Central In-Vehicle Infotainment Computer
Multimedia Device with Bluetooth and WLAN

Technical Description and Installers Manual
Models:

BCI3L4PTR1 – Star 3.0 / Star 3.5
BCI3L4PTN1 – Star 3.0 / Star 3.5

This technical manual is intended for usage in the context of regulatory approvals (please ensure that the correct model-name reference is used).
It does not replace a vehicle- or region-specific OEM owners or user manual.

It is the OEMs responsibility to ensure that all mandatory information with regulatory relevance is made available to end-customers in the owners and user manuals.

Business name of device manufacturer:	Robert Bosch GmbH
Address:	Robert Bosch GmbH Robert-Bosch-Platz 1 70839 Gerlingen Germany
Brand:	BOSCH

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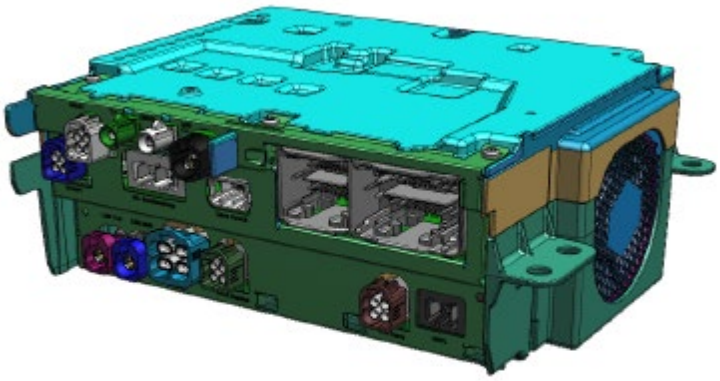
DEVICE DESCRIPTION

The Central In-Vehicle Infotainment Computer Gen20x.i3 infotainment system is the main unit in the vehicle, which combines the instrument cluster and infotainment functionality. It is a so-called convergence or 1-box product and controls the Cluster, Head-up and In-Vehicle Infotainment (IVI) displays.



This product is built for two different vehicle architectures, thus being HW identical in all parts, one variant Star 3.0 uses CAN interface and lower GPU frequency, whereas Star3.5 uses vehicular ethernet with higher GPU frequency.

Model names	Variants	Markets
BCI3L4PTN1	Star 3.5	USA Canada Mexico
	Star 3.0	
BCI3L4PTR1	Star 3.5	Rest of World
	Star 3.0	

Operational conditions of the device:

Nominal Supply voltage:	9.0V to 16V DC
Max. Current consumption:	<20A
Max. supply current	7,1 A
Sleep current consumption:	<200µA
Operating Temperature Range:	-40°C to +65°C (full function)
Storage Temperature:	-40°C - +85°C
IP protection class:	IP20
ASIL level:	B
Device class:	Class B
Lowest internal frequency	1Hz
Highest generated frequency	5825 MHz

Mechanical information:

Max. Weight:	≤1.65 kg,
Max. outer dimensions:	220,4mm × 161,4mm × 79mm

Radio Transmitters and Receivers

Bluetooth	Version 5.2 EDR, LE Power class 2 <4dBm
W-LAN 2.4GHz	802.11b/g/n/a/ax… <20dBm SISO Only
W-LAN 5.1GHz	802.11b/g/n/a/ax… <16dBm 2x2 SU-MIMO (single user)
W-LAN 5.8GHz	802.11b/g/n/a/ax… <14dBm Support 2x2 SU-MIMO (single user)
Access-point (AP)	Support 2x2 SU-MIMO (single user) No AP functionality for 5GHz DFS Channels.
Station (Client)	Support 2x2 SU-MIMO (single user)
Broadcast receiver	AM/ FM DAB (BCI3L4PTR1 only) SXM BCI3L4PTN1 only)
GNSS	GPS Galileo GLONASS BeiDou BeiDou+SBAS QZSS
Geolocation capabilities	Yes, GNSS Based

External Antenna Information:

Description	PCB antenna
Manufacturer	Hirschmann Car Communications
Part Number	920-584-003
Antenna Gain (max)	0.1dBi @2.4GHz 5.1dBi @5GHz

OPERATING MODES AND WIRELESS CHARACTERISTICS

Bluetooth and WiFi can work together. The device operates with three antennas mounted behind the cockpit dashboard.

Bluetooth

- Bluetooth operates in the 2.4 GHz band (2402 ~ 2480MHz)
- Bluetooth operates in the Classic and Low Energy modes.
- Bluetooth works in both the BDR and EDR
- Bluetooth max Output power : <4 dBm EIRP

WiFi

WIFI has the following operating Modes. The device can connect to the external Access points in Station mode. The device can also operate as an Access point.

Declaration of WiFi Transmission Power 2014/53/EU:

WLAN 2412 – 2472 MHz	<20 dBm
WLAN 5180 – 5240 MHz	<16 dBm
WLAN 5745 – 5825 MHZ	<14 dBm

Used WLAN Modes:

- Station Mode (STA) - Device does not connect to external AP on DFS Channels
- Access Point Mode (AP)
- DFS channels are not used

CERTIFICATION NOTICES AND REGULATORY VERBIAGE

General Notices

The OEM shall include the following regulatory statements in his user guide/manual

Type Designation:	Multimedia device with Bluetooth and WLAN
Model Names:	BCI3L4PTN1 (Variants: Star 3.0 and Star3.5) BCI3L4PTR1 (Variants: Star 3.0 and Star3.5)
Brand	BOSCH
Certificate Holder:	Robert Bosch GmbH
Address:	Robert-Bosch-Platz 1 70839 Gerlingen Germany

This equipment shall be installed and operated according to the defined installation requirements including the minimum distance between the antenna and the nearest distance to the human body as follows

Dashboard			
Driver side	*Center*	*Center*	*Co-Driver side*
Antenna 4	**Antenna 1**	**Antenna 2**	**Antenna 3**
	Minimum cable length		
76.5 cm	37.5 cm	106.5 cm	99.0 cm
	Minimum distance to head		
	> 20.0 cm		
	Minimum distance to body		
	> 20.0 cm		
	Minimum distance to extremities		
14.8 cm	9 cm	15.1 cm	21.4 cm

BCI3L4PTR1 Star 3.5 and Star 3.0

USA

FCC ID: 2AUXS-BCI3L4PTN1

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

To comply with FCC Exposure requirements the OEM is instructed by the Grantee to assure a minimum separation distance of 20 cm between the antenna any human body as documented in the filing.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

BCI3L4PTN1 Star 3.5 and Star 3.0

USA

FCC ID: 2AUXS-BCI3L4PTN1

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(3) this device may not cause harmful interference, and

(4) this device must accept any interference received, including interference that may cause undesired operation.

To comply with FCC Exposure requirements the OEM is instructed by the Grantee to assure a minimum separation distance of 20 cm between the antenna any human body as documented in the filing.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

IC:25847- BCI3L4PTN1

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

RF Exposure Information:

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This radio transmitter IC:25847- BCI3L4PTN1 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device:

Cet émetteur radio (IC:25847-BCI3L4PTN1) a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antennes listés ci-dessous, avec le gain maximal autorisé indiqué. Les types d'antennes non inclus dans cette liste et dont le gain est supérieur au gain maximal indiqué pour l'un des types listés sont strictement interdits avec cet appareil.

External Antenna Information / Informations sur l'antenne externe :

Description	PCB antenna
Manufacturer	Hirschmann Car Communications
Part Number	920-584-003
Antenna Gain (max)	0.1dBi @2.4GHz 5.1dBi @5GHz