

DATASHEET

Telematics Connect Hub

iW-RainboW-G62H

The Telematics Connect Hub is a powerful compact device that supports 2 CAN-FD ports, an integrated hardware secure element, LTE Cat-1 bis cellular connectivity and Bluetooth Connectivity. The hub is an ideal solution for electric vehicles, 2 Wheelers, racing motorbikes, passenger cars and industrial machinery, enabling next generation telematics and edge intelligence.

Software flexibility and Security

Powered by a powerful processor, The Telematics Connect is equipped with Linux 6.6.52 BSP and APIs available for the various peripherals, sensors and connectivity modems. The software provides consumers the flexibility to build their custom application and integrate with various cloud and analytics platforms.

Functions such as power management, network management, Data Routing, OTA and custom algorithms can be easily integrated by customers.



Key Features

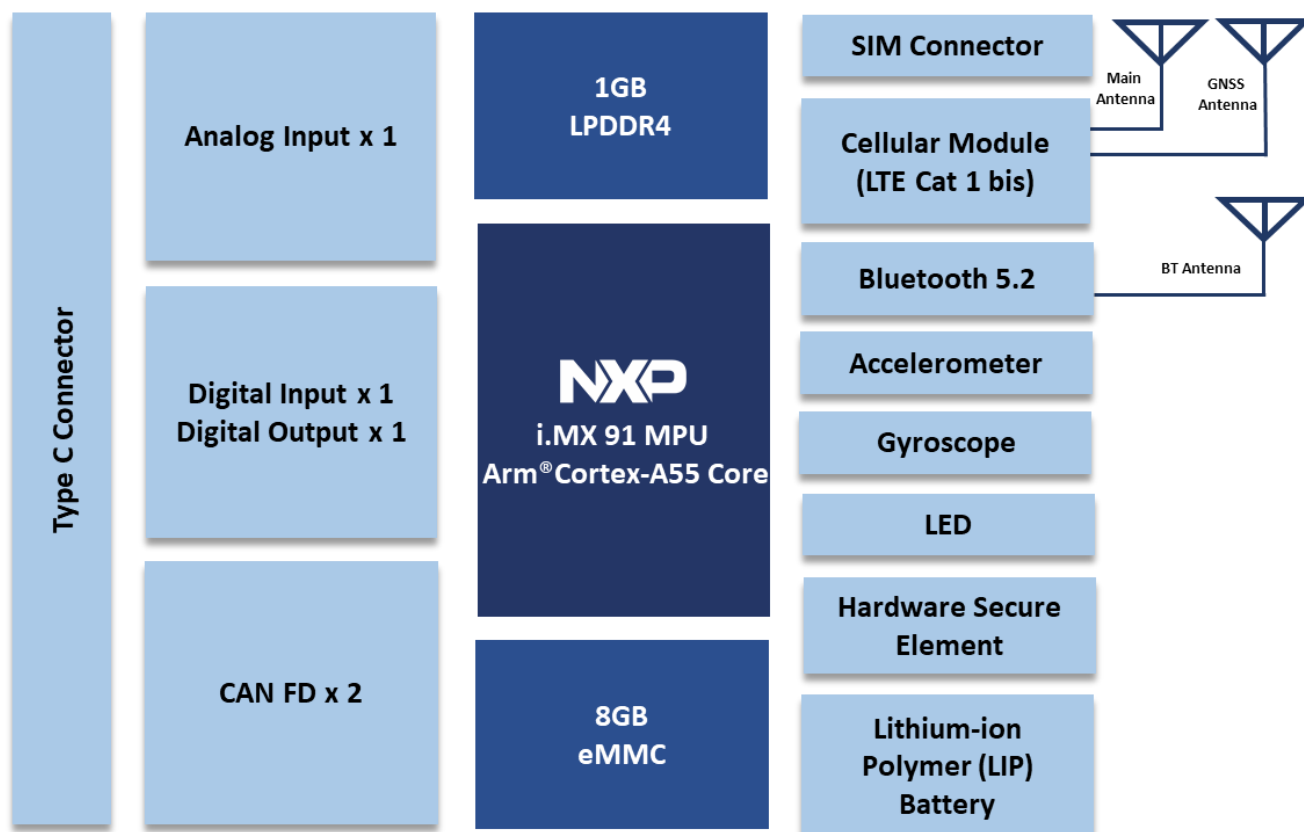
- NXP i.MX 91 Micro-Processor (Cortex A55)
- 2 CAN-FD Ports
- Integrated Hardware Secure Element
- LTE Cat-1 bis and Bluetooth 5.2 Connectivity
- GNSS, Accelerometer and Gyroscope
- Linux 6.6.52 BSP and peripheral API
- IP67 Protection Class with internal antennas
- Compact and Miniaturized Solution

Cost Effective, Compact and Rugged

The Connect Hub is a powerful and cost-optimized solution for new generation telematics requirements in 2 wheelers and electric vehicles. The compact IP67 solution provides the required ruggedness for installation in varying environments and vehicle architectures.

The Connect Hub enables applications such as fleet management, predictive maintenance, EV intelligence, battery management; all enabling an intelligent connected platform.

Functional Block Diagram



Note: Depending on the ordering part number, supported features vary

Ordering Part Numbers

Part number	Description
iW-G62HTC-01G-08G-NIX-XX-13-IM-LI1CXX	Telematics Connect Hub (2x CAN-FD, Cat-1 bis Connectivity – NA, Debug Serial UART)
iW-G62HTC-01G-08G-EIM-SX-12-IM-LI1CXX-D	Telematics Connect Hub – Evaluation Kit (2x CAN-FD, Cat-1 bis Connectivity – EMEA / APAC, Bluetooth, Secure Element)
iW-G62HTC-01G-08G-NIM-SX-12-IM-LI1CXX-D	Telematics Connect Hub – Evaluation Kit (2x CAN-FD, Cat-1 bis Connectivity – NA / Canada, Bluetooth, Secure Element)
iW-G62HTC-01G-08G-EIM-SX-12-IM-LI1CXX	Telematics Connect Hub (2x CAN-FD, Cat-1 bis Connectivity – EMEA / APAC, Bluetooth, Secure Element)
iW-G62HTC-01G-08G-NIM-SX-12-IM-LI1CXX	Telematics Connect Hub (2x CAN-FD, Cat-1 bis Connectivity – NA / Canada, Bluetooth, Secure Element)
iW-G62HTC-01G-08G-EIX-XX-12-IM-LI1CXX	Telematics Connect Hub (1x CAN-FD, Cat-1 bis Connectivity – EMEA / APAC)
iW-G62HTC-01G-08G-NIX-XX-12-IM-LI1CXX	Telematics Connect Hub (1x CAN-FD, Cat-1 bis Connectivity – NA / Canada)

Note:

- Product Features and configuration may vary depending on the ordering part number
- For more details on the configurations, please contact iWave sales team at mktg@iwave-global.com

Processor Core and Storage

CPU	NXP i.MX 91 Micro-Processor Arm® Cortex®-A55 Core
RAM	1GB LPDDR (Expandable Up to 2GB)
FLASH	8GB eMMC Flash (Expandable Up to 16GB)

Wireless Connectivity

Cellular Connectivity	LTE Cat 1 bis (EMEA APAC)
	LTE-FDD : B1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/ 28/ 66
	LTE-TDD : B34/38/39/40/41
	GSM : B2/3/5/8
	LTE Cat 1 bis (NA / CANADA)
	LTE-FDD: B2/4/5/12/13/66
Bluetooth ¹	BT v5.2 BR/EDR/LE

Interfaces and Peripherals

CAN FD	2 Ports ¹
	Data rate up to 5Mbps
	Identifier Support: 11 and 29 bit
	Classic CAN backwards compatible
Digital Inputs	1 Port (Max 32V) ¹
Digital Outputs	1 Port (5V- 24V, Sink Current: 200mA) ¹
Analog Input	1 Port (0-32V) ¹
Ignition Input	1 Port

Security

Security Module	Integrated Hardware Secure Element Crypto-Automotive Security IC Microchip TA100 ¹
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Connector

Connector	USB C (Part Number: DX07WH24JA3R1200 or Equivalent part)
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Power Characteristics

Power Input	9 - 32V
Power Consumption	Current consumption at normal mode: 250mA at 12V
Power saving modes	Stand-by Mode: 10mA Power down mode ¹ : <1mA

Positioning

	EMEA APAC	NA / CANADA
GNSS	GPS/GLONASS/BeiDou/Galileo	
Receiver sensitivity ²	Acquisition: -145 dBm	Acquisition: -145 dBm
	Re-Acquisition: -160 dBm	Re-Acquisition: -157 dBm
	Tracking: -159 dBm	Tracking: -160 dBm
Time to First Fix ²	Cold start: 28s	Cold start: 27.43s
	Hot start: 4s	Hot start: 2.56s
	Warm start: 28s	Warm start: 27.37s

Sensors

Accelerometer	Function: 3 Axis
	Sensitivity Range: ±2/ ±4/ ±8/ ±16 g full scale
Gyroscope	Function: 3 Axis
	Sensitivity Range: ±125/±250/±500/±1000/±2000 dps

SIM Provision

SIM connector	Micro SIM Connector eSIM ¹
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Environmental Conditions

Operating Temperature	-40°C to +70°C ³
Storage Temperature	-40°C to +85°C ³

¹ Product features may vary based on ordering part number, please contact iWave sales team at mkta@iwave-global.com
² Above table gives information about satellite positioning as per the module specification

³ Temperature range subject to use case and operational functionality

Internal Battery

Capacity	Lithium-ion Polymer (LIP) 800mAh
Temperature Support	Battery when discharging: -20°C to +60°C Battery when charging: 0°C to 50°C
Certification	UN38.3 Certificate ³ and IEC 62133-2 Certificate ³

Antenna

Internal Antenna	LTE, GNSS, Bluetooth
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LED

LED 1	Red: Power
LED 2	Green: Status Indication

Software Specifications

Board support package (BSP)	Linux version: 6.6.52
API Support	- Sensors / Cellular Connectivity / Bluetooth¹ - Interface peripherals: CAN Data - Wake-Up based on Ignition / Accelerometer - LED
Time Synchronization	GNSS and NTP
Wake-Up Modes	Ignition, Accelerometer
Power-Saving Modes	Stand-By Mode / Deep Power down mode ¹
CAN Protocol ¹	Socket CAN, ISO 15765-4, CANopen, J1939, UDSONCAN
Security ¹	Secure boot, Secure storage
Software Modules ¹	- OTA Update - Power Management - Data collection application on the device - Cloud Platform SDK Integration

¹ Optional features: For more information please contact iWave sales team at mktg@iwave-global.com

Connector Specifications

Description	Connector on Device : Type C Connector (Part Number: DX07WH24JA3R1200 or Equivalent)		
Connector Pinout	Pin No	Signal Name	Description
	A1,A12,B1,B12	OBD_GND	Ground
	A2,B2	FD_CAN1_H	Flexible Data rate CAN1 High
	A3,B3	FD_CAN1_L	Flexible Data rate CAN1 Low
	A4,A9,B4,B9	VCC_OBD_IN	Power Input (12V Typical)
	A5,B5	IGN_DET	Ignition Detection Input
	A6,B6	FD_CAN2_H	Flexible Data rate CAN2 High
	A7,B7	FD_CAN2_L	Flexible Data rate CAN2 Low
	A8,B8	AIN1*/VCC_3V3	Analog Input 1*/3V3 debug UART power
	A10,B10	DIN1*/UART_CON_RX	Digital Input 1*/Debug UART RX
	A11,B11	DOUT1*/UART_CON_TX	Digital Output 1*/Debug UART TX

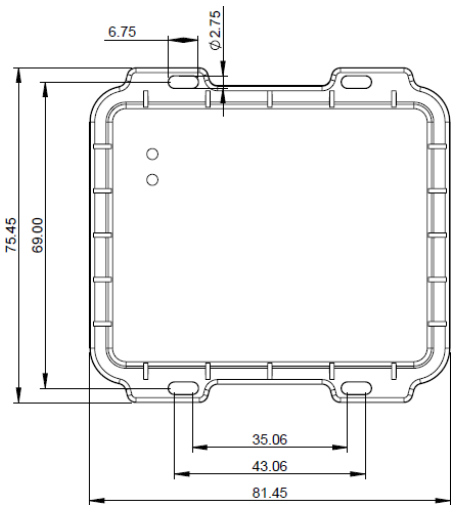
****Note:** VCC_3V3 power output is to be used only for debug UART purpose and not to be used for other applications*

Depending on the ordering part number, supported features & pinouts would vary

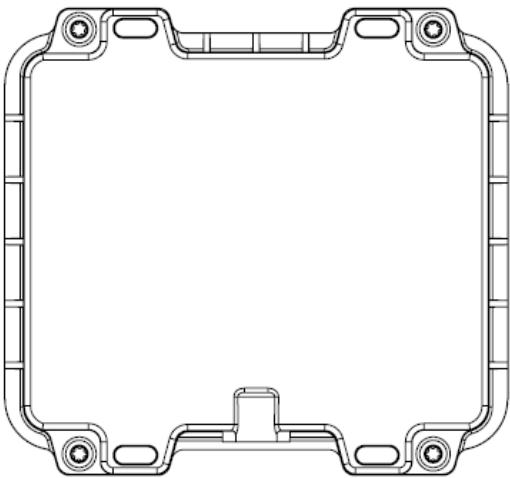
Mechanical

Dimensions (H x W x D)	82 x 76 x 19.3 mm
Enclosure Material	Polycarbonate
Manufacturing Process	Injection Molding
Assembly Type	Screw Type
Colour of Enclosure	Black
Enclosure Surface Finish	VDI-36
Protection Class	IP67
Mounting Options	Screw and Cable
Number of Enclosure Parts	3
Enclosure Certification	UL 94 V0

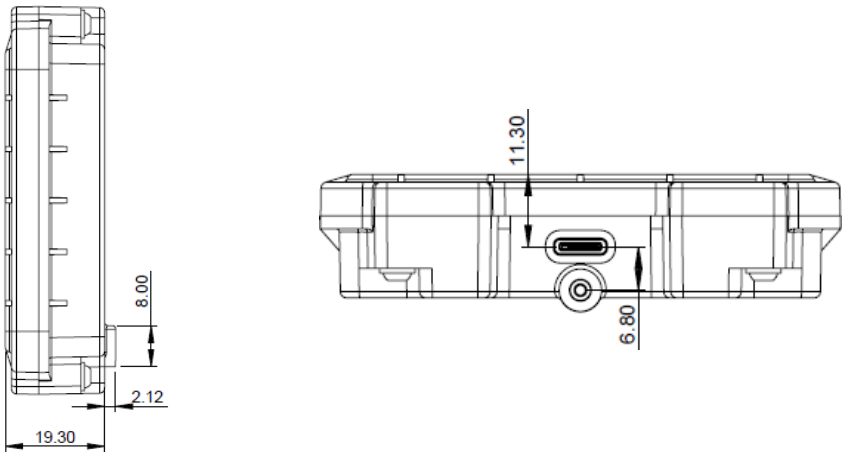
Top View



Bottom View



Side View & Front View



Related Products



Telematics Control Unit

Telematics Control Unit is built to power your connected mobility and telematics applications across a range of connected vehicles. It is integrated with multiple CAN ports, a wide range of protocol support and a multitude of wireless connectivity options.



Telematics Gateway

The i.MX 8XLite powered Telematics Gateway is built with extensive interfaces: 4 CAN Interfaces, RS232, RS485, Analog Inputs and Digital Inputs. With the support for multiple protocols and powerful edge firmware, the gateway is suitable for wide range of applications.



Rugged Telematics Device

The Rugged Telematics Device with IP67 protection class is integrated with 3 CAN Ports, RS232 and RS485 Ports, with various wireless connectivity options such as 4G, Wi-Fi and Bluetooth. Rugged device is built to track your vehicles even in tough conditions.



V2X Connectivity Hub

Integrated with C-V2X and DSRC technologies, the hybrid V2X Connectivity Hub provides as a scalable and modular platform. Designed to serve a plethora of V2X Applications, the V2X Gateway can be positioned as an On-Board Unit (OBU) or as a Road-Side Unit (RSU).

Document Revision History

Document Number	iW-PRGTT-DS-01-REL1.3	
Release	Date	Description
1.0	18 th Oct, 2023	Initial Release
1.1	9 th Feb, 2024	Updates: Block Diagram, Part number, Mechanical Features, Connector Pinouts
1.2	30 th July, 2024	Updates: Product part number, Battery Capacity, Positioning and wakeup modes
1.3	06 th Feb, 2025	Updates: Product part number, processor & storage, block diagram, Linux Version, Connector specifications

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