

User Instruction Manual

Infotainment System

Model/Product: MGU22

Version: 7.0 English
Date: Version
2023-04-26

1 Technical Information

1.1 Materials

MGU22 Infotainment System – Conformity with RoHS, RED, ISO, etc .

The MGU22 is an infotainment head unit for vehicles. It does not include a display. It contains GNSS, Bluetooth, BLE, and Wifi 802.11a/b/g/n/ac/ax (2.4GHz and 5GHz) MIMO capability. The external connections are:

- BT/WLAN – antenna connection
- USB1/2/3 – for USB 2.0 connections
- Main – power and CAN
- CID – APIX2 and APIX3 display link (HDCP2.3)
- AR-CAM – camera
- 100BASE-T1 (OABR) – ethernet
- 1GBASE-T1 – 1Gbit ethernet
- GNSS - GNSS antenna connection

1.2 Declaration of Conformity to RED regulation 2014/53/EU Declaration of

Conformity (DoC)



English:

We declare that the radio equipment type **MGU22** is in compliance with the radio equipment directive 2014/53/EU. EU declaration of conformity is available at <https://www.garmin.com/en-US/legal/compliance/>.

Spanish: Declaramos que el equipo de radio tipo MGU22 cumple con la directiva de equipos de radio 2014/53/EU. La declaración de conformidad de la UE está disponible en <https://www.garmin.com/enUS/legal/compliance/>.

Portuguese: Declaramos que o equipamento de rádio tipo MGU22 está em conformidade com a diretiva de equipamento de rádio 2014/53/UE. A declaração de conformidade da UE está disponível em <https://www.garmin.com/en-US/legal/compliance/>.

1.3 Used Frequency spectrum

- BLE/Bluetooth 2402-2480 MHz
- WLAN 2402-2482 MHz
- WLAN 5170-5250 MHz
- WLAN 5250-5330 MHz (DFS)
- WLAN 5490-5600 MHz (DFS) Canada
- WLAN 5600-5650 MHz -> Not being used for Canada
- WLAN 5490-5725 MHz (DFS)
- WLAN 5650-5725 MHz (DFS) Canada
- WLAN 5735-5815 MHz

1.4 Manufacturer & Factory Units

Manufacturer:

Garmin Wurzburg GmbH
Beethovenstrasse 1A 97080
Wurzburg, Germany

Factories:

Olathe AOEM Factory
Garmin International 1100 E
151st St
Olathe KS, 66062

Poland AOEM Factory
Garmin Wroclaw LLC ul.
Ryszarda Chomicza 2, 55-
040 Biskupice Podgorne,
Polska

1.5 FCC/ISED statements

Model: MGU22
FCC ID: IPH-03910
IC: **1792A-03910**

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

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

This device contains licence-exempt transmitter(s)/receiver(s)

that complies with ISED Canada 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.

This radio transmitter has been approved by the FCC/ISED to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

| Interface and frequency range | Type | Max Gain |
|-------------------------------|-------------|----------|
| Bluetooth & Wifi @ 2.4GHz | ¼ wave coax | -2.5 dBi |
| Wifi @ 5GHz | ¼ wave coax | -2.8 dBi |

This device complies with the FCC/ ISED RF exposure limits and has been evaluated in compliance with portable exposure condition.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR.

This device has been shown to be capable of compliance for localized SAR for uncontrolled environment/general population exposure limits specified in ANSI/IEEE Std. C95.1-1992 and has been tested in accordance with the measurement procedures specified in ISED RSS-102 and IEEE Std. 15282013.

The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations.

To comply with the measured SAR value/SAR testing exclusion, the equipment must be installed and operated with a minimum distance of 5 cm of the human body.

The product complies with FCC/ISED regulations regarding transmission on 5GHz bands.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channels mobile satellite systems.

Data transmission is always initiated by software, which is passed down through the MAC, and finally to the RF chip. Several special packets are initiated by the MAC on an application request. These are the only ways the digital baseband portion will turn on the RF transmitter, which then turns off at the end of the packet. Therefore, the transmitter will be ON only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure per 15.407(c) and RSS-247 § 6.4(a).

The product will be installed within a vehicle by OEM customer BMW. Service (as SW updated) will be executed by car service garages or Over-The-Air from OEM customer server. End customer has no possibility to do SW update. Additionally, all SW update packages are signed, and the signature is verified on the system before new SW can be installed per RSS-247 § 6.4(b).

For MGU22, the maximum antenna gain permitted in the bands 5250-5350 MHz, 5470-5725 MHz and 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limit per RSS-247 § 6.4 (c).

FCC Class B device notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAN ICES-003 (B)

This Class B digital apparatus complies with Canadian ICES-003.

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.

1.6 Mexico declaration:

Modelo: MGU22

Marca: BMW

Importador:

Company Name: BMW de México, S.A.

Address: Av. Javier Barros Sierra 495, Piso 14, Oficina 1401, Park Plaza III, Col. Santa Fe, Alcaldía Álvaro Obregón, Ciudad de México

Postcode/Zip Code: 01376

Legal representative name: Bertino Blázquez González / Estela González Borja

Phone number: +52 55 8944 4444

Email: Estela.Gonzalez-Borja@bmw.com.mx

| Interface and frequency range | Type | Max Gain |
|-------------------------------|-------------|----------|
| Bluetooth & Wifi @ 2.4GHz | ¼ wave coax | -2.5 dBi |
| Wifi @ 5GHz | ¼ wave coax | -2.8 dBi |

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada”

1.7 Brazil declaration:

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

Para maiores informações, consulte o site da ANATEL – www.anatel.gov.br