



OEM MANUAL

November 2013

2.433-2.449 GHz Frequency Hopping Transceiver Module

Model: D-CCA-MOD-24G-1

FCC ID: R73MOD-24G-1
REV 2

OEM INTEGRATOR ATTESTATION

- a. *This module is for OEM installation only.*
- b. *The OEM is responsible for ensuring that the end-user has no manual instructions to remove or install module.*
- c. *The module is limited to installation in mobile or fixed applications, according to Part 2.1091(b).*
- d. *Separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.*
- e. *This module may only be used with antennas with a maximum gain of 2.15 dBi, including any replacement antennas, to maintain compliance and satisfying RF exposure compliance.*
- f. *Labeling instructions of finished products must be in accordance with the requirements outlined in KDB784748 D01 v07, section 8. Page 6/7 last two paragraphs which include the required instructions; example: "Contains Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1" and described herein.*
- g. *The instructions/statements required per Part 15.19 and 15.21 must be included in the host user's manual (i.e. end product).*



8-22-'13

Date

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Introduction

This module is only authorized to be installed in fixed mount installation and may not be installed in a mobile or portable device.

The MOD-24G-1 RF module is to be used in Sapling Digital Clocks such as the SBD 3000 Series Clocks and equivalent models.

The module is only be connected to and installed in other Sapling products.

Specifications

The PCB antenna gain is +3.3Db maximum.

The maximum output power will be 18 dBm.

The transmit cycle is a sequence of 80 data strings on 76 different frequencies, each transmitted for 3 msec.

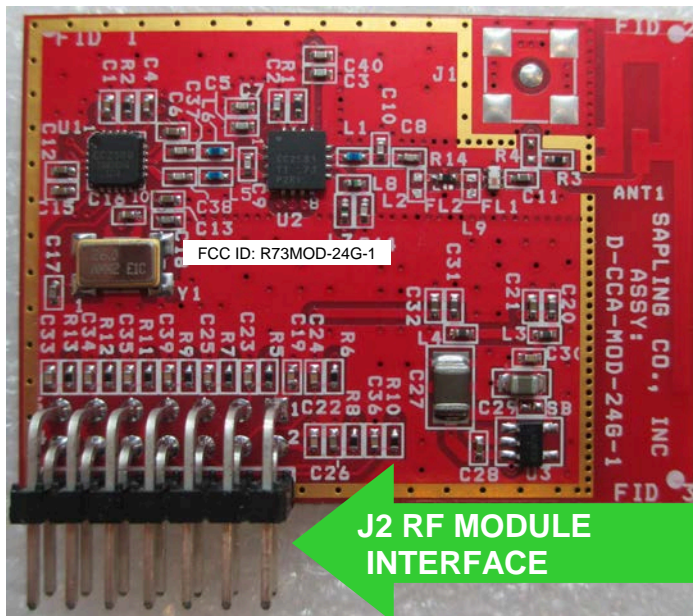
Every transmit cycle is 240 msec in duration (80 x 3ms).

The frequency hopping pattern is proprietary to Sapling and covers the range from 2.433 to 2.449 GHz.

Connections

The picture shows the MOD-24G-1 RF module and connector.

MOD-24G-1



J2 RF MODULE INTERFACE	
PIN 1*	RF V+
PIN 2	RF SEL
PIN 3	RF CS
PIN 4	PAEN
PIN 5	GPO 0
PIN 6	EN
PIN 7	RF GPO 2
PIN 8	HGM
PIN 9	RF SO
PIN 10	RF GND
PIN 11	RF CLK
PIN 12	RF GND
PIN 13	RF SI
PIN 14	RF GND
* PIN 1 IS THE SQUARE PAD.	

Installed

The picture below shows the MOD-24G-1 RF module installed in a digital clock. It shows the SBL-G3S-256-1R, the connectors to the rest of the Sapling Wireless Clock System, and the FCC ID, and the Compliance Label.

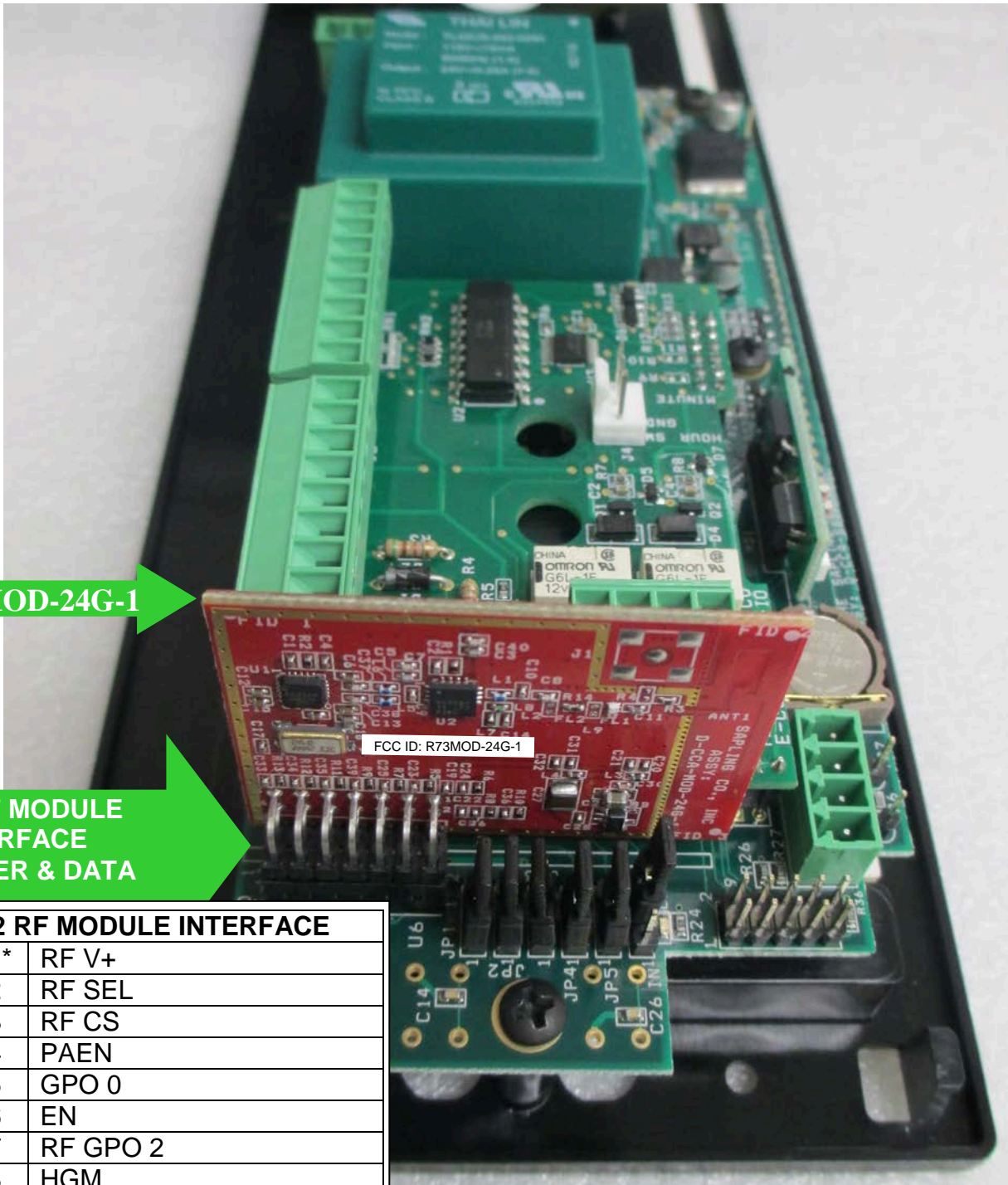
SBL-G3S-256-1R



Antenna(s)

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 5.78 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

SBL-G3S-256-1R



MOD-24G-1

**J2 RF MODULE
INTERFACE
POWER & DATA**

J2 RF MODULE INTERFACE	
PIN 1*	RF V+
PIN 2	RF SEL
PIN 3	RF CS
PIN 4	PAEN
PIN 5	GPO 0
PIN 6	EN
PIN 7	RF GPO 2
PIN 8	HGM
PIN 9	RF SO
PIN 10	RF GND
PIN 11	RF CLK
PIN 12	RF GND
PIN 13	RF SI
PIN 14	RF GND
* PIN 1 IS THE SQUARE PAD.	

SBL-G3S-256-1R Label

The label below is an example of the FCC ID and the Compliance Label.

June 18, 2013
The Sapling Company, Inc
1633 Republic Road
Huntingdon Valley, PA 19006
(215) 322-6063
www.sapling-inc.com

The Sapling Company, Inc

WHERE TIMING & TECHNOLOGY MEET

Contains FCC ID: R73MOD-24G-1

Model: D-CCA-MOD-24G-1

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.

Patent Pending Made in U.S.A.



Qty: 1

Part#: SBL-G3S-256-1
A/SBL-G3S-256-1/1/130618/F0005711

WHITE WIRE-110V NEUTRAL
GREEN WIRE-EARTH GROUND
BLACK WIRE-110V POWER

Operation

The MOD-24G-1 RF module will transmit the time for 240 ms and receive the time for up to 20 seconds once a minute.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

“Changes Or Modifications Not Expressly Approved By The Party Responsible For Compliance Could Void The User's Authority To Operate The Equipment.”