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Wi.232FHSS-250-FCC-R™
User's Manual
Rev A



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Document Control

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Revision History

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1 Description

The Wi.232FHSS-250-FCC-R™ is a FCC/IC pre-authorized Wi.232FHSS-250-FCC-R™ module, containing the requisite circuitry for FCC/IC modular approval. When used in accordance with the restrictions listed in this document, the OEM product does not need to undergo FCC or Industry Canada Part 15 / RSS transmitter testing.

For information on the operation of the module, please consult the Wi.232FHSS-250-R™ User's Manual. This manual contains information on registers and settings, as well as application information. For assistance with the Rapid Development Kit (RK-Wi.232FHSS-250-FCC-R), evaluation software, or USB driver installation, please see the RK-Wi.232FHSS-250-FCC-R user's manual. Both of these manuals are available for download from our website (<http://www.radiotronix.com>). Alternately, they can be obtained by contacting our inside sales force (sales@radiotronix.com).

2 Usage Guidelines for FCC / IC Compliance

Wi.232FHSS-250-FCC-R modules have been awarded FCC and IC modular approval. That means that this module, when integrated into your end product, requires no FCC part 15 or IC RSS-210 testing as long as the following guidelines are met. Failure to meet any of the following guidelines will prevent the inheritance of the FCC and IC modular certifications.

2.1 Antenna Selection

In order to maintain compliance with FCC and IC regulations, an antenna with no more than 2.4dBi gain must be used. This module has been tested with the following antennas:

Radiotronix Part Number	Antenna Type	Antenna Gain
ANT-000-01A	RP ½ Wave Dipole, Swivel Mount	2.4 dBi
ANT-915-06A	RP ½ Wave Dipole	2.15 dBi

An approved antenna must be directly attached to the module's reverse-polarity SMA connector, or through an approved shielded coaxial extension cable in the final application to inherit the FCC and IC modular certifications.

2.2 Module Modification

The module must not be physically altered in any way. If any connections are made to the module that bypass the module pins, socket, antenna connector, or any other module component, the FCC and IC modular certifications cannot be inherited.

2.3 End Product Labeling Requirements

Pursuant to FCC public notice DA 00-1407, the end product must be labeled on its exterior with the following verbiage:

"Contains FCC ID: Q7V-3F090009X"

2.4 Documentation Requirements

Both 20cm exposure and FCC compliance statements must be included in the end product's user's manual. Please see section 5.2 for more details.

2.5 Additional FCC Testing Requirements

While the module's FCC certification can be inherited (presuming the guidelines are met), additional testing will be required to achieve full FCC compliance for your end-product. The integrator is required to perform unintentional radiator testing on the final product per FCC sections 15.107 and 15.109. Additional, product-specific testing might be required. Please contact the FCC regarding regulatory requirements for your application.

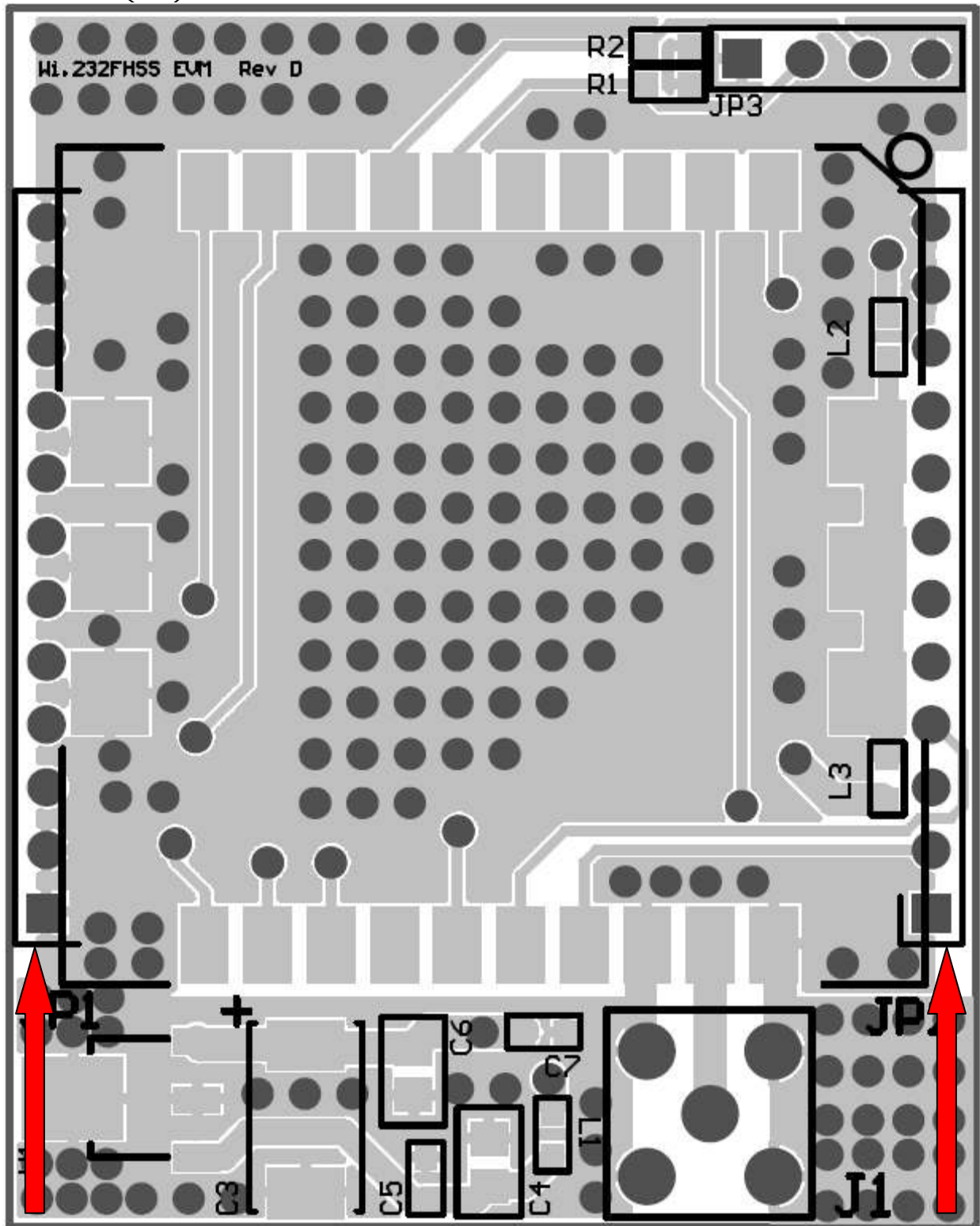
2.6 Notices of Limitation

2.6.1 Product Testing

The integrator must still show that their product complies with FCC and IC regulations applicable to their product. The integrator is not required to perform transmitter testing on the Wi.232FHSS-250-FCC-R™ module, provided the guidelines in this document are met.

3 PCB Layout Diagrams

3.1 FCC-Wi.232FHSS-250-R (EValuation Module) Layout



JP1 Pin 1

JP2 Pin 1

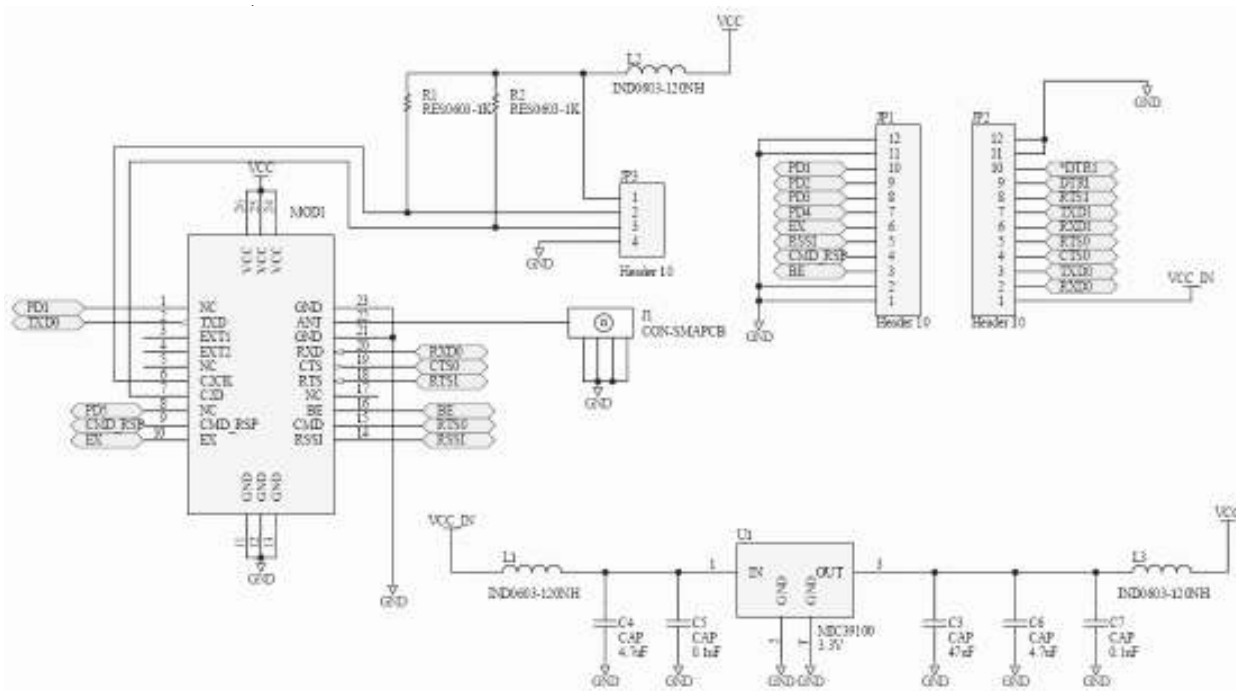
NOTE: Pin 1 of the Wi.232FHSS-250-FCC-R™ module's JP2 aligns with Pin 1 of JP6 on the evaluation board. The following table lists the pin numbers and their assignments

Pin Name	Pin Description
JP2 Pin 1	4V to 15V Vdd
JP2 Pin 2	RxD0, Wi.232FHSS-250-R™ RxD pin
JP2 Pin 3	TxD0, Wi.232FHSS-250-R™ TxD pin
JP2 Pin 4	CTS0, Wi.232FHSS-250-R™ CTS pin
JP2 Pin 5	CMD (Active Low), Wi.232FHSS-250-R™ CMD pin
JP2 Pin 6	RxD1 – Reserved for Future – No Connect
JP2 Pin 7	TxD1 – Reserved for Future – No Connect
JP2 Pin 8	RTS1 – Reserved for Future – No Connect
JP2 Pin 9	DTR1 – Reserved for Future – No Connect
JP2 Pin 10	DTR1* - Reserved for Future – No Connect
JP2 Pin 11	GND
JP2 Pin 12	GND
JP1 Pin 1	GND
JP1 Pin 2	GND
JP1 Pin 3	AD1 – Buffer Empty (BE)
JP1 Pin 4	AD0 – Command Response (CMD_RSP)
JP1 Pin 5	RSSI
JP1 Pin 6	PD5 – Exception (EX)
JP1 Pin 7	PD4 – Reserved for Future – No Connect
JP1 Pin 8	PD3 – Reserved for Future – No Connect
JP1 Pin 9	PD2 – Reserved for Future – No Connect
JP1 Pin 10	PD1 – Reserved for Future – No Connect
JP1 Pin 11	GND
JP1 Pin 12	GND

Table 1, Wi.232FHSS-250-FCC-R™ Module Pinout

4 Schematic Diagrams

4.1 Wi.232FHSS-250-FCC-R™ Schematic Diagram



5 FCC Statements of Compliance

5.1 Statement and Conditions of Modular Compliance

FCC / IC NOTICE (FCC ID: Q7V-3F090009X / IC: 5589A-3F090009)

This device complies with the rules set forth in Part 15 by the Federal Communications Commission and RSS-210/RSS-Gen by Industry Canada. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by Radiotronix, Inc. could void the user's authority to operate the equipment.

The Wi.232FHSS-250-FCC-R™ module is provided with an inheritable FCC Modular Certification. This certification may be inherited in an end-user product, negating the need for FCC part 15 and IC RSS-210 intentional radiator testing on this module, provided that the following guidelines are met:

1. An approved antenna must be directly coupled to the module's RP-SMA connector or through an approved coaxial extension cable.
2. The module must not be modified in any way. Coupling of external circuitry must not bypass the provided connectors.
3. End product must be externally labeled with "Contains FCC ID: Q7V-3F090009X / IC: 5589A-3F090009"
4. The end product's user's manual must contain an FCC statement equivalent to that listed in section 9.2 of this manual.
5. The antenna used for this transceiver must not be co-located or operating in conjunction with any other antenna or transmitter.
6. The integrator must not provide any information to the end-user on how to install or remove the module from the end-product.

The integrator is required to perform unintentional radiator testing on the final product per FCC sections 15.107 and 15.109.

FCC/IC Pre-certified Wi.232FHSS-250-R

FCC ID: Q7V-3F090009X

IC: 5589A-3F090009

5.2 Customer FCC Warning Requirements

The end-product user's manual must contain the following or equivalent verbiage.

FCC / IC NOTICE

(Containing FCC ID: Q7V-3F090009X / IC: 5589A-3F090009)

The RF module (FCC ID: Q7V-3F090009X / IC: 5589A-3F090009) contained within this device complies with the rules set forth in Part 15 by the Federal Communications Commission and RSS-210/Gen by Industry Canada. Operation is subject to the following conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation.
3. An approved antenna must be directly coupled to the module's RP-SMA connector or through an approved coaxial extension cable.
4. The module must not be modified in any way. Coupling of external circuitry must not bypass the provided connectors.
5. The antenna used for this transceiver must not be co-located or operating in conjunction with any other antenna or transmitter.

Any changes or modifications could void the user's authority to operate the equipment.

FCC/IC Pre-certified Wi.232FHSS-250-R

FCC ID: Q7V-3F090009X

IC: 5589A-3F090009

The following exposure warning must be observed in the OEM design. Additionally, the statement must be placed in the user's manual of the end product.



To satisfy FCC RF exposure requirements for mobile and base station transmitting devices, persons should maintain a distance of at least 20cm from the antenna of this device during operation.