AN1310 HA/UA-PA-A-868 Module Datasheet V1.0

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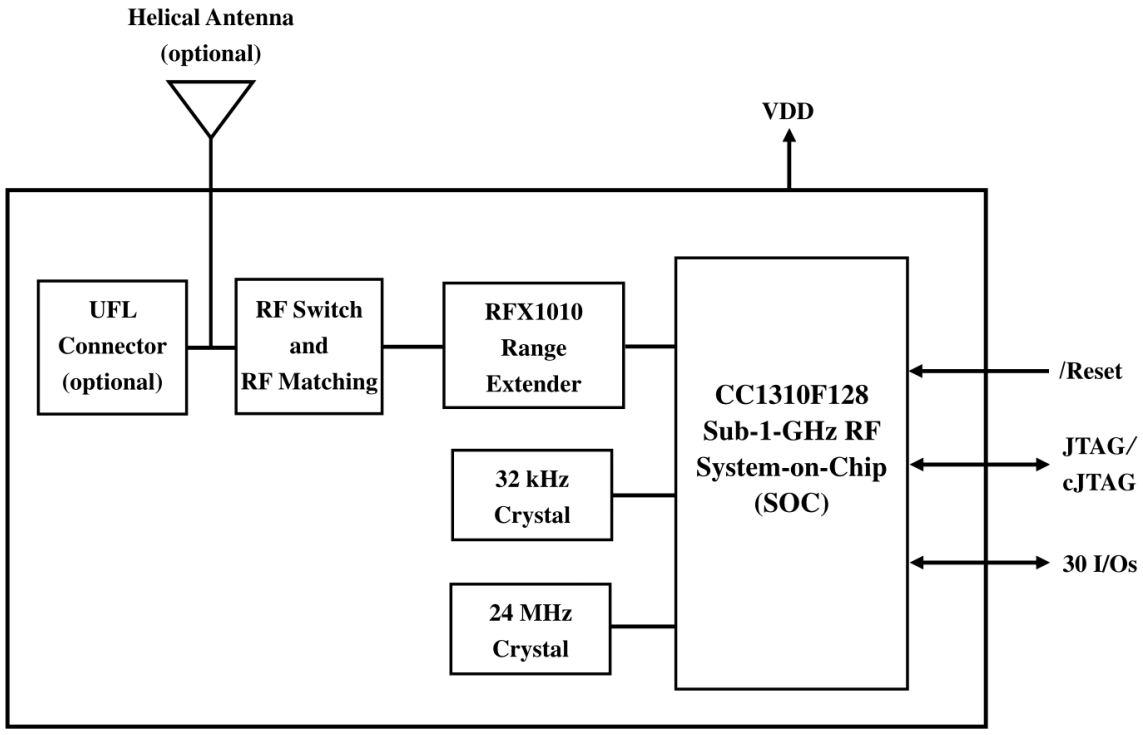
Description

This AN1310HA/UA-PA Module is specifically designed for the long range applications. The CC1310 device, together with RFX1010 can support up to +27dBm TX power with high power efficiency, which addresses customers' needs for easy-to-use, long-range, low-power and low-cost solutions serving applications across the internet of Thins.

The CC1310 device is the first part in a Sub-1-GHz family of cost-effective, ultralow power wireless MCUs. The CC1310 device combines a flexible, very low power RF transceiver with a powerful 48-MHz Cortex-M3 microcontroller in a platform supporting multiple physical layers and RF standards. A dedicated Radio Controller (Cortex-M0) handles low-level RF protocol commands that are stored in ROM or RAM, thus ensuring ultralow power and flexibility. The low-power consumption of the CC1310 device does not come at the expense of RF performance; the CC1310 device has excellent sensitivity and robustness (selectivity and blocking) performance.

The RFX1010 is a broadband, fully integrated, single-chip, single-die RFeIC(RF Front-end Integrated Circuit) which incorporates all the RF functionality needed for a TDD-mode RF front-end operated in the 700/800/900MHz frequency bands.

Block Diagram

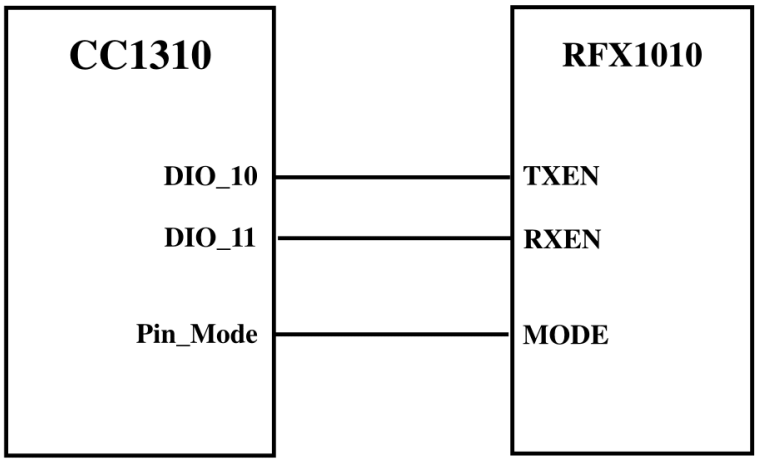


Specifications

Parameter	Min	Typical	Max	Unit
Operating Voltage	2.7	3.3	3.6	V
Operating Temperature	-40	-	+85	℃
Storage Temperature	-40	-	+150	℃
TX Power	-	+27	-	dBm

Controlling the RFX1010

CC1310-RFX1010 Interconnect



Control Logic for connecting the RFX1010 to a CC1310 device

TXEN	RXEN	MODE	Operating Conditions
0	0	X	Shut-down
0	1	0	RX Active, Low Gain Mode
0	1	1	RX Active, High Gain Mode
1	X	X	TX Active

Module Information and Mechanical Drawing

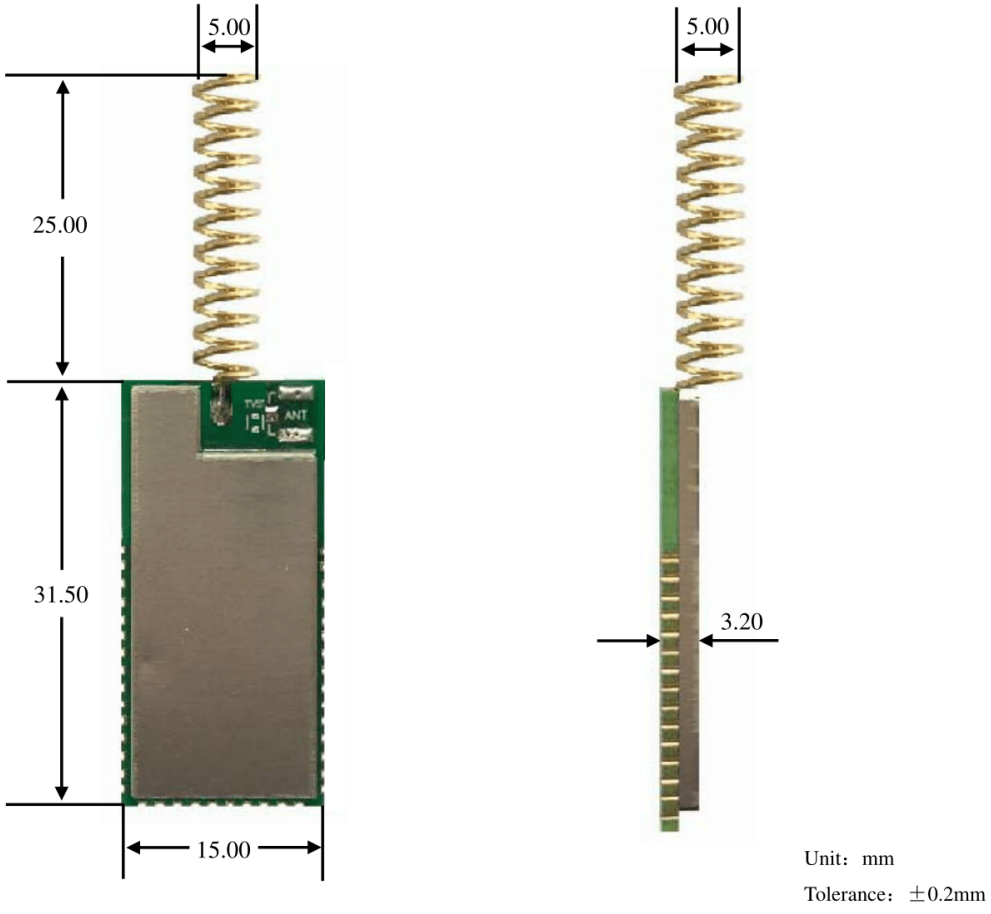
AN1310XX - PA - X - XXX

Antenna Style
HA=Helical Antenna
UA=UFL Connector

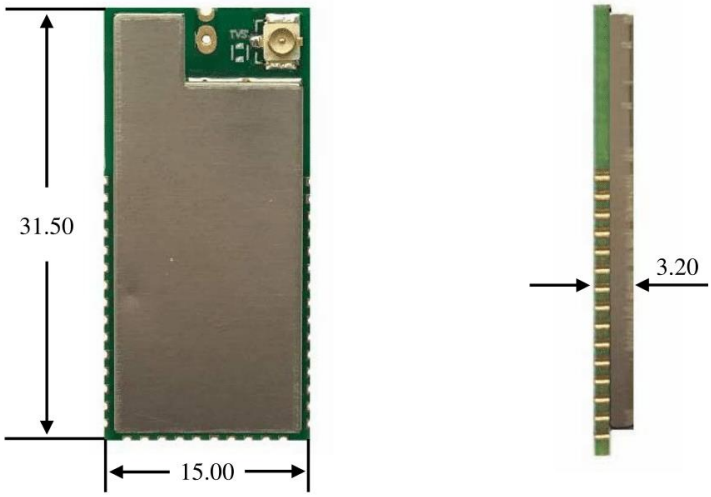
PCB Version

Frequency
868=868MHz
915=915MHz

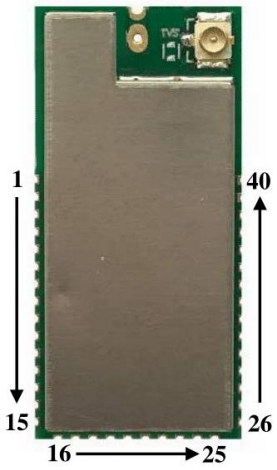
AN1310HA-PA-A-XXX:



AN1310UA-PA-A-XXX:



Terminal Description

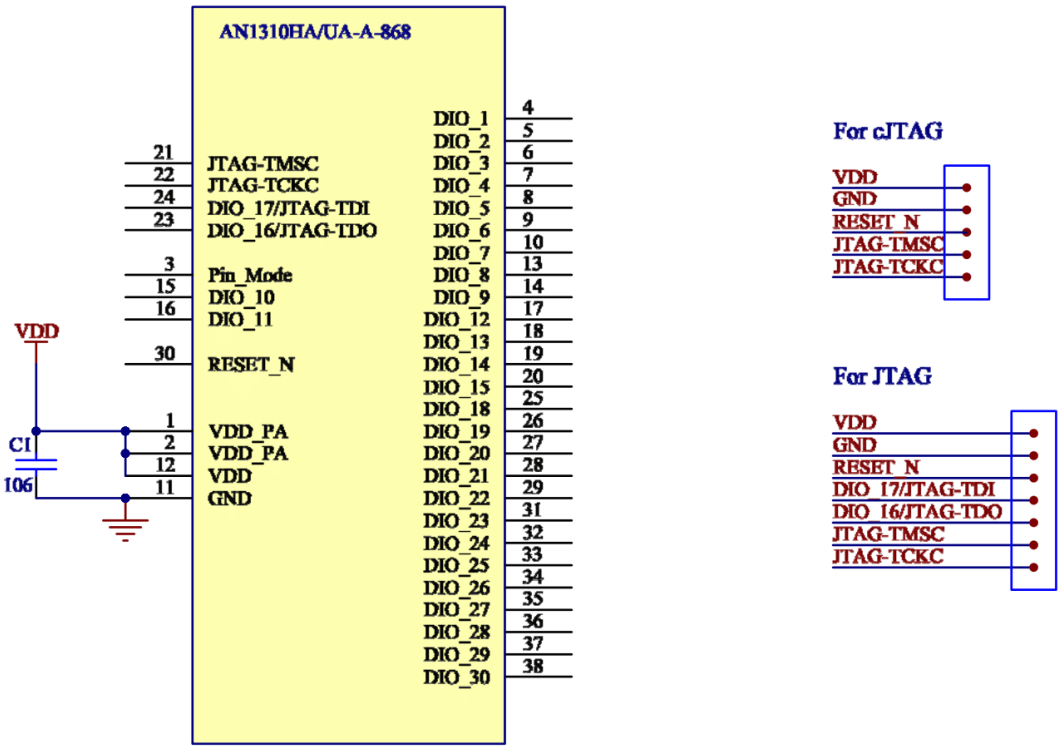


Pad Number	Name	Pin Type	Description
1	VDD_PA	Power	2.7V - 3.6V power supply for RFX1010
2	VDD_PA	Power	2.7V - 3.6V power supply for RFX1010

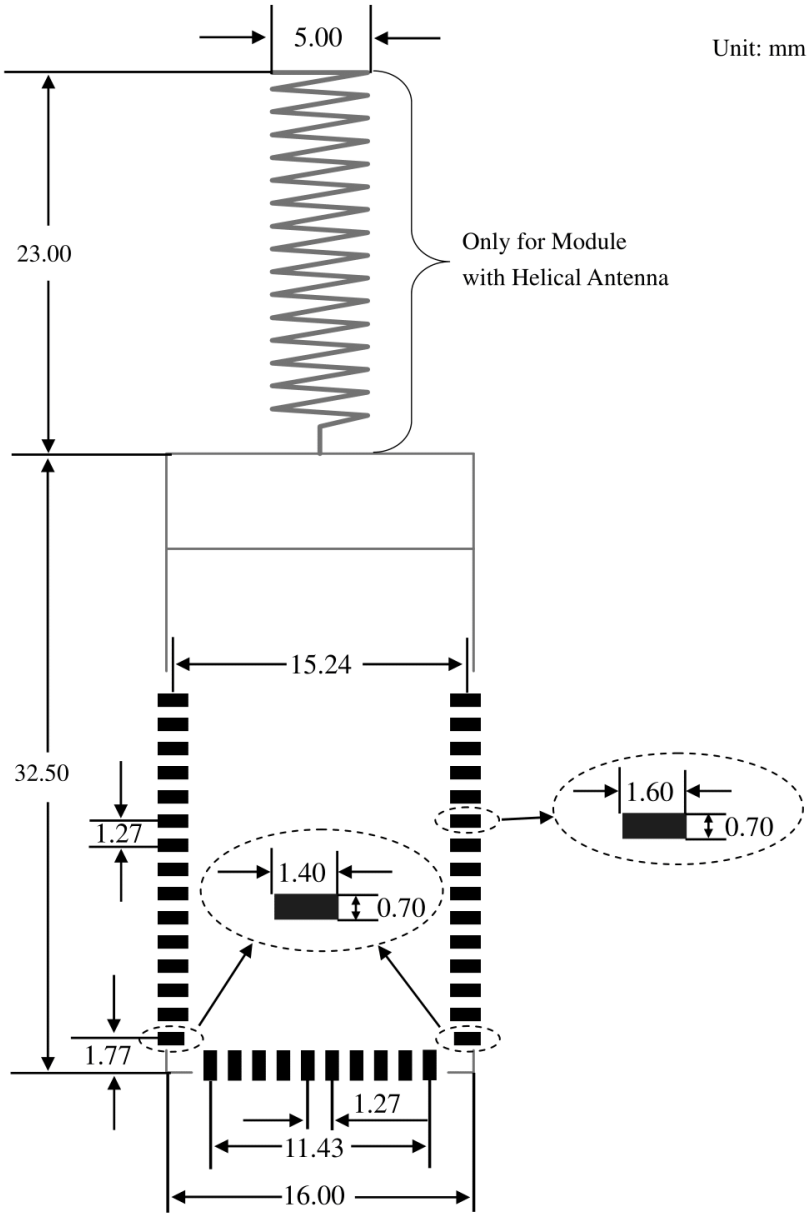
3	Pin_Mode	I	CMOS Input to Control High Gain/Low Gain for RX
4	DIO_1	Digital I/O	GPIO, Sensor Controller
5	DIO_2	Digital I/O	GPIO, Sensor Controller, CTX
6	DIO_3	Digital I/O	GPIO, Sensor Controller
7	DIO_4	Digital I/O	GPIO, Sensor Controller
8	DIO_5	Digital I/O	GPIO, Sensor Controller, High drive capability
9	DIO_6	Digital I/O	GPIO, Sensor Controller, High drive capability
10	DIO_7	Digital I/O	GPIO, Sensor Controller, High drive capability
11	GND	Ground Pin	Connect to GND
12	VDD	Power	2.7V to 3.6V main chip supply
13	DIO_8	Digital I/O	GPIO
14	DIO_9	Digital I/O	GPIO
15	DIO_10	Digital I/O	GPIO
16	DIO_11	Digital I/O	GPIO
17	DIO_12	Digital I/O	GPIO
18	DIO_13	Digital I/O	GPIO
19	DIO_14	Digital I/O	GPIO
20	DIO_15	Digital I/O	GPIO
21	JTAG_TMSC	Digital I/O	JTAG TMSC, High drive capability
22	JTAG_TCKC	Digital I/O	JTAG TCKC
23	DIO_16	Digital I/O	GPIO, JTAG_TDO, High drive capability
24	DIO_17	Digital I/O	GPIO, JTAG_TDI, High drive capability
25	DIO_18	Digital I/O	GPIO
26	DIO_19	Digital I/O	GPIO
27	DIO_20	Digital I/O	GPIO
28	DIO_21	Digital I/O	GPIO
29	DIO_22	Digital I/O	GPIO
30	RESET_N	Digital input	Reset, active-low, No internal pullup
31	DIO_23	Digital/Analog I/O	GPIO, Sensor Controller, Analog
32	DIO_24	Digital/Analog I/O	GPIO, Sensor Controller, Analog
33	DIO_25	Digital/Analog I/O	GPIO, Sensor Controller, Analog
34	DIO_26	Digital/Analog I/O	GPIO, Sensor Controller, Analog
35	DIO_27	Digital/Analog I/O	GPIO, Sensor Controller, Analog
36	DIO_28	Digital/Analog I/O	GPIO, Sensor Controller, Analog
37	DIO_29	Digital/Analog I/O	GPIO, Sensor Controller, Analog
38	DIO_30	Digital/Analog I/O	GPIO, Sensor Controller, Analog, CSD
39	GND	Ground Pin	Connect to GND
40	GND	Ground Pin	Connect to GND

Reference Schematics

VDD Wide Supply Voltage Range: 2.7V to 3.6V



Recommended PCB Layout for Package



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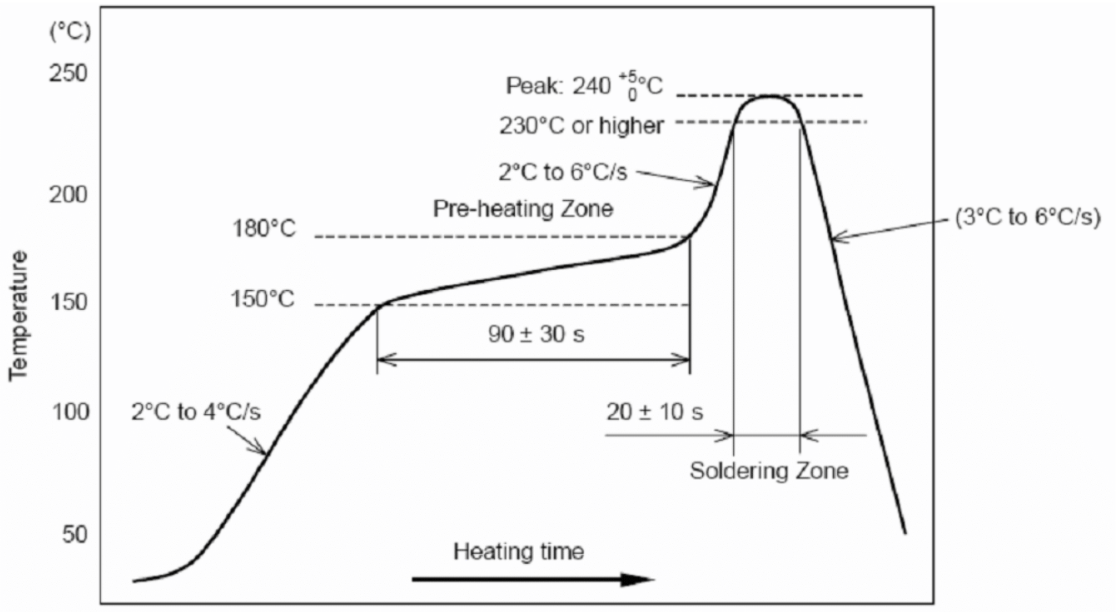
Recommended Reflow Profile for Lead Free Solder



Contact details

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