

IR / 2.4GHz RF Modular Transceiver Installation manual (draft v3)

1. Description

This drawing describes an RF / IR remote control transceiver module PCB. The module is part of a panel of PCB's defined by PT311822 and associated drawings.

The module consists of 3 separate circuits :

- 1) A 2.4GHz RF transceiver IC and etch antenna for use with an RF remote
- 2) An IR remote control transmitter
- 3) An IR remote control receiver

There is also a pair of LED for indication purposes

2. Cautions:

This transceiver module is ONLY to be installed in Bose Corporation devices.

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

Changes or modifications not expressly approved by Bose Corporation could void the user's authority to operate the equipment.”

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.

3. Markings

3.1 This module shall be identified with the following ID numbers on the PCB silkscreen

FCC ID : A94311822
IC : 3232A-311822

3.2 End Product Labeling

The final end product which this module is used in must be labeled in a visible area with the following:

"Contains FCC ID: A94311822 / IC:3232A-311822"

4. Connections

The following table describes the connections to the module made via connector J800

Pin #	Name	Description
1	IR_RCV_DATA	IR receiver data output
2	IR_DRIVE	IR LED supply
3	+3.3v	Power supply
4	CC_DATA_IN	RF transceiver IC serial data input
5	GND	Ground
6	CC2500_CLK	RF transceiver IC serial clock
7	GND	Ground
8	CC_DATA_OUT	RF transceiver IC serial data output
9	GND	Ground
10	MESSAGE_INT	RF transceiver IC interrupt output line (to host micro)
11	PWR_RMT_LED2	Red LED (connect to ground via series R to light)
12	CC2500_CS	RF transceiver IC chip select
13	PWR_RMT_LED1	Green LED (connect to ground via series R to light)

5. General Electrical specifications

- 5.1 Power supply 3.3v +/- 5%
- 5.2 Operational Temperature 0 ~ 45 C (non-condensing)
- 5.3 Display LED Current 1.3mA typical
- 5.4 IR Transmitter Current 150mA typical peak

7. IR Transmitter

Refer to PT256733 for detailed electrical specifications of the IR LED's

8. IR Receiver

The module contains 2 IR receiver circuits. These are selected using a GPIO on the CC2500 – controllable via the serial data bus for the IC

8.1 A narrow band (38kHz) IR receiver – Part #319144-038

8.2 A wide band IR receiver constructed from 2 narrow band IR receivers at 38kHz and 56kHz (part # 319144-038 and 319147-156 respectively)