sup>nd</sup> July 2022

- Add security mismatch WS signals.
- Add wheel sensor fault group and code in diagnostics messages.
- Add received detected counter signal.

v2.13 – 6<sup>th</sup> May 2022

- Preliminary support for 1SYSTEM IR Wheel Sensor.

v2.12 – 15<sup>th</sup> March 2022

- Initial Release.