



Remote Vehicle Data (RVD) – Collection Hardware

Technical Specifications of the 4G OBD Dongle

Feature	4G OBD Dongle	
Dimensions (incl. OBDII socket) ISO is 48+/-0,3 x 25+/-0,3 (l/w)	65 x 48 x 27mm (h/l/w)	
Cellular Standard	LTE Cat 4 Either eSIM or Nano SIM (4FF)	Fallback North America: 3G Fallback Europe: 3G & 2G
Processor (CPU)	ARM Cortex M4 32-bit 100 MHz	
Back-up Battery	Yes (180 mAh, Li-Ion)	
Firmware Update Over The Air (FOTA)	Yes	
WIFI Hotspot	Yes (Only available on North America variant)	
GNSS	Internal GNSS antenna GPS, Glonass, Beidou, Galileo, Compass A-GPS with accuracy < 5 m	
Accelerometer	Yes ($\pm 2g$, $\pm 4g$, $\pm 8g$, $\pm 16g$)	
Gyroscope	Yes	
Operating Temperature	-40 °C - +85 °C (below -20 °C and above +70 °C reduced performance of internal back-up battery)	
Qualification	According to industrial standards (CAN & K-Line transceivers are automotive-qualified components)	
Vehicle Communication Interfaces	Single Wire CAN Primary CAN High/Low Secondary CAN High/Low	FT CAN K-Line

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Power Consumption	Active: < 300 mA on average @12 V (depending on frequency band used) < 1,5 A peak current @12 V Sleep: 300-330 µA on average @12 V (CAN wake-up supported) Sleep: < 100 µA on average @12 V (CAN wake-up NOT supported)		
Supply Voltage	6-18 V		
Wake Triggers	<ul style="list-style-type: none"> - Vehicle Battery Voltage (Threshold & Cranking) - Vehicle Ignition Input (PIN 1) - Accelerometer - RTC - CAN (Primary CAN based on any CAN frame) 		
Security	AES 256 Encryption/Decryption with individual private/public key pairs for each dongle Secure Boot with updateable Flashloader, Bootloader not updateable TLS1.2		
Total available RAM / ROM / Flash Resources	RAM: 320KB	ROM: 1,5MB	Ext. Flash: 64MB

Remote Vehicle Data Collection HW - PIN Layout 4G OBD Dongle

Pin	Usage
Pin 1	Single Wire CAN (SAE J2411) / Ignition (IGN)
Pin 2	-
Pin 3	High Speed CAN (ISO11898-2) CAN High Secondary Channel
Pin 4	-
Pin 5	Ground (GND)
Pin 6	High Speed CAN (ISO11898-2) CAN High Primary Channel Fault Tolerant CAN (ISO11898-3) CAN High Body Channel
Pin 7	K-Line (ISO 9141-2 and ISO 14230-4)
Pin 8	High Speed CAN (ISO11898-2) CAN Low Secondary Channel
Pin 9	-
Pin 10	-
Pin 11	High Speed CAN (ISO11898-2) CAN Low Secondary Channel
Pin 12	-
Pin 13	-
Pin 14	High Speed CAN (ISO11898-2) CAN Low Primary Channel Fault Tolerant CAN (ISO11898-3) CAN Low Body Channel
Pin 15	-
Pin 16	VBATT

Remote Vehicle Data Collection HW - Supported Frequency Bands 4G OBD Dongle

Europe (EU27 + Switzerland + UK)		North America (USA, Canada, Mexico)	
Band	Frequency	Band	Frequency
LTE (FDD)			
1	2100 MHz	2	1900 MHz
3	1800 MHz	4	1700 MHz
8	900 MHz	5	850 MHz
20	800 MHz	12	700 MHz
		13	700 MHz
		25	1900 MHz
		26	850 MHz
3G (UMTS, HSPA)			
1	2100 MHz	2	1900 MHz
8	900 MHz	5	850 MHz
2G (GSM, GPRS, EDGE)			
3 (DCS1800)	1800 MHz	-	-
8 (EGSM900)	900 MHz	-	-