

# **Car AVN User Manual**

**Model Name : IL7FF**

## 1. Overview and Specifications

### (1) Overview

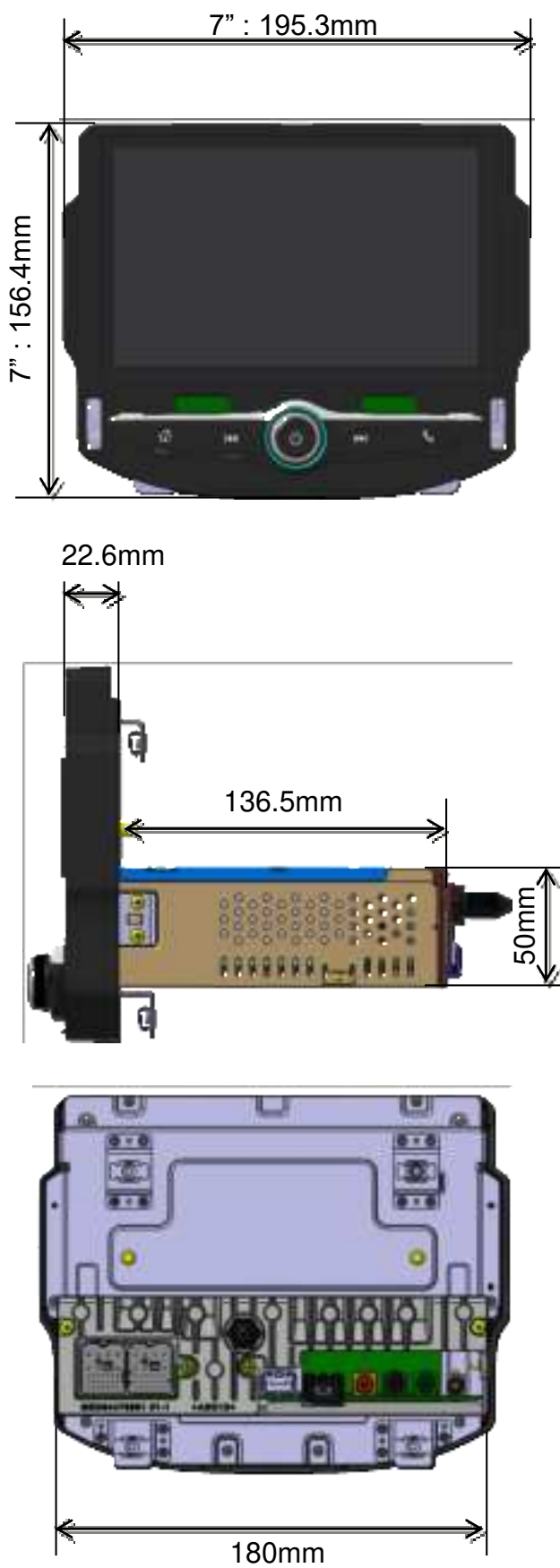
- 1) The Infotainment system provides Infotainment in your car, using the latest technology. See your dealer to have the system or software updated and upgraded.
- 2) The radio can be easily used by registering up to 25 FM or AM with the PRESET button[1 to 5] per every 5 pages.
- 3) The Infotainment system can play the USB storage device or iPod/iPhone products.
- 4) The Bluetooth phone connection function allows for the use of wireless hands-free Phone calls, as well as a phone music player.  
In addition, the WiFi function is provided.
- 5) Connect a portable music player to the auxiliary sound input to enjoy the rich sound of the Infotainment system.

### (2) Specifications

#### \*Product

| Item          | Categories                    | Specifications               |
|---------------|-------------------------------|------------------------------|
| Specification | Product Name                  | Faceplate RADIO ASM-RECEIVER |
|               | Model                         | IL7FF                        |
|               | Dimensions                    | Refer to image               |
|               | Weight                        | Base: 1.48kg<br>DAB : 1.52kg |
|               | Power source                  | DC 12V                       |
|               | Operational temperature range | -30 °C ~ 85 °C               |

< Basic Design Concept >



**\*RF specifications**

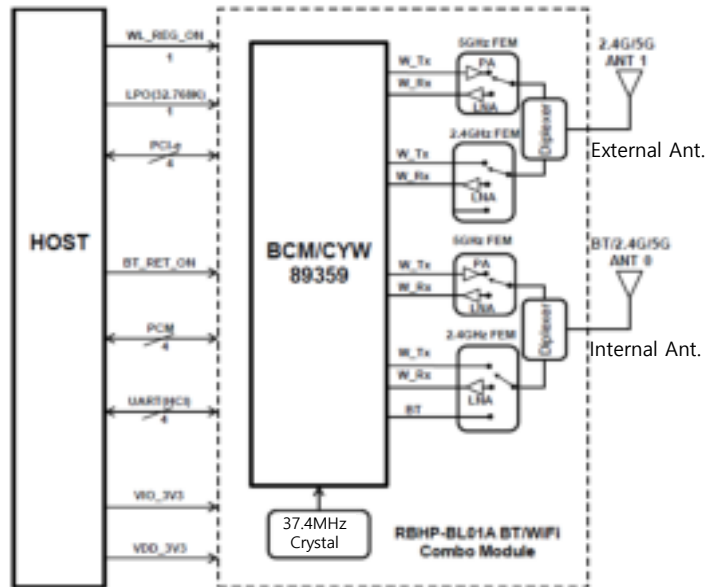
**[ BT ]**

| Item            | Specifications              | Unit |
|-----------------|-----------------------------|------|
| Frequency       | 2402 ~ 2480                 | MHz  |
| Modulation Type | GFSK, $\pi/4$ DQPSK, 8 DPSK |      |
| BT Power        | BT Class2                   | dBm  |
| Data rate       | 1 ~ 3                       | Mbps |
| Channel spacing | 1                           | MHz  |
| BT version      | BT4.2 + EDR                 | MHz  |

**[ Wi-Fi ]**

| Item       |      |           |     | Specifications  | Unit |
|------------|------|-----------|-----|---|------|
| Standard   |      |           |     | IEEE 802.11 a/b/g/n/ac                                      |      |
| Frequency  | 2.4G |           |     | 2412 ~ 2462   | MHz  |
|            | 5G   |           |     | 5180~5240, 5260~5320<br>5500~5720, 5745~5825                | MHz  |
| Bandwidth  |      |           |     | 20 / 40 / 80  | MHz  |
| Data rate  | 2.4G | 802.11 b  | 20M | 1, 2, 5.5, 11   | Mbps |
|            |      | 802.11 g  | 20M | 6, 9, 12, 18, 24, 36, 48, 54                                | Mbps |
|            |      | 802.11 n  | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65                         | Mbps |
|            | 5G   | 802.11 a  | 20M | 6,9,12,18,24,36,48,54                                       | Mbps |
|            |      | 802.11 n  | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65                         | Mbps |
|            |      | 802.11 n  | 40M | 13.5, 27, 40.5, 54, 81, 108, 121.5, 135                     | Mbps |
|            |      | 802.11 ac | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78                     | Mbps |
|            |      | 802.11 ac | 40M | 13.5, 27, 40.5, 54, 81, 108, 121.5, 135<br>162, 180         | Mbps |
|            |      | 802.11 ac | 80M | 29.3, 58.5, 87.8, 117, 175.5, 234<br>263.3, 292.5, 351, 390 | Mbps |
| Modulation |      |           |     | DSSS, BPSK,<br>16-QAM, 64-QAM, 256-QAM                      |      |
| Mode       |      |           |     | AP, Station, AP and station<br>coexistence                  |      |

## [RSDB/MIMO Mode Operation]



### RSDB Operation

1. External Antenna connect to 2.4GHz
2. Internal Antenna connect to 5GHz

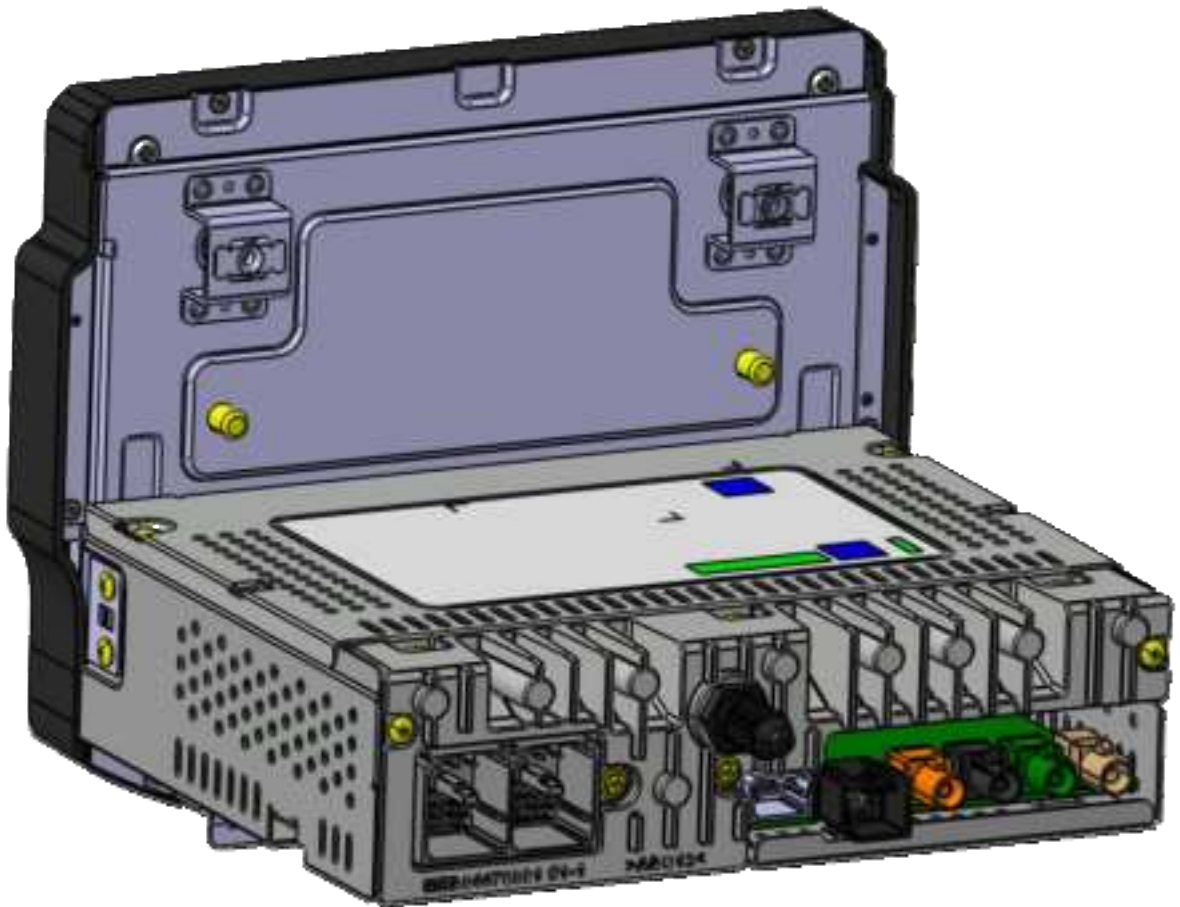
### MIMO Operation

1. External Antenna connect to Nothing
2. Internal Antenna connect to 5GHz(MIMO)  
: External/Internal Antenna 가 5GHz 연결

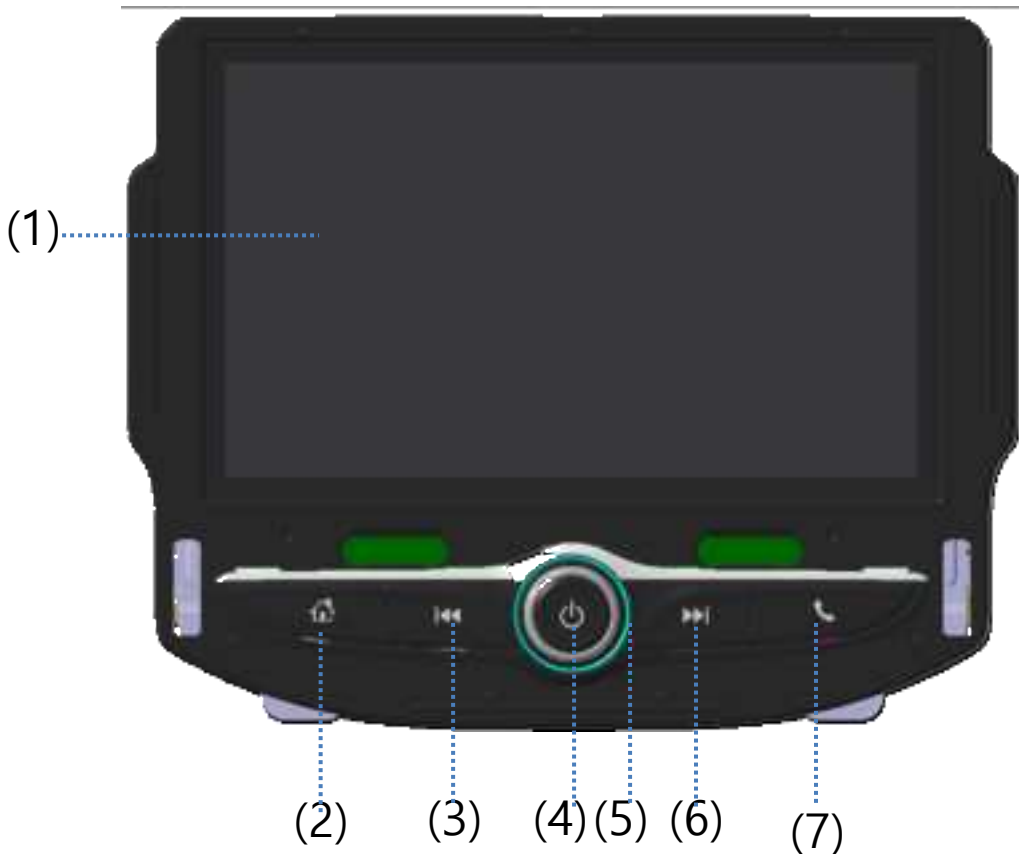
When 2.4 GHz is connected to External Antenna during 5GHz MIMO operation, 5GHz MIMO is stopped and convert to RSDB operation.


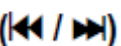



3. 2.4GHz MIMO is only for Service use, not user plane, for example, Firmware updating.

## 2. Component





### 3. Operation




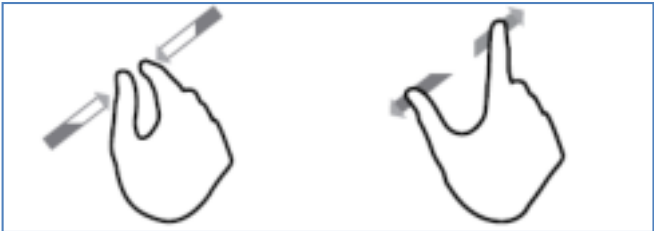


| Item (#No.)   | Descriptions  |
|---|---|
| (1) Display   | Display for Play/Reception/Menu state and information.  |
| (2) HOME button    | Press this button to enter the home menu.   |
| (3)/(6) Seek button   | Press this button to seek the station or media contents.  |
| (4) POWER button   | Press and hold this button to turn the power on/off.<br>Press this button to turn the mute function on/off.                                 |
| (5) Volume knob   | Rotate the Volume knob to adjust the volume.  |
| (7) Phone button   | Press this button to access the Phone screen.<br>(If there is no connected phone, it will be displayed Bluetooth device management screen.) |

## (8) Interactions | Rotary Knob

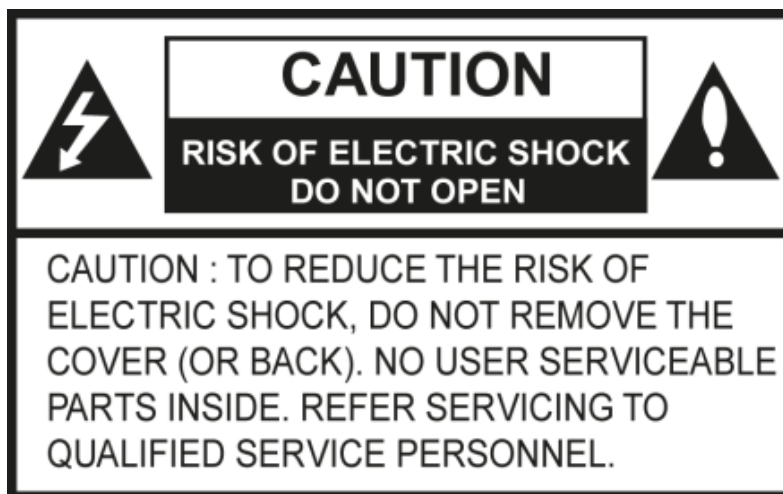
|   |   |
|---|---|
| <b>*Rotate</b><br>Users can rotate the Volume knob on the faceplate.              | <b>*Push</b><br>Users can press on the center of the rotary-push knob to mute volume. |
|  |      |

## (9) Touch Gestures

|   |  |
|---|--|
| <b>*Tap</b>   | <b>*Press &amp; Hold</b>   |
|   |  |
| <b>*Fling/Swipe</b>   |  |
|  |  |
| <b>*Pinch &amp; Spread</b>  |  |
|  |  |



#### 4. Precautions



- 1) Always operate the vehicle in a safe manner. Do not become distracted by the vehicle while driving and always be fully aware of all driving conditions. Do not change settings or any functions. Pull over in a safe and legal manner before attempting such operations. To promote safety, certain functions are disabled unless the parking brake is on.
- 2) To reduce the risk of electric shock, do not remove the cover or back of this product. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.
- 3) To reduce the risk of fire or electric shock, do not expose this product to dripping or splashing water, rain, or moisture.
- 4) When driving your vehicle, be sure to keep the volume of the unit low enough to allow you to hear sounds coming from the outside.
- 5) Do not drop it and avoid heavy impacts at anytime.
- 6) The driver should not watch the monitor while driving. If the driver watches the monitor while driving, it may lead to carelessness and cause an accident.

# FCC Statements

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.

Le présent appareil est conforme aux CNR d'Industrie 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, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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.

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

The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

l'exposition aux RF

L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique.

Le présent émetteur radio [identifier le dispositif par son numéro de certification d'ISDE] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.