

User Manual

Product Information

Product Specifications

Model number: P6G8HZ

Electrical rating: 1.7V to 3.6V

Operating temperature: 0°C to 70°C

Connectivity: 60 GHz radar transceiver with integrated antennas

FCC ID: 2BNF7-9275

IC ID: 33468-9275

This module has been approved as a limited module (LMA) with no RF shielding and has been approved for use in the following hosts: <TV models: QL50F602, QL55F602, QL65F602 and QL75F602>. New host configurations require a Class II Permissive Change Authorization to be performed by the grantee.

Grantee contact information for FCC filing as below:

Company Name: Oddy Idea LLC

Contact Person: Michael Campaignio

Address: 8880 Cal Center Drive, 4th Floor, Sacramento, CA 95826

Tel.: 302-656-1950

Email: oddyideallc@gmail.com

Typical use conditions of the module: the radar module will be used in a TV (type: power supplied by AC mains only), for presence sensing and gestures made from the user. Presence detection will enable the TV to sense whether the user is near by or not, so the TV can go in stand-by mode and enable art on the display. Certain gestures will allow the user to control the TV.

The module will be professionally installed in the TV during manufacturing. Due to the module being installed in a TV, it is intended for indoor user and the distance between the TV and the user will be greater than 20 cm.

A Class II Permissive Change test assessment for a new host should minimally examine :

1. Spurious emission produced by the composite system [47 CFR 2.947(f)]
2. Fundamental power produced by the composite system [47 CFR 15.209, 15.255], the Fundamental Emission Power (EIRP) must be tested per ANSI C63.10-2020, KDB 364244 D01 v01r01 and comply with FCC Part 15.255 (c)(2)(ii) & FCC Part 15.255 (c)(2)(v) requirements. After the module installed into the host device, the fundamental Emission power (EIRP) can't exceed the module granted power.
3. Unwanted emission produced by the composite system [47 CFR 15.209, 15.255]. Transmitter Spurious Emissions must be tested per ANSI C63.10-2020, KDB 364244 D01 v01r01 and comply with FCC Part 15.255 (d), 15.209.
4. If connecting to public AC Mains network, an assessment of conducted emissions should be performed [47 CFR 15.207]

5. RF Exposure should be re-examined if the use case has been changed to be sure that the RF exposure compliance from the initial filing is still applicable. If longer applicable, KDB 447498 D04 v01 in conjunction with grantee should be consulted for the application for the proper examination.

To initiate a class II permissive change, please contact the grantee.

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

Information on your device is on file with the FCC and can be found by inputting your device's FCC ID, which can be found in this User Manual, into the FCC ID Search form available at transition.fcc.gov/oet/ea/fccid.

OEM Warning Statement

The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC/IC identification number:

[English]

If using a permanently affixed label, the modular transmitter must be labeled with its own FCC/IC identification number, and, if the FCC/IC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. The exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2BNF7-9275, IC: 33468-9275" Any similar wording that expressed the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application of the equipment authorization.

[French]

Si vous utilisez une étiquette collée en permanence, le transmetteur modulaire doit porter son propre numéro d'identification FCC / IC, et si le numéro d'identification FCC / IC n'est pas visible lorsque le module est installé dans un autre appareil, l'extérieur de l'appareil dans sur lequel le module est installé doit également afficher une étiquette faisant référence au module inclus. Cette étiquette extérieure peut utiliser les libellés suivants: «Contient le module émetteur, ID FCC: 2BNF7-9275, IC: 33468-9275». Tout libellé similaire exprimant le même sens peut être utilisé. Le bénéficiaire peut soit fournir une telle étiquette, dont un exemple doit être inclus dans la demande d'autorisation d'équipement, soit fournir des instructions adéquates ainsi que le module qui explique cette exigence. Dans ce dernier cas, une copie de ces instructions doit être jointe à la demande d'autorisation d'équipement.

Safety and Compliance Information

Using Your Device Around Other Electronic Devices

The Device, uses, and can radiate radio frequency (RF) energy and, if not used in accordance with its instructions, may cause interference to radio communications and electronic equipment. External RF signals may affect improperly installed or inadequately shielded electronic operating systems, entertainment systems, and personal medical devices.

While most modern electronic equipment is shielded from external RF signals, if in doubt, check with the manufacturer. For personal medical devices (such as pacemakers and hearing aids), consult with your physician or the manufacturer to determine if they are adequately shielded from external RF signals.

There are some places where RF signals could constitute a hazard, such as health care facilities, and construction sites. If you are not sure, look around for signs indicating that two-way radios or mobile phones should be turned off.

FCC Compliance Information

Radio Frequency Information

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.

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.
- Changes or modifications that are not expressly approved by the party responsible for compliance could make the device no longer comply with the FCC Rules.

Information on your device is on file with the FCC and can be found by inputting your device's FCC ID, which can be found on the bottom of the Device, into the FCC ID Search form available at transition.fcc.gov/oet/ea/fccid.

ISED Compliance Information

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

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

Conformité Innovation Sciences et Développement Économique Canada (ISDE)

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; et
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Information Regarding Exposure to Radio Frequency Energy

This equipment complies with IC RSS-102 RF exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé.

CAN ICES-3(B)/NMB-3(B)

RF Exposure

The radiated output power of this device meets the limits of FCC/ISED radio frequency exposure limits.

This device should be operated with a minimum separation distance of 20 cm between the equipment and a person's body.

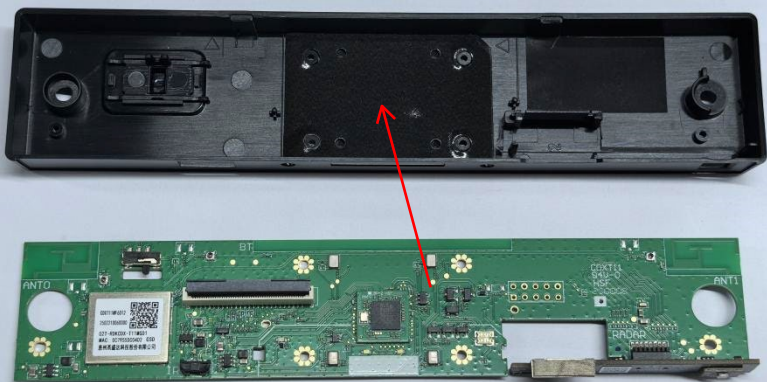
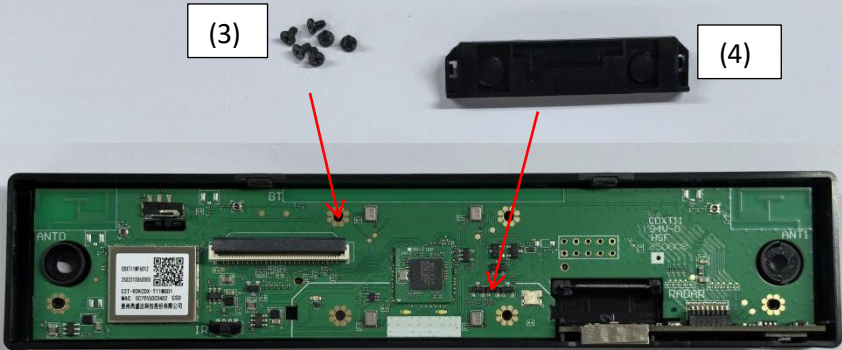
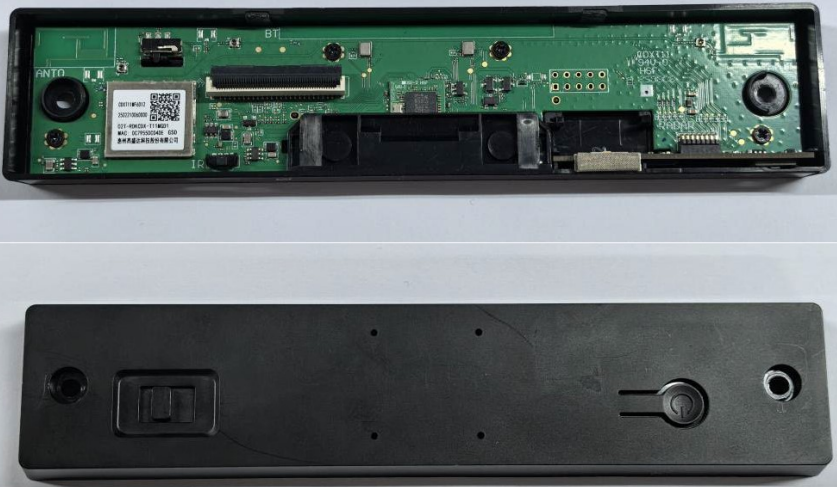
La puissance de sortie rayonnée de cet appareil est conforme aux limites de la FCC/ISED limites d'exposition aux fréquences radio. Cet appareil doit être utilisé avec une distance minimale de séparation de 20 cm entre l'appareil et le corps d'une personne.

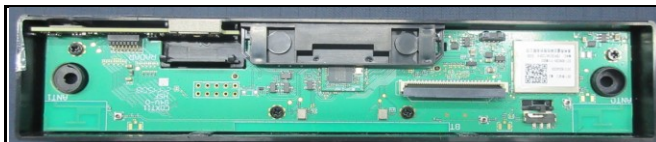
The module will only be used in a TV, therefore a separation distance beyond 20 cm will be maintained.

Integration Instructions

Radar module installation on the Main board and housing assembly line:

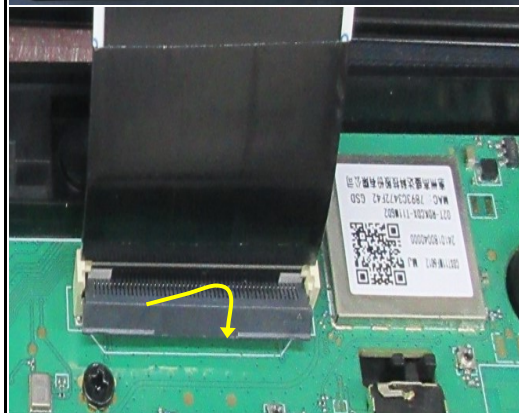
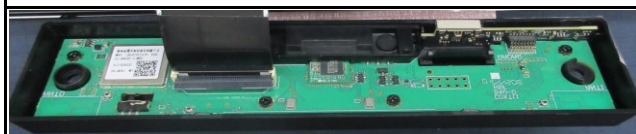
The image shows two circuit boards. The top board is a green main board (1) with various components and a QR code. The bottom board is a black radar module board (2) with a red box highlighting a specific area. A red arrow points from the radar board to the main board.	1. Main board (1) and P6G8HZ 60GHz Radar board (2)
The image shows the green main board (1) with the black radar module board (2) connected to it. A red box highlights the connection point on the main board.	2. Connect Radar module (2) to the main board (1). Radar module board connects to pins at 90 degrees.
The image shows a close-up of a metal plate being inserted into a housing. A red arrow points to the plate. Below the close-up is a larger image of the housing assembly with a red box highlighting the area where the plate is inserted.	3. Insert reflect metal plate into housing

	4. Place main board with Radar module (radar module facing normal to open housing) into the plastic housing.
	5. Install 6 fixed screws (3) into the screw holes to fasten main board to plastics housing. After screws are secure, install light guide (4).
	6. Finish module assembly top and back views.



Connect the FFC cable from the Host (TV) to the module PCB

1. Close the socket piano cover and insert the FFC cable in parallel until the black MARK cable is level with the edge of the piano cover



2. After the FFC cable is plugged in place, reverse the locking wire of the piano cover of the socket and confirm that it is not loose (the FFC cable has the character "MB" and one end is plugged into the motherboard)

TV:

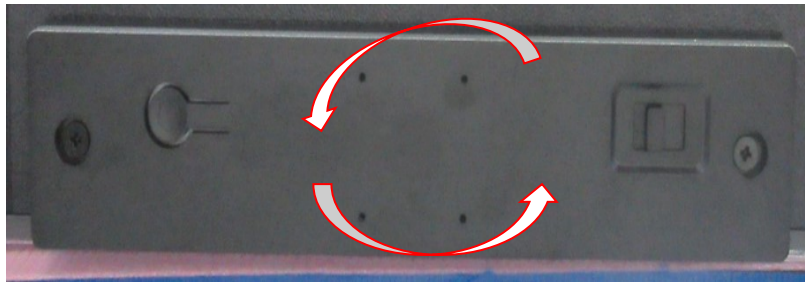
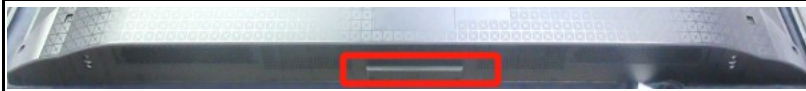


Module:



3. Connect the module to the TV with the screws attached to the module as shown in the picture.

4. Secure the lower hanging screw with a torque of $3.0 \pm 0.5\text{Kgf.cm}$



5. After fixing the lower pendant, shake it back and forth with your hand to ensure there is no looseness (Pull the lower pendant outward and press inward in the direction of the arrow as shown in the figure)

Host Integration Guide

According to KDB996369 D03 v01r01 subclause 2.0 INTEGRATION INSTRUCTIONS and FCC Part 15.212(a)(1)(vii).

- a) This module has been assessed against the following FCC rule parts: CFR 47 FCC Part 15 C [15.255 (c)(2)(ii), 15.255 (c)(2)(v), FCC Part 15.255 (d), 15.255 (f)] It is applicable to the modular transmitter.
- b) This radio transmitter FCC ID: 2BNF7-9275 has been approved by the Federal Communications Commission to operate with the permanent integral antenna. Change antenna is strictly prohibited without filing an application for a new system-specific FCC ID.
- c) The module complies with FCC rule and applies for limit-single modular approval without shielding case.
- d) Trace antenna designs: Not applicable --- Permanent Integral antenna used. Change to any other antenna is strictly prohibited without filing an application for a new system-specific FCC ID. See item (b) above.
- e) This module complies with FCC radiation exposure limits set forth for an uncontrolled environment. This module should be installed and operated with a minimum distance of 20cm between the radiator and your body. This module only be permitted used in TV for indoor use.
- f) Please note that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2BNF7-9275" Any similar wording that expresses the same meaning may be used.
- g) Testing of the host product with all the transmitters installed – referred to as the composite investigation test- is recommended, to verify that the host product meets all the applicable FCC rules. The radio spectrum is to be investigated with all the transmitters in the final host product functioning to determine that no emissions exceed the highest limit permitted for any one individual transmitter as required by Section 2.947(f). The host manufacturer is responsible for ensuring that when their product operates as intended it does not have any emissions present that are out of compliance that were not present when the transmitters were tested individually. The host product manufacturer is responsible for compliance with any other FCC rules and a C2PC is required for each new host when installed in any host per Class II Permissive Test Plan in this guide.
- h) Any company of the host device which installs this modular should perform the test of radiated & conducted emission and spurious emission etc. According to FCC Part requirement, only if the test result complies with FCC part requirement. Then the host can be sold legally. The host product manufacturer is responsible for compliance with any other FCC rules and a C2PC is required for each new host when installed in any host per Class II Permissive Test Plan in this guide.