Excellence in Compliance Testing

Certification Exhibit

FCC ID: 2AAHS-ASRC
IC: 4397C-ASRC

FCC Rule Part: 15.249
IC Radio Standards Specification: RSS-210

ACS Project Number: 14-0462

Manufacturer: Johnson Outdoors Marine Electronics
Model: ASRC

Manual

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ASRC MODULE FOOTPRINT AND PIN DEFINITIONS

To apply the ASRC module, it is important to use the module pins in your application as they are designated in below and in the corresponding pin definition table found below. Some pins were remove during the development, indicated by the pin numbers skipped.

Figure 1 ASRC Pinout (Top View)

PIN DESCRIPTIONS

PIN	NAME	FUNCTION	DESCRIPTION
1	GROUND	GND	Ground connection.
2	P2.2	GPIO	General Purpose Input or Output.
5	P2.1	GPIO	General Purpose Input or Output.
6	P2.0	GPIO	General Purpose Input or Output.
7	P1.7	GPIO	General Purpose Input or Output.
8	P1.6	GPIO	General Purpose Input or Output.
9	VCC	VCC	Positive voltage supply for module.
12	VCC	VCC	Positive voltage supply for module.
13	P1.5	GPIO	General Purpose Input or Output.
14	P1.4	GPIO	General Purpose Input or Output.
15	P1.3	GPIO	General Purpose Input or Output.

16	P1.2	GPIO	General Purpose Input or Output.
17	VCC	VCC	Positive voltage supply for module.
18	P1.1	GPIO	General Purpose Input or Output.
19	VCC	VCC	Positive voltage supply for module.
20	P1.0	GPIO	General Purpose Input or Output.
21	VCC	VCC	Positive voltage supply for module.
22	P0.7	GPIO	General Purpose Input or Output.
23	P0.6	GPIO	General Purpose Input or Output.
24	VCC	VCC	Positive voltage supply for module.
25	P0.5	GPIO	General Purpose Input or Output.
26	P0.4	GPIO	General Purpose Input or Output.
27	P0.3	GPIO	General Purpose Input or Output.
28	P0.2	GPIO	General Purpose Input or Output.
29	P0.1	GPIO	General Purpose Input or Output.
30	P0.0	GPIO	General Purpose Input or Output.
31	RESET	RESET	This is a logic low line that resets the whole module.

32	GROUND	GND	Ground connection.	
33	GROUND PAD	GND	This is a large ground pad beneath the module.	
GND = ground connection.		VCC = positive supply connection. The voltage on these pins should not exceed 3.6V DC.	GPIO = General Purpose Input or Output. These have multiple configurations as digital input or output pins, programming interfaces, serial interfaces, or analog input pins. The voltage on these pins should not exceed the voltage on VCC.	RESET = module reset. Pulling this pin low will reset the whole module. The voltage on this pin should not exceed VCC. This pin has an internal pull up, and can be left floating when not in use.

Table 1 ASRC Module Pin Descriptions

All digital I/O signals use logic based on the supply voltage. If the external digital circuitry does not support this logic level, then level shifters MUST be used.

ELECTRICAL SPECIFICATIONS

Absolute Maximum Ratings

Parameter	Min	Max	Unit
Power supply voltage (VCC)	-0.3	+3.6	V
Voltage on any GPIO	-0.5	VCC + 0.3	V
Operating temperature[6]	-40	+85	ºC
Storage temperature	-55	+125	ºC

Table 2 Absolute Maximum Ratings

Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
V_{BAT}	2.0	3.0	3.3	V
Ambient temperature range	-40	25	85	ºC

Table 3 Recommended Operating Conditions

General Characteristics

Parameter	Min	Typ	Max	Unit
BT RF frequency Range	2402		2480	MHz

Table 4 General Characteristics

BLOCK DIAGRAM

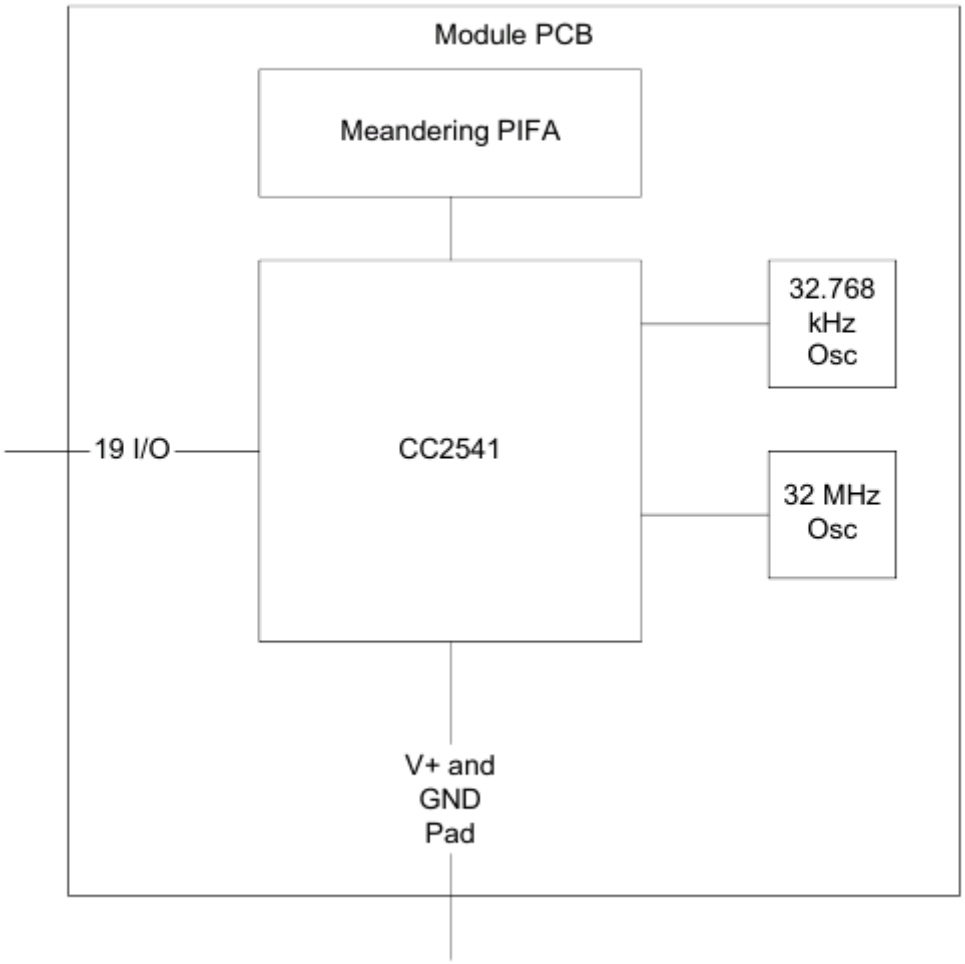

Figure 2 ASRC Module Block Diagram – Top-Level

AGENCY CERTIFICATIONS

FCC ID: 2AAHS-ASRC

IC: 4397C-ASRC

AGENCY STATEMENTS

Federal Communication Commission Interference Statement

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 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.

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.

FCC CAUTION: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Statements

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.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

This device has been designed to only operate with the attached trace antenna.

L'opération est soumise aux deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Pour réduire le risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doiventêtre choisis de manière que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pascelle permise pour une communication réussie.

Cet appareil a été conçu pour fonctionner uniquement avec l'antenne de trace ci-joint.

OEM LABELING REQUIREMENTS FOR END-PRODUCT

The ASRC module is labeled with its own FCC ID and IC Certification Number. The FCC ID and IC certification numbers are not visible when the module is installed inside another device, as such the end device into which the module is installed must display a label referring to the enclosed module. The final end product must be labeled in a visible area with the following:

"**Contains Transmitter Module FCC ID: 2AAHS-ASRC"**

"**Contains Transmitter Module IC: 4397C-ASRC"**

or

"**Contains FCC ID: 2AAHS-ASRC"**

"**Contains IC: 4397C-ASRC"**

The OEM of the ASRC Module must only use the approved built in antenna.

Le module de ASRC est étiqueté avec son propre ID de la FCC et IC numéro de certification. L'ID de la FCC et IC numéros de certification ne sont pas visibles lorsque le module est installé à l'intérieur d'un autre appareil, comme par exemple le terminal dans lequel le module est installé doit afficher une etiquette faisant référence au module ci-joint. Le produit final doit être étiqueté dans un endroit visible par le suivant:

"Contient Module émetteur FCC ID: 2AAHS-ASRC "
"Contient Module émetteur IC: 4397C-ASRC"

ou

"Contient FCC ID: 2AAHS-ASRC "
"Contient IC: 4397C-ASRC "

L'OEM du module ASRC ne doit utiliser Approuvée antenne intégrée.

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