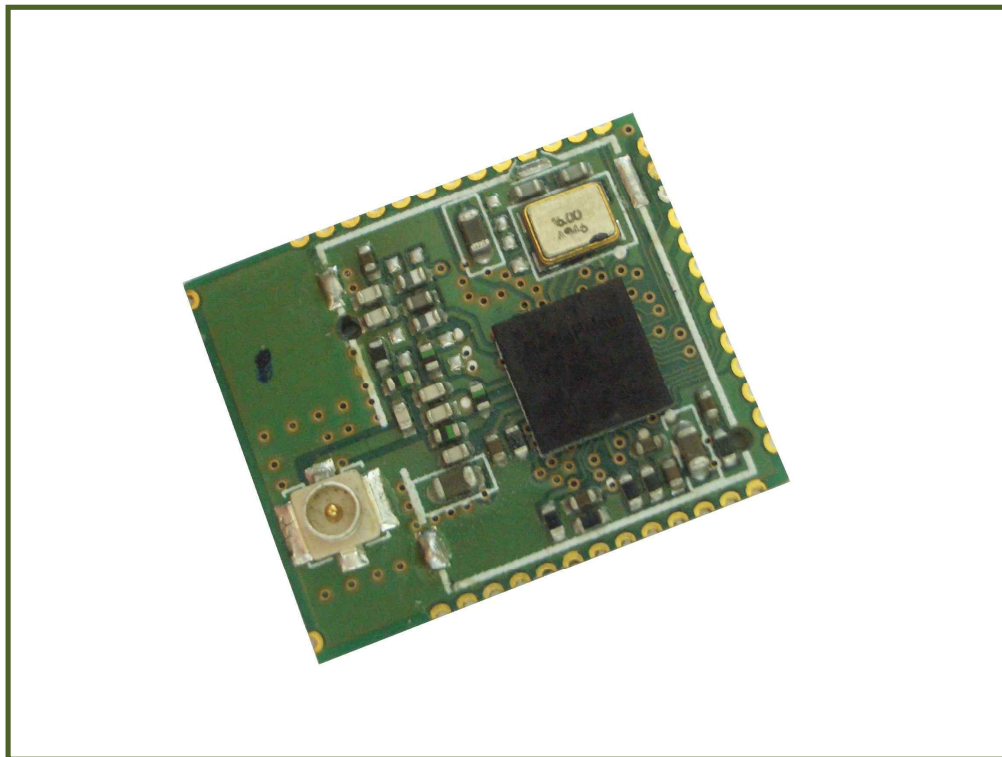


2.4GHz Wireless Data Transceiver Module

Antenna-Connector Type

NR-D24ZCM Ver 7.0

Related Products : NR-D24ZAM(2.4GHz Wireless Data Transceiver Module(Chip-Antenna))
NR-D24ZE(2.4GHz Wireless Data Transceiver Unit)



1. 2.4GHz Wireless Data Transceiver Module (Chip-Antenna Include)

- . NR-D24ZCM module is a wireless Data transceiver module that can Receive/Transmit computer Data and control electronic devices Data, Sensor Data.
- . Do Not Use Other Control CPU(MCU) Because Include MCU(8051) In Main-Chip
- . Very Easy Interfacing User MCU (UART Port TTL Level Communication)
(please Use The ISP Port, if you want High Speed Data Communication)

2. Features.

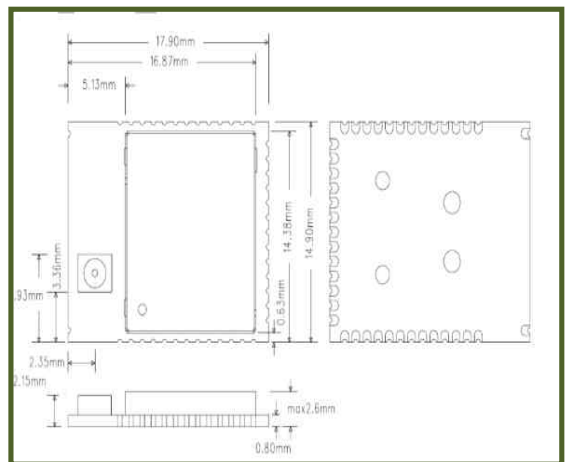
- . You Can High Speed data Communication (2.4GHz Band Module).
- . Use the UART Port TTL Level Interface (Do Not Use Manchester Coding).
- . Working Low Voltage power (DC 3.3V).

3. Applications

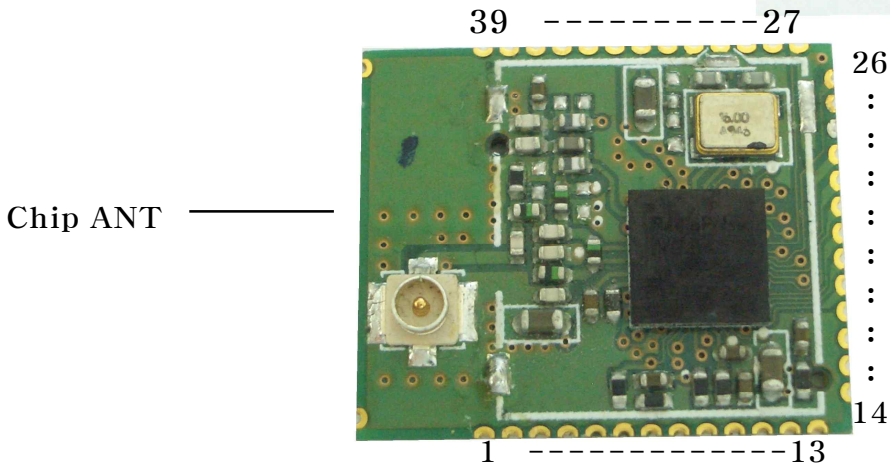
- . TV, Lamp, Parking Area, Auto Door Remote Control.
- . Office Automation, Home Automation.
- . factory Automation, Device Remote Control, Sensor Control.
- . Computer Data Wireless Communication.

4. 2.4GHz Wireless Data Transceiver Module Specification & Size.

Item	Specification
Power	DC 3.3V
Current	Under 35mA
Frequency	2.405GHz~2.480GHz (2.480GHz)
Band With	2MHz
RF Power	Under 10dBm
Interface Speed	9600-1-8-N
RF Speed	250K bps






5. 2.4GHz Wireless Data Transceiver Module Pin Information.



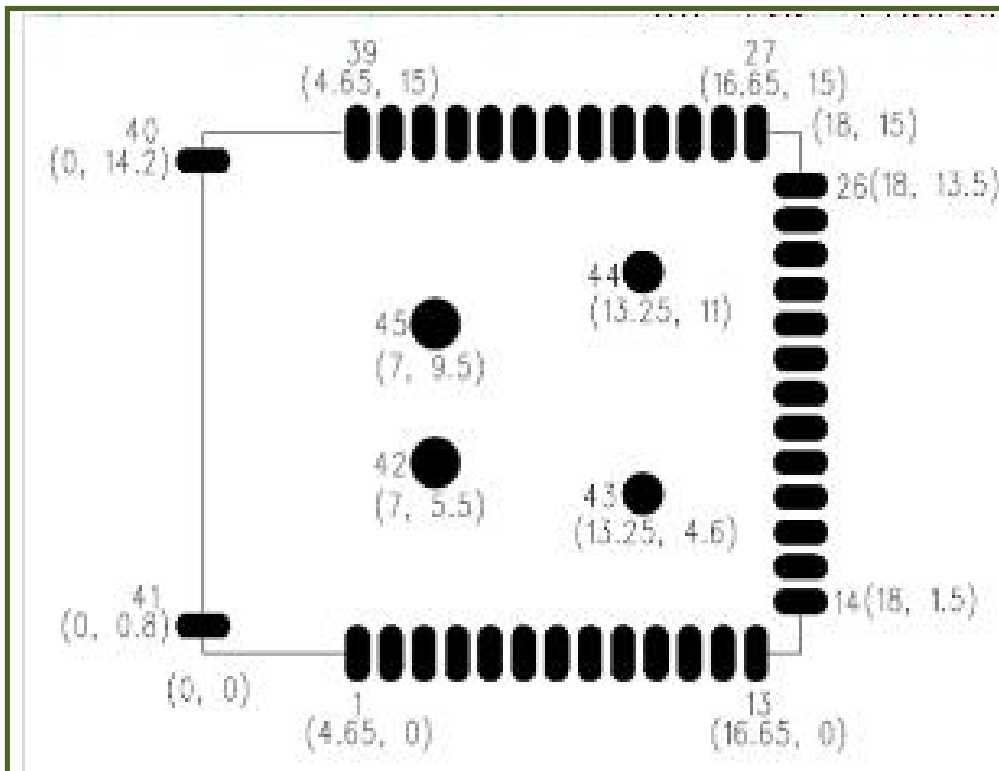
Terminal	NAME	Inter face	I/O	Description
1	ACH0	Analog	I/O	Sensor ADC input
2	ACH1	Analog	I/O	Sensor ADC input
3	ACH2	Analog	I/O	Sensor ADC input
4	ACH3	Analog	I/O	Sensor ADC input
5	AVDD 1.5V	Power	I/O	1.5V Power Supply input/output
6	AGND	Ground	-	RF Ground
7	MS0	Digital	I	Mode select
8	MS1	Digital	I	Mode select
9	MS2	Digital	I	Mode select
10	MSV	Digital	I	Mode select of voltage(0=1.5V)
11	RESETB	Digital	I	Reset (Active Low)
12	3V IN	Power	I	3V Power supply
13	DGND	Ground	-	Ground for digital core and I/O
14	P1[7]	Digital	O	Port P1.7GPO/P0AND/TRSW/Fold/Clock/BIST Fail Indicator
15	P1[6]	Digital	B	Port P1.6/TRSWB
16	P1[5]	Digital	B	Port P1.5
17	P1[4]	Digital	B	Port P1.4 /QUADZB/Sleep Timer OSC Buffer Input.
18	P1[3]	Digital	B	Port P1.3/QUADZA/Sleep Timer OSC Buffer Output/RTCLKOUT
19	P1[2]	Digital	B	Port P1.2
20	P1[1]	Digital	B	Port P1.1/TXD1
21	P1[0]	Digital	B	Port P1.0/RXD1
22	P3[7]	Digital	B	Port P3.7/12mA Drive capability /PWM3/CTS1/SPICSN(slave only)
23	P3[6]	Digital	B	Port P3.6/12 mA Drive capability /PWM2/RTS1/SPICLK
24	P3[5]	Digital	B	Port P3.5/T1/CTS0/QUADYA/SPIDO
25	P3[4]	Digital	B	Port P3.4/T0/RTS0/QUADYA/SPIDI
26	P3[3]	Digital	B	Port P3.3/INT1(active low)
27	P3[2]	Digital	B	Port P3.2/INT0(active low)
28	P3[1]	Digital	B	Port P3.1/TXD0/QUADXB
29	P3[0]	Digital	B	Port P3.0/RXD0/QUADXA
30	DGND	Ground	-	Ground for digital core and I/O
31	DVDD 1.5V	Power	I/O	1.5V Power Supply input/output
32	P0[7]	Digital	B	Port P0.7/I2STX_MCLK
33	P0[6]	Digital	B	Port P0.6/I2STX_BCLK
34	P0[5]	Digital	B	Port P0.5/I2STX_LRCK
35	P0[4]	Digital	B	Port P0.4/I2STX_DO
36	P0[3]	Digital	B	Port P0.3/I2SRX_MCLK
37	P0[2]	Digital	B	Port P0.2/I2SRX_BCLK
38	P0[1]	Digital	B	Port P0.1/I2SRX_LRCK
39	P0[0]	Digital	B	Port P0.0/I2SRX_DI
40	NC	NC	-	No Connection
41	NC	NC	-	No Connection
42	AGND	Ground	-	RF Ground
43	DGND	Ground	-	Ground for digital core and I/O
44	DGND	Ground	-	Ground for digital core and I/O
45	AGND	Ground	-	RF Ground




Pin 40~45 : PCB Pattern Pad.

6. 2.4GHz Wireless Data Transceiver Module PCB Pattern & PAD Information.

Soldering pad	Pad type	Pad size	Mask open size	Result
		0.7mm(W)*1.7mm(L)	0.665mm(W) * 1.870mm(L)	W: 95% OPEN L: 110% OPEN
		Φ1.5mm	Φ0.7mm	46.7% OPEN
		Φ1.25mm	Φ0.5mm	40% OPEN

Note1) Solder mask thickness : 0.12t(0.12mm)

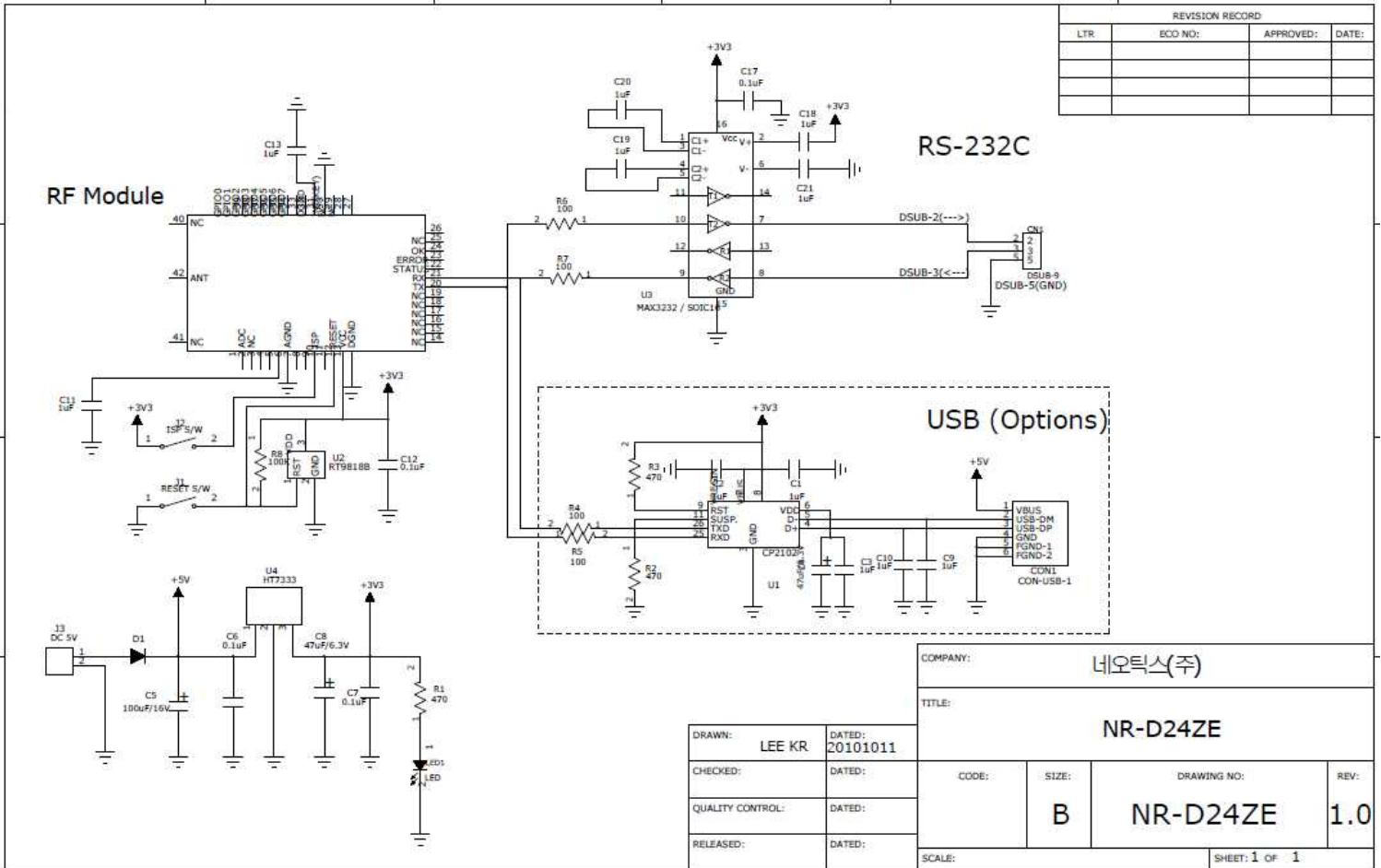


-  Pads of pin 1~41; (W*L: 0.7*1.6mm)
-  Pads of pin 42, 45; (R=0.75, Circle)
-  Pads of pin 43, 44; (R=0.625, Circle)

7. 2.4GHz Wireless Data Transceiver Module PCB Specification.

RF Characteristics				
RF Frequency Range	2.4		2.4835	GHz
Transmit data rate(normal mode)		250		kbps
Transmit data rate(turbo mode)		500		kbps
Transmit data rate(premium mode)		1000		kbps
Transmit chip rate		2000		kbps
Maximum output power			8	dBm
Programmable output power range		30		dB
Receiver sensitivity Normal mode Turbo mode Premium mode		-98 -95 -91		dBm
Adjacent Channel Rejection +5MHz -5MHz		49 48.8		dBc
Alternate Channel Rejection +10MHz -10MHz		56.1 56.8		dBc
Co-Channel Rejection		-10.7		dBc
Blocking/Desensitization +/- 5 MHz +/- 10 MHz +/- 15 MHz +/- 20 MHz +/- 30 MHz +/- 50 MHz		-45 -42 -48 -40 -43 -46		dBm
Spurious Emission(30Hz~1GHz)		-60		dBm
Spurious Emission(1GHz~2.5GHz)		-40		dBm
Spurious Emission(2.5GHz~12.7GHz)		-50		dBm
2nd Harmonics		-50		dBm
3rd Harmonics		-70		dBm

8. 2.4GHz Wireless Data Transceiver Module Test Circuit.



**** Caution ****

1. Check the features first to connect with other equipment.
2. This circuit is strictly tested.
3. The developer, manufacturer or dealer is not responsible for any malfunctioning/damage caused by connection with other equipment.
4. Appropriate permit /approval is required for some products utilizing this module, depending on functions and usages.

● For more information and inquiry, please refer to the sites below.

R&D : <http://www.neotics.co.kr>
 Sales : <http://www.logiccamp.co.kr>

E-Mail : neotics@neotics.co.kr
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