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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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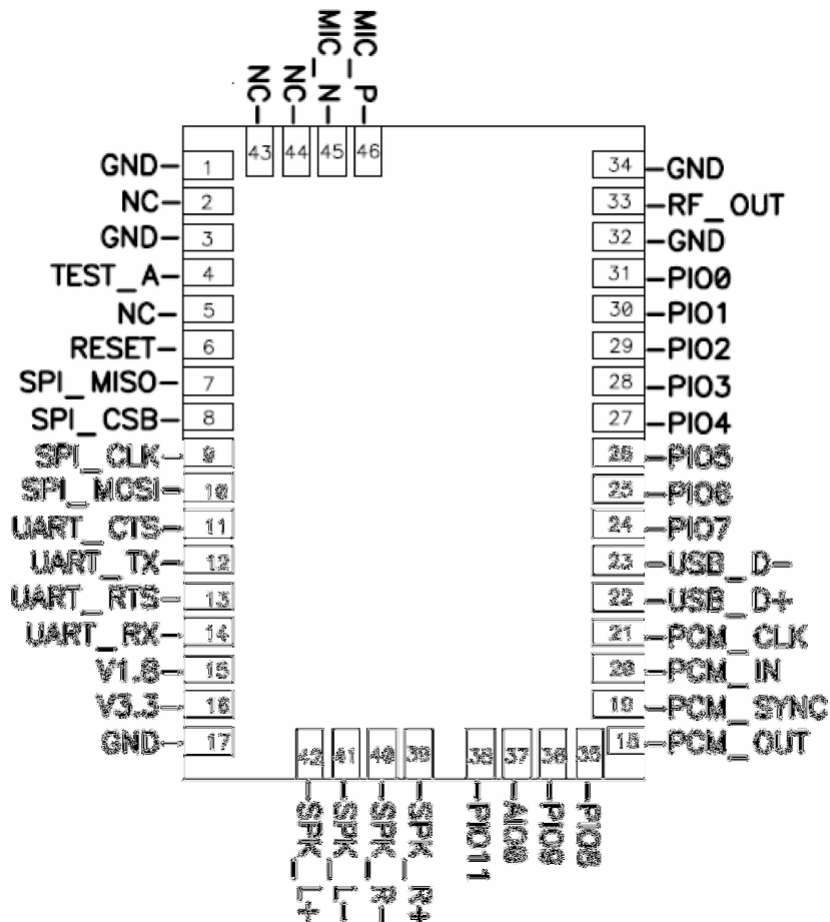
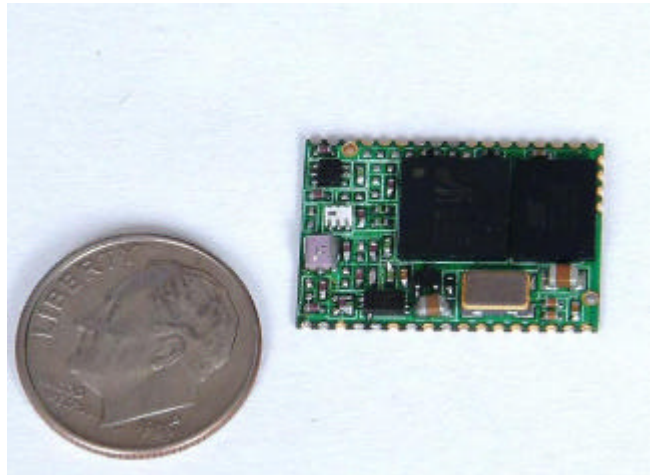
Model RN-31

- CSR BlueCore03 Multi-media, 8MB flash
- Bluetooth v1.2 and 1.1 Compliant
- UART,USB, analog speaker/mic interfaces
- UART baudrates from 1200 to 921K.
- Low power: 90ua sleep, 1ma discoverable, 60ma connected, 5ma Sniff)
- Supports HCI / A2DP/HSP/HFP profiles.
- Built in stack/applications, auto-discovery, auto-connect, phone dialer, instant cable.
- Class2, up to 4dBm (10 meters)
- Dimension: 21.8x15.2x2mm

Bluetooth 1.2 Audio Module

Product Specification

Model# : RN-31



1.1 RN-31 Pin List and Description

Pin No.	Name	Type	Note	Pin No.	Name	Type	SPP use
1	Ground			34	Ground		
2	NC			33	RF_OUT	Out	
3	Ground			32	Ground		
4	TestA		Analog AD0	31	PIO0	In/Out	available
5	TestB		Analog AD1	30	PIO1	In/Out	available
6	Reset	Input	Active HIGH	29	PIO2	In/Out	connect
7	SPI_MISO		programming	28	PIO3	In/Out	Auto-pair
8	SPI_CSB		programming	27	PIO4	In/Out	Factory reset
9	SPI_CLK		programming	26	PIO5	In/Out	Status LED
10	SPI_MOSI		programming	25	PIO6	In/Out	Auto master
11	UART_CTS	Input		24	PIO7	In/Out	baudrate
12	UART_TX	Out		23	USB-	In/Out	
13	UART_RTS	Out		22	USB+	In/Out	
14	UART_RX	Input		21	PCM_CLK	In/Out	
15	VCC_1.8V	Out		20	PCM_IN	In	
16	VCC_3.3V	Input		19	PCM_SYNC	In/Out	
17	Ground			18	PCM_OUT	Out	
35	PIO8	In/Out		37	PIO10	In/Out	
36	PIO9	In/Out		38	PIO11	In/Out	

Audio Interface

Pin No.	Name	Type	Note	Pin No.	Name	Type	Note
39	SPKR-RP	OUT		43	MIC2-P	IN	
40	SPKR-RN	OUT		44	MIC2-N	IN	
41	SPKR-LN	OUT		45	MIC1-N	IN	
42	SPKR-LP	OUT		46	MIC1-P	IN	

Fig. 1.2 RN-31 Mechanical Specification

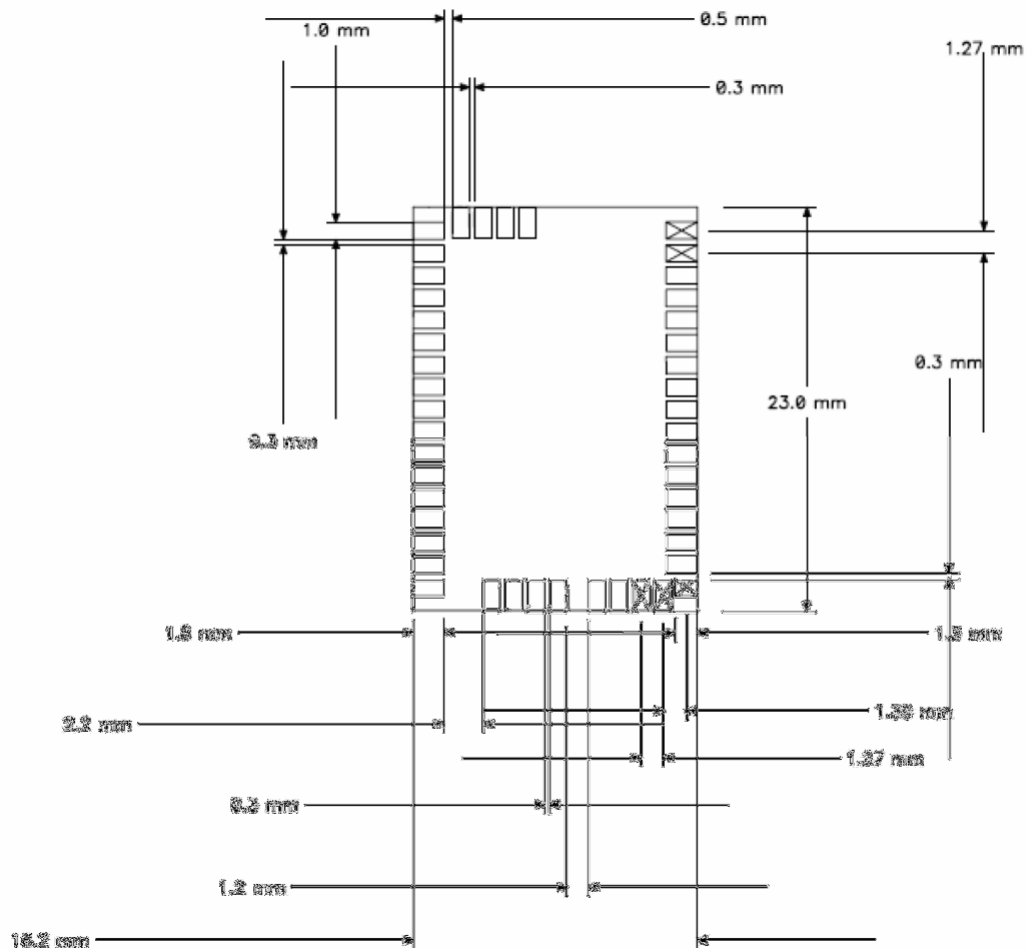
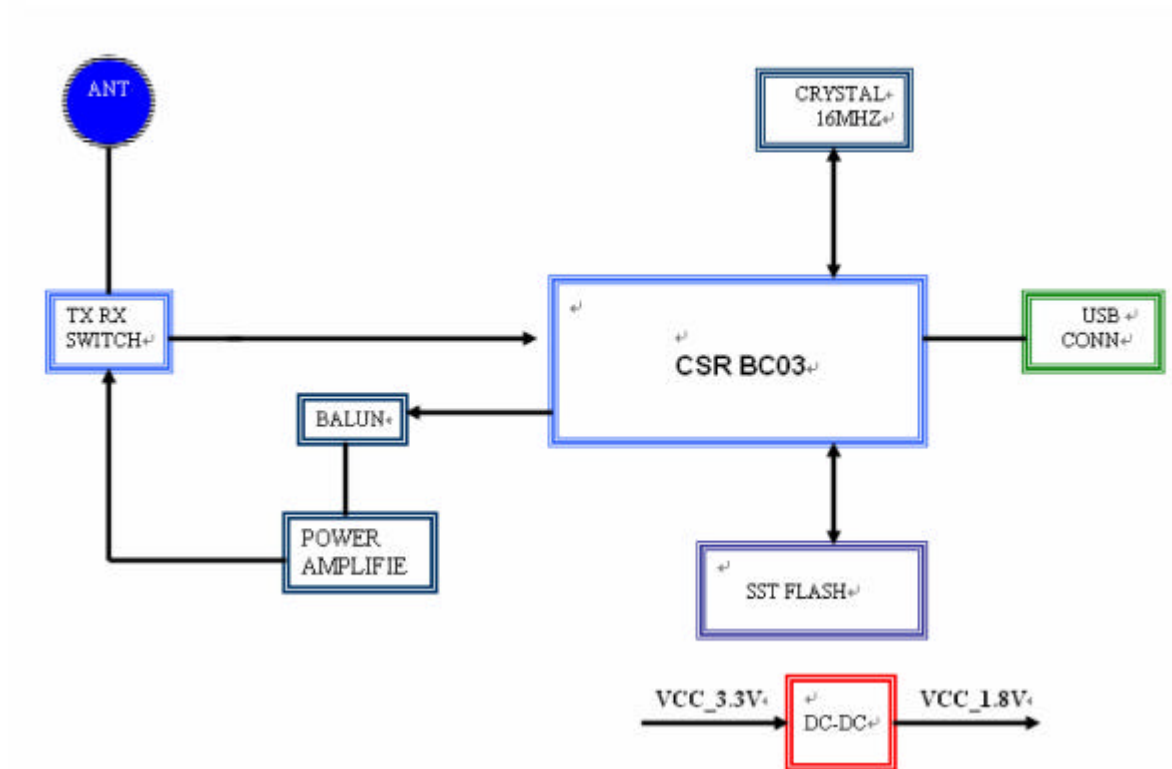


Fig 1.3 RN-31 Block Diagram



1.4 RN-31 Electrical Characteristics

	Min	Typ.	Max.	Unit
Supply Voltage	3.0	3.3	3.6	V
RX Supply Current	20	32	35	mA
TX Supply Current	-	65	75	mA
Idle Supply Current	-	1	-	mA
Sleep Supply Current	-	90	-	uA
Storage Temperature	-20	-	+85	°C

1.4.2 RN-31 Operating Conditions

Voltage Range	3.3V±0.3V
Operating Temperature Range	-20 °C ~ 60 °C
Storage Temperature Range	-20 °C ~ 80 °C
Relative Humidity (Operating/Storage)	≤90%

1.5 RN-31 Radio Characteristics

	Freq(GHz)	Min	Typ	Max	BT Spec.	Unit
Sensitivity at 0.1%BER	2.402	-	-80	-86	≤ -70	dBm
	2.441	-	-80	-86		dBm
	2.480	-	-80	-86		dBm
RF Transmit Power	2.402	-	0	-	≤0	dBm
	2.441	-	0	-		dBm
	2.480	-	0	-		dBm
Initial Carrier Frequency Tolerance	2.402	-	5	75	75	kHz
	2.441	-	5	75		kHz
	2.480	-	5	75		kHz
20dB bandwidth for modulated carrier		-	900	1000	≤1000	kHz
Drift (Five slots packet)		-	15	-	40	kHz
Drift Rate		-	13	-	20	kHz
$\Delta f_{l_{avg}}$ "Maximum Modulation"	2.402GHz	140	165	175	$140 < \Delta f_{l_{avg}}$	kHz
	2.441GHz	140	165	175		kHz
	2.480GHz	140	165	175		kHz
$\Delta f_{2_{max}}$ "Minimum Modulation"	2.402GHz	115	190	-	115	kHz
	2.441GHz	115	190	-		kHz
	2.480GHz	115	190	-		kHz

3. Packing & Label Information

Fig 3.1.1 RN-31 PCBA Label

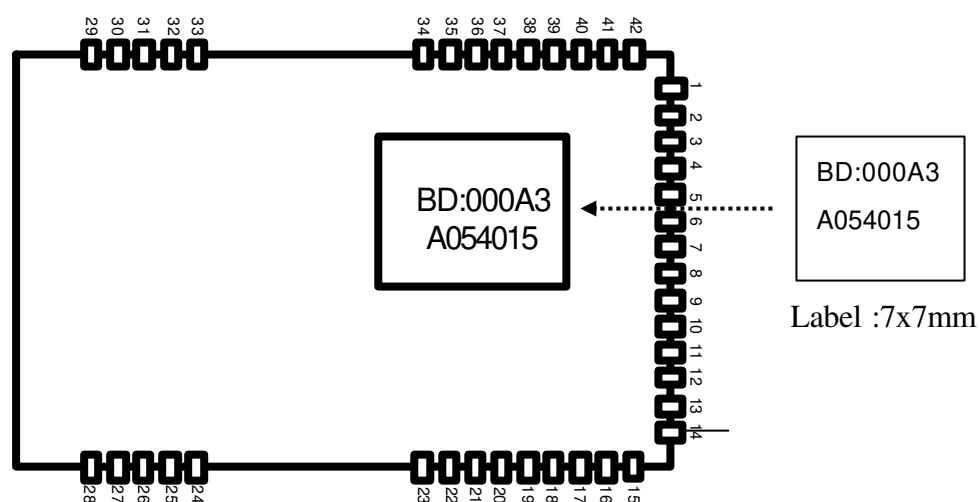


Fig 3.1.2 RN31 Carton Label

Manufacturer : Roving Networks	
P/O No.:	940321001 ←..... <u>Order Number</u> ..→
P/N :	RN31
Spec.:	Class2 BT v1.2 module
Q'ty:	1000pcs ←..... <u>Shipment Q'ty</u> ...→

Dimension :102x102mm

3.2 Packaging

