User Manual

April 2012

914-928 MHz Frequency Hopping Transceiver Module
Model: PCB-HPWR-900-1
FCC ID: R73HPB1

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 HPWR-900-1 RF module is to be used in Sapling Master Clocks such as the SMA-3000 or Repeater SMA-1000 and equivalent models.
The module is only to be connected to other Sapling products.

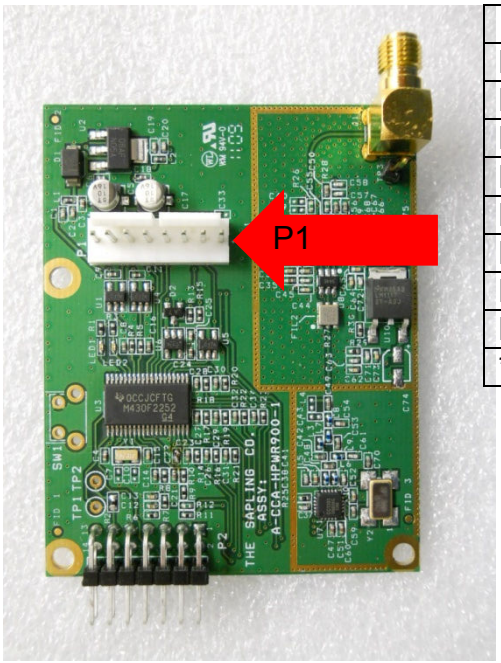
Specifications:

The maximum output power will be 30 dBm.
The transmit cycle is a sequence of 57 data strings on 51 different frequencies, each transmitted for 10 msec.
Every transmit cycle is 570 msec in duration (57 x 10ms).
The frequency hopping pattern is proprietary to Sapling and covers the range from 914.688 to 927.488 MHz.

Connections:

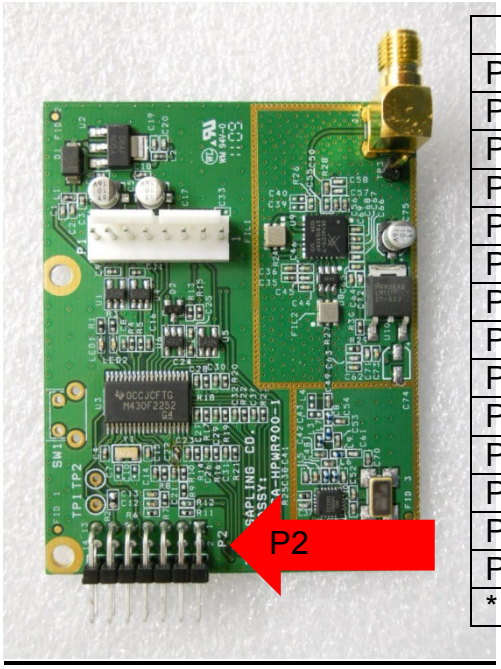
The module should only be connected to and installed in other Sapling products.
The pictures show how the module is mounted in its dedicated case and also the connections to the rest of the Sapling Wireless Clock System.

HPWR 900-1



P1 OPERATING CONNECTOR	
PIN 1	5 VOLTS
PIN 2	GROUND
PIN 3	NO CONNECTION
PIN 4	TXD
PIN 5	RXD
PIN 6	MSTR/SLV
PIN 7	NO CONNECTION
PIN 8	NO CONNECTION
* PIN 1 IS SQUARE PAD	

HPWR 900-1



P2 PROGRAMMING CONNECTOR	
PIN 1	TDO/TDI
PIN 2	3.3 VOLTS
PIN 3	TDI
PIN 4	3.3 VOLTS
PIN 5	TMS
PIN 6	NO CONNECTION
PIN 7	TCLK
PIN 8	TEST
PIN 9	GROUND
PIN 10	NO CONNECTION
PIN 11	RST
PIN 12	TXD
PIN 13	SHIELD
PIN 14	RXD
* PIN 1 IS SQUARE PAD	

HPWR-900-1 RF module as a remote antenna, to be connected to a Sapling Master Clock.

Operation:

The module is controlled by the Master Clock and will not operate on its own. When connected to a Master Clock as a main transmitter, it will transmit the time for 570 ms, as specified, once a minute.
If used as a Repeater, it will receive time from a main transmitter or clock and re-transmit the time thereby increasing the coverage area, thus keeping all the slave clocks synchronized to the Master Clock.

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.