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# JASCO J045RF 2.4G IRF Receiving Module

## Specifications

- **Product Name**: J045RF 2.4G Receiving Module V1.0
- Frequency**: 2.4GHz**
- **Operating Voltage Range**: 3.3v to 4.5v
- **RF Output Power:** -40 dBm to 25 dBm
- **Data Rate:** 1.5 Mbps 1.0 Mbps
- **Operating Temperature Range:** -40°C to 85°C

## Product Description

The IRF receiving module is a wireless transceiver module that works on th GHz 2.4 GHz common frequency band. RF uses GFSK modulation/demodulation to support multiple rate Settings and multiple power Settings. The module features high sensitivity (-87dBm@1Mbps code rate), low power performance, and a high dynamic range (greater than 60 db). The module adopts a highly integrated chip, built-in front-end low noise amplifier, mixer, filter, frequency synthesiser and other circuits, which can optimise the signal to the maximum extent, and contains a high-performance MCU chip.

**Product characteristics**

- Support GFSK modulation mode, receiving sensitivity reaches -87dBm@1Mbps;

- Open distance communication up to 20-30 meters;
- Operating frequency: 2.4GHz;
- Power supply voltage input range: 3.3v-5.0v;
- Working current less than 18ma;
- Good selectivity and stray radiation suppression ability, easy to pass CE/FCC international certification.
- The module comes with a frequency hopping algorithm, which can avoid the same frequency band interference.
- Module with rolling ID, can be compatible with one-to-one, many-to-one and one-to-many communication mode (according to customer requirements);
- Temperature range: -40-85°C can work normally even under harsh ambient temperatures;
- Ultra-small size 32×16×1 (mm)

**Scope of application**

Intelligent luminaire receiving end Smart home products

**Function description**

The signal. module can also achieve one-to-one, one-to-many, many-to-one functions according to customer requirements. If you need to achieve one-to-one/multi-to-one function, you need to have a matching remote control with memory, and complete the code matching operation. The remote control (or remote control without memory) can communicate with the module after completing the code alignment.

**Precautions**

1. The product is a CMOS device, and attention should be paid to anti-static electricity during storage, transportation and use.
2. The grounding of the device should be good when used.

# Electrical Specification

- RF Frequency: 2.4GHz
- Minimum Operating Voltage: 3.3v
- Maximum Operating Voltage: 4.5v

- RF Output Power Range: -40 dBm to 25 dBm
- Data Rate: 1.5 Mbps to 1.0 Mbps
- Operating Temperature Range: -40°C to 85°C

**Integration Instructions**

For host product manufacturers, follow the guidelines provided in the OEM Manual for integration.

**RF Exposure Considerations**

This device complies with FCC radiation exposure limits for uncontrolled environments and can be used as a portable device without restrictions.

**Antenna Type and Gain**

The module uses a PCB antenna with a maximum gain of 2.07dBi. Only antennas of the same type with equal or lower gain are recommended for use with this module.

## FCC Statement

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

This equipment has been tested and found to comply with the limits for a Class B digital device, under 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 according to 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 to 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.

**FCC Caution**

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01

**List of applicable FCC rules**

CFR 47 FCC Part 15 Subpart C and Subpart F have been investigated. It applies to the modular transmitter.

**Specific Operational Use Conditions**

Antenna Placement Within the Host Platform. The module is tested for standalone mobile RF exposure use conditions. The transmitter module may not be co-located with any other transmitter or antenna. In the event that these conditions cannot be met (for example,e certain laptop configurations or co-location with another transmitter), then the FCC authorisation is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorisation.

## Limited Module Procedures Not applicable

- **Trace Antenna Designs**
  Not applicable
- **RF Exposure Considerations**
  This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment can be used for portable exposure without any

restriction.

- **Antenna Type and Gain**

  The module only used PCB antenna and maximum antenna gain is 2.07dBi. Only antennas of the same type with equal or lower gain may also be used with this module. Other types of antennas and/or higher gain antennas may require the additional authorization for operation.

- **End Product Labelling Compliance Information**

  When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily removed. If not, a second label must be placed on the outside of the final device that contains the following text: "Contains FCC ID: QOB-UCL60RT". The FCC ID can be used only when all FCC compliance requirements are met.

- **Information on Test Modes and Additional Testing Requirements**

  - This transmitter is tested in a standalone mobile RF exposure condition, and any co-located or simultaneous transmission with other transmitter(s) class II permissive change re-evaluation or new FCC authorisation.

  - The host manufacturer installed this module with a single modular approval, should the test of radiated emission and spurious emission according to FCC part 15c, 15.209, 15.207 requirements., Only if the test result complies with the FCC part 15c, 15.209, 15.207 requirements, then the host be sold legally.

### Additional testing, Part 15 Subpart B Disclaimer

- This transmitter module was tested as a subsystem, and its certification does not cover the FCC Part 15 Subpart B rules requirement applicable to the final host. The final host will still need to be reassessed for compliance with this portion of the rules requirements if applicable.

- As long as all conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this modular installed.

### Manual Information for The End User

- The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end

product which integrates this module.

- The host integrator must follow the integration instructions provided in this document and ensure that the composite system end product complies with the requirements by a  technical assessment or evaluation to the rules and to KDB Publication 996369.
- The host integrator installing this module into their product must ensure that the final composite product complies with the requirements by a technical assessment or evaluation of the rules, including the transmitter operation and should refer to guidance in KDB Publication 996369.
- OEM/Host Manufacturer Responsibilities
- OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and RF Exposure essential requirements of the FCC rules.

### How to Make Changes – Important Note

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorisation.

### FAQs

**Q: How do I pair the module with a remote control?**
A: To achieve a one-to-one/multi-to-one function, you need a matching remote control with memory. Complete the code matching operation to communicate with the module.

**Q: What is the maximum operating temperature of the module?**
A: The module can operate in temperatures ranging from -40°C to 85°C.

# Documents / Resources

[JASCO J045RF 2.4G IRF Receiving Module](#) [[pdf](#)] Owner's Manual QOB-UCL60RT, QOBUCL60RT, ucl60rt, J045RF 2.4G IRF Receiving Module, J045RF, 2.4G IRF Receiving Module, IRF Receiving Module, Receiving Module, Module

## References

- [User Manual](#)

📁 JASCO

🏷 2.4G IRF Receiving Module, IRF Receiving Module, J045RF, J045RF 2.4G IRF Receiving Module, JASCO, Module, QOB-UCL60RT, QOBUCL60RT, Receiving Module, ucl60rt

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