

ITxPT Module Labeling Report

REPORT ID	20251211-0258
DATE	21/01/2026
COMPANY	Leonardo Spa
TESTER	ITxPT laboratory manager
SPECIFICATION	S01 - S02P00 to S02P09 (Sequoia Release)
TOOLS USED FOR THE TEST	ITxPT Laboratory



Module configuration tested by ITxPT laboratory

Manufacturer	Model	Hardware version	Software version	Unique Identifier
Leonardo Spa	ENOBUE	186-0500/34.01	4.16.3.0.gold	ITxPT01

Hardware interfaces

Interface name	Provided status	Implementation level
Power supply	✓	Permanent, Ignition, Main switch, Full power, SLEEP management
Ethernet	✓	2 * Native M12 X-coded + 8 * Native M12 D-coded
FMS	✓	2 * Optional ground
Wireless communications	✓	2 * GSM, GPS, WLAN
Audio	✓	Stereo, mono, Driver, Passenger, External
Auxiliary	✓	Low battery, Odometer, Doors, AnyDoorOpen, Full power

Implemented services

Service	Operation	Provided status	Provided type	Consumed status	Consumed type
Module Inventory		✓	ixpt_http	✓	ixpt_socket and/or ixpt_http
Time		✓	sntp	N/A	sntp
GNSS Location		✓	ixpt_multicast	N/A	ixpt_multicast
FMS to IP	Provision	✓	ixpt_multicast	N/A	ixpt_multicast
	Configuration	✓	ixpt_http	N/A	ixpt_http
VEHICLEtoIP		✓	ixpt_multicast	N/A	ixpt_multicast
AVMS	Run Monitoring	✓	ixpt_http	N/A	ixpt_http
	Planned Pattern	✓		N/A	
	Pattern Monitoring	✓		N/A	
	Vehicle Monitoring	✓		N/A	
	Journey Monitoring	✓		N/A	
	General Message	✓		N/A	
	Connection Monitoring	✓		N/A	
APC	Passenger door count	✓	ixpt_http	N/A	ixpt_http
	Passenger vehicle count	✓		N/A	
MQTT		✓	mqtt	N/A	mqtt

DISCLAIMER

Module manufacturer shall declare any change impacting the result of one or several tests for each module configuration using the "declaration of change" file available on ITxPT documentation center.

The consumption status is based primarily on the module manufacturer's declaration, since laboratory tests can only partially assess service consumption. The manufacturer hereby guarantees that its module is fully capable of consuming, i.e., subscribing to, receiving and processing data from services provided by another ITxPT-compliant module.



VARIANTS OF LABEL ID

20251211-0258

DISCLAIMER

The undersigned, representing the module manufacturer, hereby declares and guarantees that all ITxPT-related interfaces or services, whether optional or mandatory, which are compliant with the tested module configuration, are implemented identically across all configuration variants of the tested module. Only the same or simpler hardware configuration variants may be listed, the firmware must remain the same. Each variant must be provided with the description of the hardware differences compared to the reference model. Wildcards are not allowed in the variant names.

Signed

Date




LEONARDO

Manufacturer	Tested model name	Short description of the tested hardware	Hardware version	Software / Firmware version	Specification Package	Provision (S02P01-Inventary, S02P02-Time)	Consumption (S02P01-Inventary, S02P02-Time)	Power supply (Permanent Ignition Main switch Full power SLEEP mode POE)	Ethernet implementation	FMS	Wireless communication (GSM GPS WLAN)	Audio	Auxiliary (Low battery, Odometer, Doors, AnyDoorOpen, Awake request, Stop request, Full power)
Leonardo Spa	eNOBU	*34 version is the production version with the 4G/5G modem and 1TB hard drive*	186-0500/34 01	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Manufacturer	Variant full name (wildcards are not accepted)	Short description of the differences with the tested model (same or simpler hardware architecture)	Hardware version	Software / Firmware version	Specification Package	Provision	Consumption	Power supply	Ethernet implementation	FMS	Wireless communication	Audio	Auxiliary
Leonardo Spa	eNOBU	version with LTE+ and SSD	186-0500/2x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU	version with 5G/the version with a 5G/LTE+ modem and SSD The 34 has a 1TB SSD, while the others are smaller, LTE+ and SSD	186-0500/3x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU	version with an LTE+ modem and no SSD	186-0500/5x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU	version without a modem and SSD	186-0500/6x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU	the version with 5G and SSD	186-0500/9x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU AI	version with LTE+ and SSD AI component with microprocessor version (Imx8Mplus) and lower power consumption	186-0501/2x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU AI	version with 5G/the version with a 5G/LTE+ modem and SSD The 34 has a 1TB SSD, while the others are smaller, LTE+ and SSD AI component with microprocessor version (Imx8Mplus) and lower power consumption	186-0501/3x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU AI	version with an LTE+ modem and no SSD AI component with microprocessor version (Imx8Mplus) and lower power consumption	186-0501/5x	4.16.3.0.gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power



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Signed _____

Date: __29/01/2026_____



Manufacturer	Tested model name	Short description of the tested hardware	Hardware version	Software / Firmware version	Specification Package	Provision (S02P01 Inventory, S02P02 Time)	Consumption (S02P01 Inventory, S02P02 Time)	Power supply (Permanent Ignition Main switch Full power SLEEP mode P01)	Ethernet implementation	FMS	Wireless communication (GSM GPS WLAN)	Audio	Auxiliary (Low battery, Odometer, Doors, AnyDoorOpen, Awake request, Stop request, Full power)
Leonardo Spa	eNOBU	734 version is the production version with the 4G/5G modem and 1TB hard drive	186-0500/34.01	4.16.3.0 gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Manufacturer	Variant full name (wildcards are not accepted)	Short description of the differences with the tested model (same or simpler hardware architecture)	Hardware version	Software / Firmware version	Specification Package	Provision	Consumption	Power supply	Ethernet implementation	FMS	Wireless communication	Audio	Auxiliary
Leonardo Spa	eNOBU AI	version without a modem and SSD AI component with microprocessor version (Imx8Mplus) and lower power consumption	186-0501/6x	4.16.3.0 gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power
Leonardo Spa	eNOBU AI	the version with 5G and SSD AI component with microprocessor version (Imx8Mplus) and lower power consumption	186-0501/9x	4.16.3.0 gold	Sequoia	S02P01, S02P02, S02P03, S02P04, S02P05, S02P06, S02P07, S02P09	S02P01	Permanent Ignition Main switch Full power SLEEP mode	2 * Native M12 X-coded + 8 * Native M12 D-coded	2 * Optional ground	2 * GSM, GPS, WLAN	Stereo, mono, Driver, Passenger, External	Low battery, Odometer, Doors, AnyDoorOpen, Full power